

**MEASUREMENT REPORT**  
**LTE / Sub 6GHz NR****Applicant Name:**LG Electronics USA, Inc.  
1000 Sylvan Avenue  
Englewood Cliffs, NJ 07632  
United States**Date of Testing:**

11/25/2019-1/17/2019

**Test Site/Location:**

PCTEST Lab. Columbia, MD, USA

**Test Report Serial No.:**

1M1911250199-03.ZNF

**FCC ID:****ZNFV600VM****APPLICANT:****LG Electronics USA, Inc.****Application Type:**

Certification

**Model:**

LM-V600VM

**Additional Model(s):**LMV600VM, V600VM, LM-V600QM5,  
LMV600QM5, V600QM5, LM-V600QM6,  
LMV600QM6, V600QM6**EUT Type:**

Portable Handset

**FCC Classification:**

PCS Licensed Transmitter Held to Ear (PCE)

**FCC Rule Part(s):**

22, 24, &amp; 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

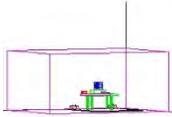


<b>FCC ID:</b> ZNFV600VM		<b>MEASUREMENT REPORT</b> (CERTIFICATION)		<b>Approved by:</b> Quality Manager
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## FCC Part 22, 24, & 27



Mode	FCC Rule Part	Tx Frequency (MHz)	ERP		EIRP		Emission Designator	Modulation
			Max. Power (W)	Max. Power (dBm)	Max. Power (W)	Max. Power (dBm)		
LTE Band 12	27	699.7 - 715.3	0.059	17.69	0.096	19.84	1M10G7D	QPSK
LTE Band 12	27	699.7 - 715.3	0.053	17.26	0.087	19.41	1M11W7D	16QAM
LTE Band 12	27	699.7 - 715.3	0.041	16.13	0.067	18.28	1M10W7D	64QAM
LTE Band 12	27	699.7 - 715.3	0.021	13.24	0.035	15.39	1M09W7D	256QAM
LTE Band 12	27	700.5 - 714.5	0.059	17.72	0.097	19.87	2M70G7D	QPSK
LTE Band 12	27	700.5 - 714.5	0.054	17.31	0.088	19.46	2M71W7D	16QAM
LTE Band 12	27	700.5 - 714.5	0.041	16.15	0.068	18.30	2M70W7D	64QAM
LTE Band 12	27	700.5 - 714.5	0.021	13.22	0.034	15.37	2M70W7D	256QAM
LTE Band 12	27	701.5 - 713.5	0.059	17.70	0.097	19.85	4M51G7D	QPSK
LTE Band 12	27	701.5 - 713.5	0.052	17.17	0.086	19.32	4M51W7D	16QAM
LTE Band 12	27	701.5 - 713.5	0.042	16.20	0.068	18.35	4M54W7D	64QAM
LTE Band 12	27	701.5 - 713.5	0.021	13.23	0.035	15.38	4M51W7D	256QAM
LTE Band 12	27	704 - 711	0.062	17.89	0.101	20.04	9M02G7D	QPSK
LTE Band 12	27	704 - 711	0.055	17.39	0.090	19.54	8M97W7D	16QAM
LTE Band 12	27	704 - 711	0.042	16.21	0.069	18.36	9M01W7D	64QAM
LTE Band 12	27	704 - 711	0.022	13.49	0.037	15.64	8M98W7D	256QAM
LTE Band 13	27	779.5 - 784.5	0.061	17.84	0.100	19.99	4M52G7D	QPSK
LTE Band 13	27	779.5 - 784.5	0.053	17.26	0.087	19.41	4M45W7D	16QAM
LTE Band 13	27	779.5 - 784.5	0.037	15.72	0.061	17.87	4M45W7D	64QAM
LTE Band 13	27	779.5 - 784.5	0.024	13.72	0.039	15.87	4M35W7D	256QAM
LTE Band 13	27	782	0.061	17.82	0.099	19.97	8M99G7D	QPSK
LTE Band 13	27	782	0.052	17.20	0.086	19.35	8M95W7D	16QAM
LTE Band 13	27	782	0.042	16.23	0.069	18.38	8M98W7D	64QAM
LTE Band 13	27	782	0.022	13.46	0.036	15.61	8M94W7D	256QAM
LTE Band 5	22H	824.7 - 848.3	0.042	16.28	0.070	18.43	1M10G7D	QPSK
LTE Band 5	22H	824.7 - 848.3	0.035	15.50	0.058	17.65	1M11W7D	16QAM
LTE Band 5	22H	824.7 - 848.3	0.029	14.61	0.047	16.76	1M10W7D	64QAM
LTE Band 5	22H	824.7 - 848.3	0.017	12.26	0.028	14.41	1M09W7D	256QAM
LTE Band 5	22H	825.5 - 847.5	0.043	16.32	0.070	18.47	2M70G7D	QPSK
LTE Band 5	22H	825.5 - 847.5	0.036	15.57	0.059	17.72	2M71W7D	16QAM
LTE Band 5	22H	825.5 - 847.5	0.029	14.60	0.047	16.75	2M71W7D	64QAM
LTE Band 5	22H	825.5 - 847.5	0.017	12.28	0.028	14.43	2M71W7D	256QAM
LTE Band 5	22H	826.5 - 846.5	0.042	16.25	0.069	18.40	4M50G7D	QPSK
LTE Band 5	22H	826.5 - 846.5	0.035	15.43	0.057	17.58	4M52W7D	16QAM
LTE Band 5	22H	826.5 - 846.5	0.029	14.60	0.047	16.75	4M52W7D	64QAM
LTE Band 5	22H	826.5 - 846.5	0.017	12.27	0.028	14.42	4M51W7D	256QAM
LTE Band 5	22H	829 - 844	0.043	16.35	0.071	18.50	9M01G7D	QPSK
LTE Band 5	22H	829 - 844	0.038	15.75	0.062	17.90	8M97W7D	16QAM
LTE Band 5	22H	829 - 844	0.029	14.57	0.047	16.72	9M01W7D	64QAM
LTE Band 5	22H	829 - 844	0.016	12.16	0.027	14.31	8M97W7D	256QAM

### EUT Overview (LTE Low Bands)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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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	0.133	21.22	1M10G7D	QPSK
LTE Band 66/4	27	1710.7 - 1779.3	0.082	19.14	1M10W7D	16QAM
LTE Band 66/4	27	1710.7 - 1779.3	0.059	17.70	1M10W7D	64QAM
LTE Band 66/4	27	1710.7 - 1779.3	0.037	15.71	1M09W7D	256QAM
LTE Band 66/4	27	1711.5 - 1778.5	0.133	21.23	2M70G7D	QPSK
LTE Band 66/4	27	1711.5 - 1778.5	0.081	19.08	2M72W7D	16QAM
LTE Band 66/4	27	1711.5 - 1778.5	0.057	17.57	2M71W7D	64QAM
LTE Band 66/4	27	1711.5 - 1778.5	0.038	15.75	2M70W7D	256QAM
LTE Band 66/4	27	1712.5 - 1777.5	0.131	21.17	4M52G7D	QPSK
LTE Band 66/4	27	1712.5 - 1777.5	0.078	18.94	4M51W7D	16QAM
LTE Band 66/4	27	1712.5 - 1777.5	0.057	17.57	4M53W7D	64QAM
LTE Band 66/4	27	1712.5 - 1777.5	0.037	15.70	4M51W7D	256QAM
LTE Band 66/4	27	1715 - 1775	0.128	21.09	9M04G7D	QPSK
LTE Band 66/4	27	1715 - 1775	0.080	19.03	8M99W7D	16QAM
LTE Band 66/4	27	1715 - 1775	0.056	17.48	9M00W7D	64QAM
LTE Band 66/4	27	1715 - 1775	0.035	15.48	9M00W7D	256QAM
LTE Band 66/4	27	1717.5 - 1772.5	0.137	21.36	13M5G7D	QPSK
LTE Band 66/4	27	1717.5 - 1772.5	0.085	19.31	13M5W7D	16QAM
LTE Band 66/4	27	1717.5 - 1772.5	0.059	17.74	13M5W7D	64QAM
LTE Band 66/4	27	1717.5 - 1772.5	0.038	15.80	13M5W7D	256QAM
LTE Band 66/4	27	1720 - 1770	0.130	21.13	18M0G7D	QPSK
LTE Band 66/4	27	1720 - 1770	0.088	19.44	17M9W7D	16QAM
LTE Band 66/4	27	1720 - 1770	0.059	17.74	18M0W7D	64QAM
LTE Band 66/4	27	1720 - 1770	0.038	15.79	17M9W7D	256QAM
LTE Band 2	24E	1850.7 - 1909.3	0.211	23.25	1M09G7D	QPSK
LTE Band 2	24E	1850.7 - 1909.3	0.209	23.20	1M10W7D	16QAM
LTE Band 2	24E	1850.7 - 1909.3	0.153	21.84	1M09W7D	64QAM
LTE Band 2	24E	1850.7 - 1909.3	0.128	21.08	1M09W7D	256QAM
LTE Band 2	24E	1851.5 - 1908.5	0.215	23.33	2M71G7D	QPSK
LTE Band 2	24E	1851.5 - 1908.5	0.210	23.22	2M71W7D	16QAM
LTE Band 2	24E	1851.5 - 1908.5	0.146	21.64	2M71W7D	64QAM
LTE Band 2	24E	1851.5 - 1908.5	0.126	21.01	2M70W7D	256QAM
LTE Band 2	24E	1852.5 - 1907.5	0.214	23.31	4M53G7D	QPSK
LTE Band 2	24E	1852.5 - 1907.5	0.200	23.01	4M52W7D	16QAM
LTE Band 2	24E	1852.5 - 1907.5	0.157	21.96	4M54W7D	64QAM
LTE Band 2	24E	1852.5 - 1907.5	0.126	20.99	4M51W7D	256QAM
LTE Band 2	24E	1855 - 1905	0.207	23.16	9M01G7D	QPSK
LTE Band 2	24E	1855 - 1905	0.206	23.13	9M01W7D	16QAM
LTE Band 2	24E	1855 - 1905	0.151	21.78	9M01W7D	64QAM
LTE Band 2	24E	1855 - 1905	0.128	21.06	8M99W7D	256QAM
LTE Band 2	24E	1857.5 - 1902.5	0.212	23.27	13M5G7D	QPSK
LTE Band 2	24E	1857.5 - 1902.5	0.207	23.17	13M5W7D	16QAM
LTE Band 2	24E	1857.5 - 1902.5	0.153	21.84	13M5W7D	64QAM
LTE Band 2	24E	1857.5 - 1902.5	0.129	21.11	13M4W7D	256QAM
LTE Band 2	24E	1860 - 1900	0.214	23.31	18M0G7D	QPSK
LTE Band 2	24E	1860 - 1900	0.200	23.01	18M0W7D	16QAM
LTE Band 2	24E	1860 - 1900	0.164	22.14	18M0W7D	64QAM
LTE Band 2	24E	1860 - 1900	0.057	17.57	17M9W7D	256QAM

**EUT Overview (LTE Mid Bands)**

FCC ID: ZNFV600VM		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
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Mode	FCC Rule Part	Tx Frequency (MHz)	EIRP		Emission Designator	Modulation
			Max. Power (W)	Max. Power (dBm)		
LTE Band 30	27	2307.5 - 2312.5	0.088	19.46	4M53G7D	QPSK
LTE Band 30	27	2307.5 - 2312.5	0.081	19.08	4M51W7D	16QAM
LTE Band 30	27	2307.5 - 2312.5	0.061	17.82	4M52W7D	64QAM
LTE Band 30	27	2307.5 - 2312.5	0.017	12.34	4M50W7D	256QAM
LTE Band 30	27	2310	0.090	19.53	9M01G7D	QPSK
LTE Band 30	27	2310	0.084	19.25	9M03W7D	16QAM
LTE Band 30	27	2310	0.061	17.83	8M96W7D	64QAM
LTE Band 30	27	2310	0.016	12.11	9M02W7D	256QAM
LTE Band 41 (PC3)	27	2498.5 - 2687.5	0.208	23.19	4M51G7D	QPSK
LTE Band 41 (PC3)	27	2498.5 - 2687.5	0.204	23.10	4M53W7D	16QAM
LTE Band 41 (PC3)	27	2498.5 - 2687.5	0.153	21.85	4M53W7D	64QAM
LTE Band 41 (PC3)	27	2498.5 - 2687.5	0.074	18.70	4M48W7D	256QAM
LTE Band 41 (PC3)	27	2501 - 2685	0.208	23.17	8M99G7D	QPSK
LTE Band 41 (PC3)	27	2501 - 2685	0.207	23.16	9M03W7D	16QAM
LTE Band 41 (PC3)	27	2501 - 2685	0.149	21.72	8M99W7D	64QAM
LTE Band 41 (PC3)	27	2501 - 2685	0.074	18.67	9M02W7D	256QAM
LTE Band 41 (PC3)	27	2503.5 - 2682.5	0.226	23.54	13M5G7D	QPSK
LTE Band 41 (PC3)	27	2503.5 - 2682.5	0.215	23.32	13M5W7D	16QAM
LTE Band 41 (PC3)	27	2503.5 - 2682.5	0.176	22.45	13M5W7D	64QAM
LTE Band 41 (PC3)	27	2503.5 - 2682.5	0.083	19.17	13M5W7D	256QAM
LTE Band 41 (PC3)	27	2506 - 2680	0.224	23.50	18M0G7D	QPSK
LTE Band 41 (PC3)	27	2506 - 2680	0.199	22.98	17M9W7D	16QAM
LTE Band 41 (PC3)	27	2506 - 2680	0.167	22.23	17M9W7D	64QAM
LTE Band 41 (PC3)	27	2506 - 2680	0.078	18.91	17M9W7D	256QAM

**EUT Overview (LTE High Bands)**

Mode	FCC Rule Part	Tx Frequency (MHz)	ERP		EIRP		Emission Designator	Modulation
			Max. Power (W)	Max. Power (dBm)	Max. Power (W)	Max. Power (dBm)		
n5	22H	826.5 - 846.5	0.026	14.18	0.043	16.33	4M51G7D	QPSK
n5	22H	826.5 - 846.5	0.020	13.08	0.033	15.23	4M50W7D	16QAM
n5	22H	826.5 - 846.5	0.013	11.18	0.022	13.33	4M52W7D	64QAM
n5	22H	826.5 - 846.5	0.010	9.88	0.016	12.03	4M50W7D	256QAM
n5	22H	829 - 844	0.024	13.88	0.040	16.03	9M29G7D	QPSK
n5	22H	829 - 844	0.019	12.78	0.031	14.93	9M36W7D	16QAM
n5	22H	829 - 844	0.012	10.88	0.020	13.03	9M33W7D	64QAM
n5	22H	829 - 844	0.009	9.58	0.015	11.73	9M32W7D	256QAM
n5	22H	831.5 - 841.5	0.022	13.50	0.037	15.65	14M1G7D	QPSK
n5	22H	831.5 - 841.5	0.017	12.40	0.029	14.55	14M1W7D	16QAM
n5	22H	831.5 - 841.5	0.011	10.50	0.018	12.65	14M1W7D	64QAM
n5	22H	831.5 - 841.5	0.008	9.20	0.014	11.35	14M1W7D	256QAM
n5	22H	834 - 839	0.030	14.75	0.049	16.90	19M0G7D	QPSK
n5	22H	834 - 839	0.023	13.53	0.037	15.68	19M0W7D	16QAM
n5	22H	834 - 839	0.019	12.89	0.032	15.04	19M0W7D	64QAM
n5	22H	834 - 839	0.011	10.23	0.017	12.38	19M0W7D	256QAM

**EUT Overview (5G NR Low Bands)**

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Mode	FCC Rule Part	Tx Frequency (MHz)	EIRP		Emission Designator	Modulation
			Max. Power (W)	Max. Power (dBm)		
n66	27	1712.5 - 1777.5	0.116	20.64	4M50G7D	QPSK
n66	27	1712.5 - 1777.5	0.090	19.54	4M50W7D	16QAM
n66	27	1712.5 - 1777.5	0.058	17.64	4M53W7D	64QAM
n66	27	1712.5 - 1777.5	0.043	16.34	4M50W7D	256QAM
n66	27	1715 - 1775	0.105	20.23	9M32G7D	QPSK
n66	27	1715 - 1775	0.080	19.03	9M37W7D	16QAM
n66	27	1715 - 1775	0.051	17.08	9M39W7D	64QAM
n66	27	1715 - 1775	0.038	15.75	9M32W7D	256QAM
n66	27	1717.5 - 1772.5	0.120	20.80	14M2G7D	QPSK
n66	27	1717.5 - 1772.5	0.092	19.63	14M2W7D	16QAM
n66	27	1717.5 - 1772.5	0.060	17.80	14M2W7D	64QAM
n66	27	1717.5 - 1772.5	0.045	16.49	14M2W7D	256QAM
n66	27	1720 - 1770	0.109	20.39	19M1G7D	QPSK
n66	27	1720 - 1770	0.097	19.85	19M0W7D	16QAM
n66	27	1720 - 1770	0.092	19.63	19M0W7D	64QAM
n66	27	1720 - 1770	0.072	18.60	19M0W7D	256QAM
n2	24E	1852.5 - 1907.5	0.126	21.00	4M52G7D	QPSK
n2	24E	1852.5 - 1907.5	0.097	19.86	4M53W7D	16QAM
n2	24E	1852.5 - 1907.5	0.062	17.90	4M49W7D	64QAM
n2	24E	1852.5 - 1907.5	0.046	16.63	4M54W7D	256QAM
n2	24E	1855 - 1905	0.142	21.53	9M03G7D	QPSK
n2	24E	1855 - 1905	0.109	20.36	9M39W7D	16QAM
n2	24E	1855 - 1905	0.064	18.03	9M34W7D	64QAM
n2	24E	1855 - 1905	0.052	17.18	9M35W7D	256QAM
n2	24E	1857.5 - 1902.5	0.130	21.15	13M5G7D	QPSK
n2	24E	1857.5 - 1902.5	0.098	19.91	14M2W7D	16QAM
n2	24E	1857.5 - 1902.5	0.062	17.91	14M2W7D	64QAM
n2	24E	1857.5 - 1902.5	0.046	16.67	14M2W7D	256QAM
n2	24E	1860 - 1900	0.126	21.02	18M0G7D	QPSK
n2	24E	1860 - 1900	0.113	20.54	18M0W7D	16QAM
n2	24E	1860 - 1900	0.088	19.44	18M0W7D	64QAM
n2	24E	1860 - 1900	0.066	18.17	18M0W7D	256QAM

**EUT Overview (5G NR Mid Bands)**

FCC ID: ZNFV600VM		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M1911250199-03.ZNF	<b>Test Dates:</b> 11/25/2019-1/17/2019	<b>EUT Type:</b> Portable Handset	Page 6 of 329	

## 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 Engineering Laboratory, Inc. 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 Engineering Lab 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.

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## 2.0 PRODUCT INFORMATION

### 2.1 Equipment Description

The Equipment Under Test (EUT) is the **LG Portable Handset FCC ID: ZNFV600VM**. The test data contained in this report pertains only to the emissions due to the EUT's LTE function.

**Test Device Serial No.:** 00148, 00205, 00130, 00197

### 2.2 Device Capabilities

This device contains the following capabilities:

N/A

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 QPSK, 16QAM, 64QAM, and 256QAM modulation. The test data provided in this report represents the worst case configurations.

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 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 QPSK, 16QAM, 64QAM, and 256QAM modulation. The test data provided in this report represents the worst case configurations.

### 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) FCC ID: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.

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### 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 Block C Frequency Range

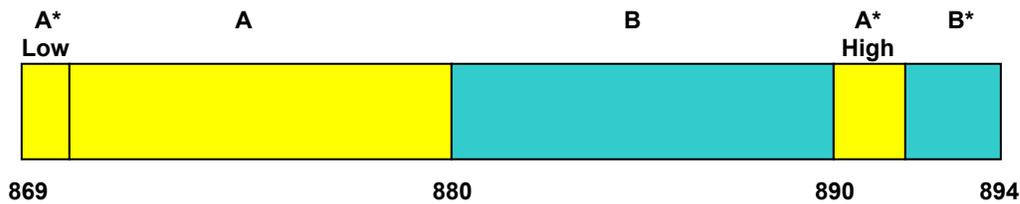
Two paired channels of 11 megahertz each are available for assignment in Block C in the 746-757 MHz and 776-787 MHz bands. In the event that no licenses for two channels in this Block C are assigned based on the results of the first auction in which such licenses were offered because the auction results do not satisfy the applicable reserve price, the spectrum in the 746-757 MHz and 776-787 MHz bands will instead be made available for assignment at a subsequent auction as follows: (i) Two paired channels of 6 megahertz each available for assignment in Block C1 in the 746-752 MHz and 776-782 MHz bands. (ii) Two paired channels of 5 megahertz each available for assignment in Block C2 in the 752-757 MHz and 782-787 MHz bands.

#### 3.3 Block A Frequency Range

698-746 MHz band. The following frequencies are available for licensing pursuant to this part in the 698-746 MHz band: (1) Three paired channel blocks of 12 megahertz each are available for assignment as follows:

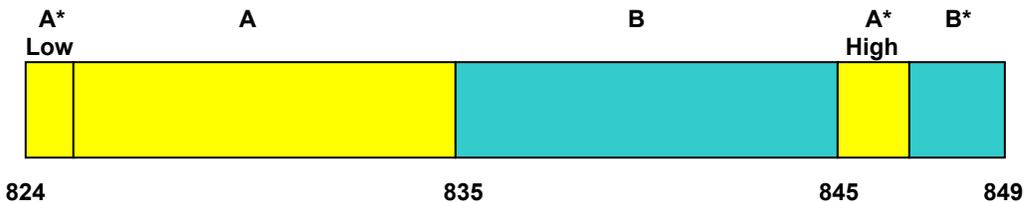
Block A: 698-704 MHz and 728-734 MHz;  
 Block B: 704-710 MHz and 734-740 MHz; and  
 Block C: 710-716 MHz and 740-746 MHz.

#### 3.4 Cellular - Base Frequency Blocks



**BLOCK 1:** 869 – 880 MHz (A\* Low + A)                      **BLOCK 3:** 890 – 891.5 MHz (A\* High)  
**BLOCK 2:** 880 – 890 MHz (B)                                      **BLOCK 4:** 891.5 – 894 MHz (B\*)

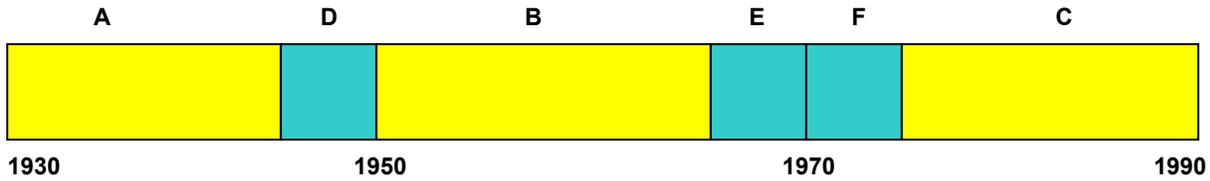
#### 3.5 Cellular - Mobile Frequency Blocks



**BLOCK 1:** 824 – 835 MHz (A\* Low + A)                      **BLOCK 3:** 845 – 846.5 MHz (A\* High)  
**BLOCK 2:** 835 – 845 MHz (B)                                      **BLOCK 4:** 846.5 – 849 MHz (B\*)

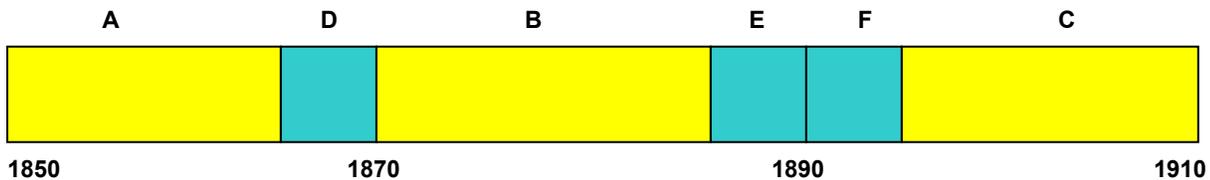
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### 3.6 PCS - Base Frequency Blocks



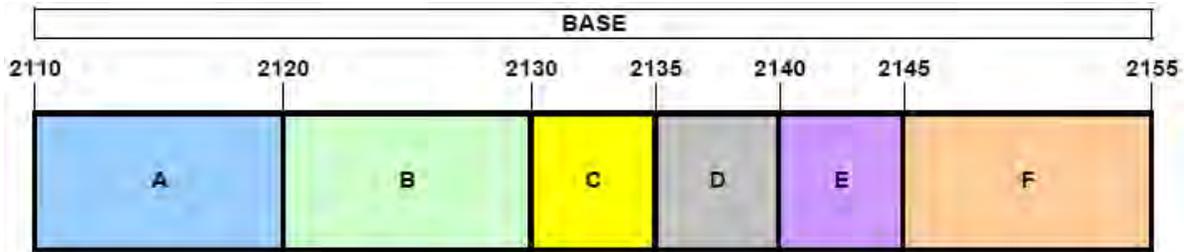
- BLOCK 1: 1930 – 1945 MHz (A)
- BLOCK 2: 1945 – 1950 MHz (D)
- BLOCK 3: 1950 – 1965 MHz (B)
- BLOCK 4: 1965 – 1970 MHz (E)
- BLOCK 5: 1970 – 1975 MHz (F)
- BLOCK 6: 1975 – 1990 MHz (C)

### 3.7 PCS - Mobile Frequency Blocks



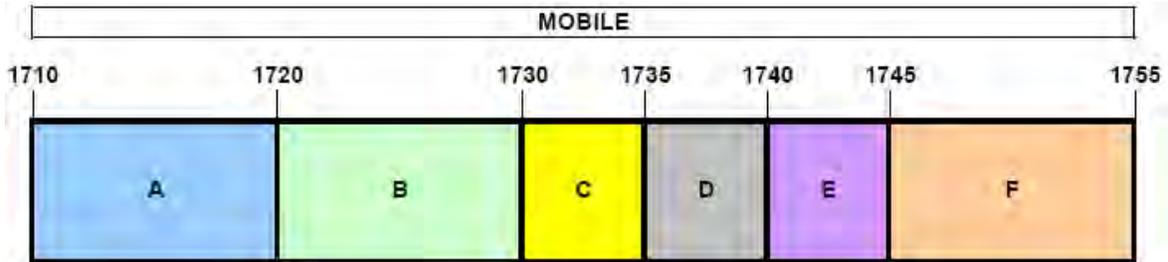
- BLOCK 1: 1850 – 1865 MHz (A)
- BLOCK 2: 1865 – 1870 MHz (D)
- BLOCK 3: 1870 – 1885 MHz (B)
- BLOCK 4: 1885 – 1890 MHz (E)
- BLOCK 5: 1890 – 1895 MHz (F)
- BLOCK 6: 1895 – 1910 MHz (C)

### 3.8 AWS - Base Frequency Blocks



- BLOCK 1: 2110 – 2120 MHz (A)
- BLOCK 2: 2120 – 2130 MHz (B)
- BLOCK 3: 2130 – 2135 MHz (C)
- BLOCK 4: 2135 – 2140 MHz (D)
- BLOCK 5: 2140 – 2145 MHz (E)
- BLOCK 6: 2145 – 2155 MHz (F)

### 3.9 AWS - Mobile Frequency Blocks



- BLOCK 1: 1710 – 1720 MHz (A)
- BLOCK 2: 1720 – 1730 MHz (B)
- BLOCK 4: 1735 – 1740 MHz (D)
- BLOCK 5: 1740 – 1745 MHz (E)

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BLOCK 3: 1730 – 1735 MHz (C)

BLOCK 6: 1745 – 1755 MHz (F)

### 3.10 WCS – Mobile/Base Frequency Blocks

The following frequencies are available for WCS in the 2305-2320 MHz and 2345-2360 MHz bands:

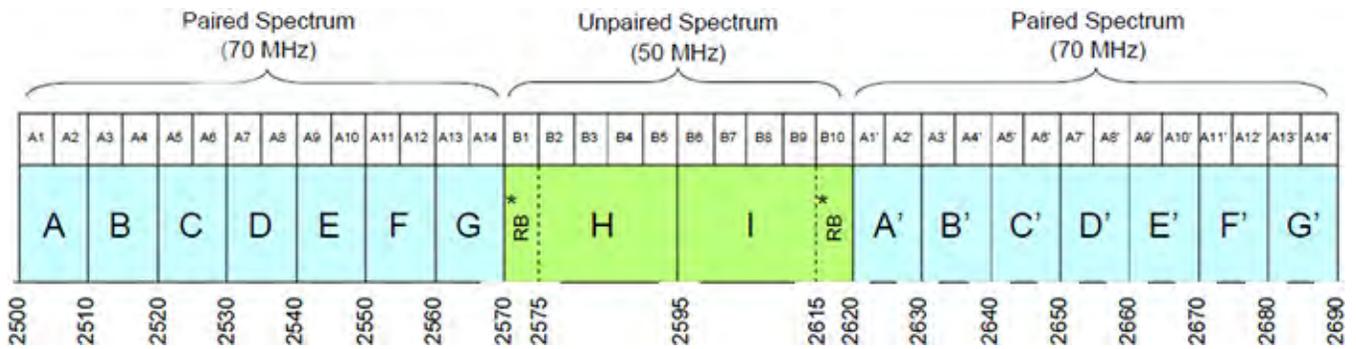
**BLOCK 1: 2305-2310 and 2350-2355 MHz (A)**

**BLOCK 2: 2310-2315 and 2355-236 MHz (B)**

**BLOCK 3: 2315-2320 MHz (C)**

**BLOCK 4: 2345-2350 MHz (D)**

### 3.11 BRS/EBS Frequency Block



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### 3.12 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:

$$P_d \text{ [dBm]} = P_g \text{ [dBm]} - \text{cable loss [dB]} + \text{antenna gain [dBd/dBi]}$$

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  $P_g \text{ [dBm]} - \text{cable loss [dB]}$ .

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  $43 + 10 \log_{10}(\text{Power}_{\text{[Watts]}})$ . For Band 41, the calculated  $P_d$  levels are compared to the absolute spurious emission limit of -25dBm which is equivalent to the required minimum attenuation of  $55 + 10 \log_{10}(\text{Power}_{\text{[Watts]}})$ . For Band 30 and 48, the calculated  $P_d$  levels are compared to the absolute spurious emission limit of -40dBm which is equivalent to the required minimum attenuation of  $70 + 10 \log_{10}(\text{Power}_{\text{[Watts]}})$ .

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.

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## 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  $U_{\text{CISPR}}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty ( $\pm$ dB)
Conducted Bench Top Measurements	1.13
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

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## 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
-	LTX3	Licensed Transmitter Cable Set	6/3/2019	Annual	6/3/2020	LTX3
Agilent	N9020A	MXA Signal Analyzer	4/20/2019	Annual	4/20/2020	US46470561
Agilent	N9030A	PXA Signal Analyzer (44GHz)	6/12/2019	Annual	6/12/2020	MY52350166
Com-Power	PAM-103	Pre-Amplifier (1-1000MHz)	5/10/2019	Annual	5/10/2020	441112
Emco	3115	Horn Antenna (1-18GHz)	3/28/2018	Biennial	3/28/2020	9704-5182
EMCO	3160-09	Small Horn (18 - 26.5GHz)	8/9/2018	Biennial	8/9/2020	135427
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	PWR-SEN-4GHS	USB Power Sensor	4/19/2019	Annual	4/19/2020	11401010036
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	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
Seekonk	NC-100	Torque Wrench (8" lb)	5/10/2018	Biennial	5/10/2020	N/A
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	4/19/2018	Biennial	4/19/2020	A051107

**Table 5-1. Test Equipment**

**Notes:**

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

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## 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 2<sup>nd</sup> 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 analyzer. 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 – ( $-24.80$ ).

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## 7.0 TEST RESULTS

### 7.1 Summary

Company Name: LG Electronics USA, Inc.  
 FCC ID: ZNFV600VM  
 FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)  
 Mode(s): LTE/Sub6 NR

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	$> 43 + 10 \log_{10}(P[\text{Watts}])$ at Band Edge and for all out-of-band emissions			Section 7.3, 7.4
27.53(m)	Out of Band Emissions	Undesirable emissions must meet the limits detailed in 27.53(m)			Section 7.3, 7.4
27.53(a)	Out of Band Emissions	Undesirable emissions must meet the limits detailed in 27.53(a)			Section 7.3, 7.4
24.232(d)	Peak-Average Ratio	$< 13$ dB			Section 7.6
2.1046	Transmitter Conducted Output Power	N/A			Section 7.5 and RF Exposure Report
22.917(a) 27.53(h) 27.53(m)	Uplink Carrier Aggregation	$>43 + 10\log(P[\text{Watts}])$ at Band Edge and for all out-of-band emissions			Section 7.9
2.1055 22.355 24.235 27.54	Frequency Stability	$< 2.5$ ppm (Part 22) and fundamental emissions stay within authorized frequency block (Part 227)			Section 7.10

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

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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)	< 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 12, 13)	< 3 Watts max. ERP			Section 7.7
24.232(c) 27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2)	< 2 Watts max. EIRP			Section 7.7
27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4/66)	< 1 Watts max. EIRP			Section 7.7
27.50(a)(3)	Equivalent Isotropic Radiated Power (Band 30)	< 0.25 Watts max. EIRP			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, 5, 66/4/2)	> 43 + 10 log <sub>10</sub> (P[Watts]) for all out-of-band emissions			Section 7.9
27.53(f)	Undesirable Emissions (Band 13)	< -70 dBW/MHz (for wideband signals) < -80 dBW (for discrete emissions less than 700Hz BW) For all emissions in the band 1559 – 1610 MHz			Section 7.9
27.53(a)	Undesirable Emissions (Band 30)	> 70 + 10 log <sub>10</sub> (P[Watts])			Section 7.9
22.917(a)	Undesirable Emissions (Band 41)	Undesirable emissions must meet the limits detailed in 27.53(m)			Section 7.9
27.53(m)	Uplink Carrier Aggregation	Undesirable emissions must meet the limits detailed in 27.53(m)			Section 7.9

**Table 7-2. Summary of Radiated Test Results**

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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**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.
- 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.

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## 7.2 Occupied Bandwidth

### Test Overview

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

### Test Procedure Used

KDB 971168 D01 v03r01 – Section 4.2

### Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5% of the expected OBW
3. VBW  $\geq 3 \times$  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

1. This device employs Sub 6GHz NR technologies. 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.

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## 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)

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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)

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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)

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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)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 23 of 329

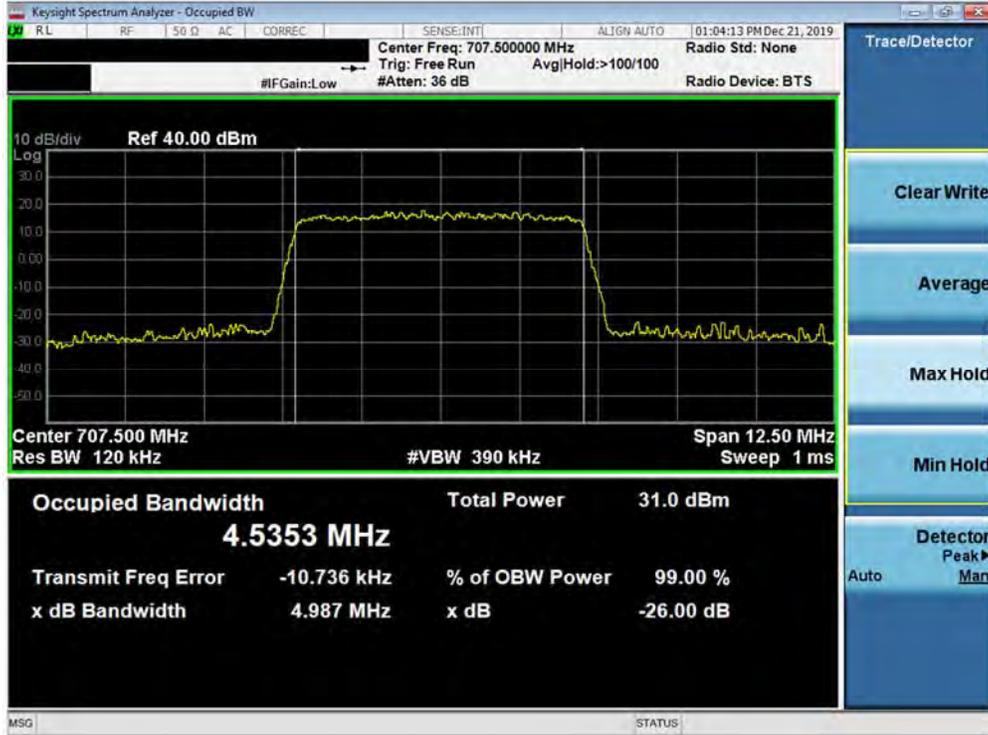


Plot 7-9. Occupied Bandwidth Plot (Band 12 - 5.0MHz QPSK - Full RB Configuration)



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

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 24 of 329



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)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 25 of 329



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)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 26 of 329



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)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 27 of 329

### 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)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 28 of 329



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)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 29 of 329



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

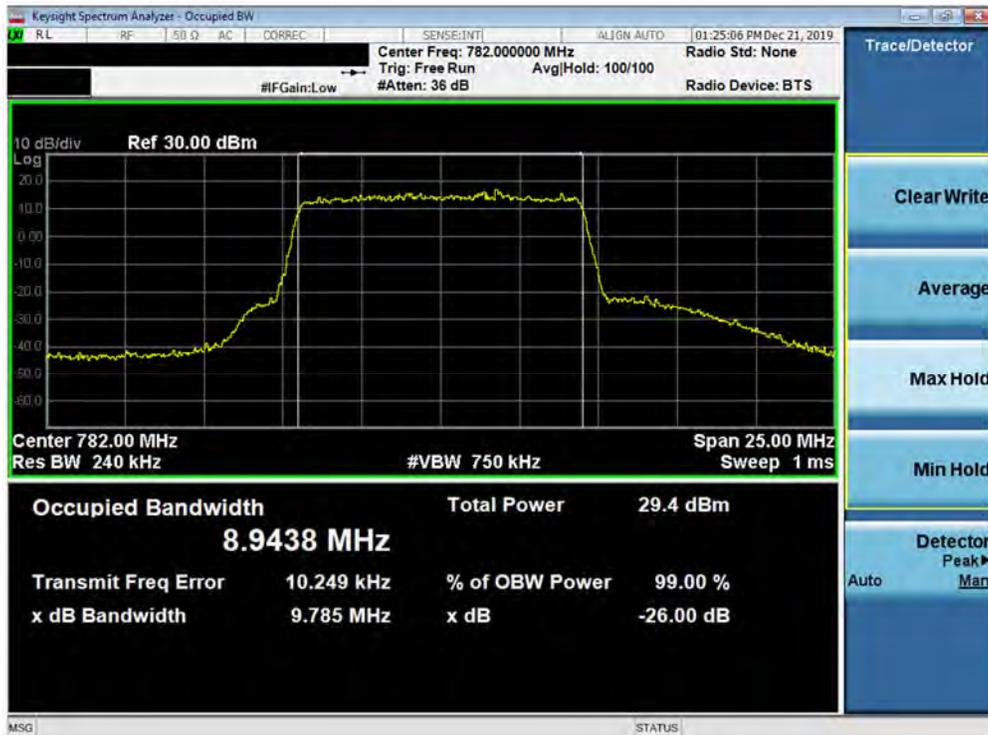


Plot 7-22. Occupied Bandwidth Plot (Band 13 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 30 of 329



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)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 31 of 329

## Band 5



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



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

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 32 of 329



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



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

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 33 of 329



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



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

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 34 of 329



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



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

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 35 of 329



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



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

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 36 of 329



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

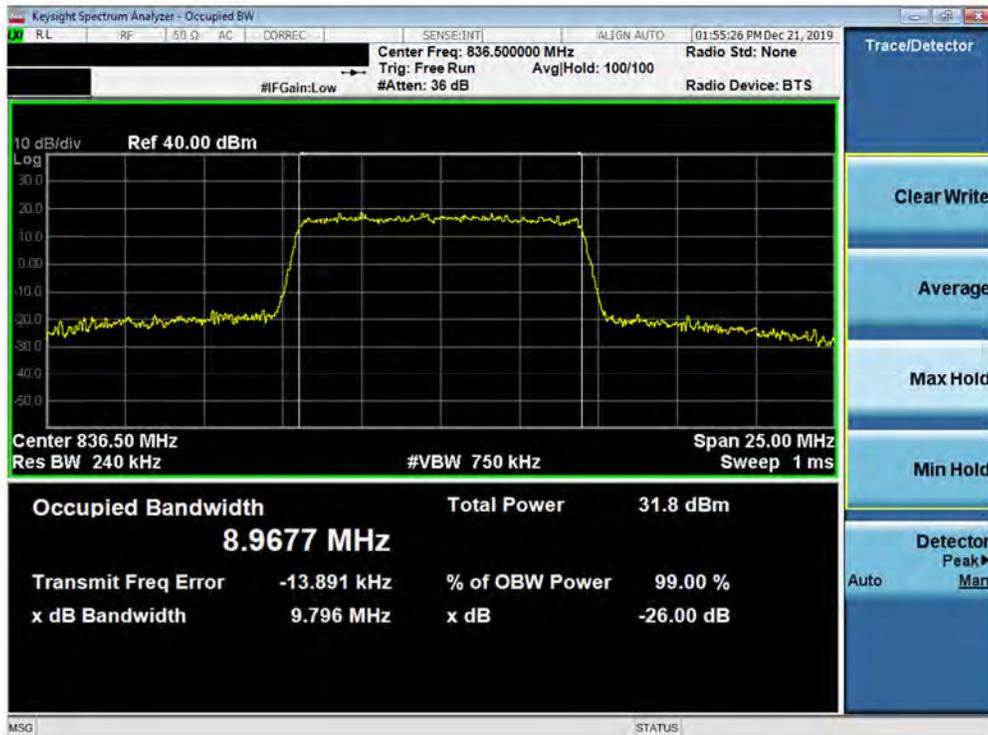


Plot 7-36. Occupied Bandwidth Plot (Band 5 - 5.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 37 of 329



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



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

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 38 of 329



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



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

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 39 of 329

### Band 66/4



Plot 7-41. Occupied Bandwidth Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-42. Occupied Bandwidth Plot (Band 66/4 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 40 of 329

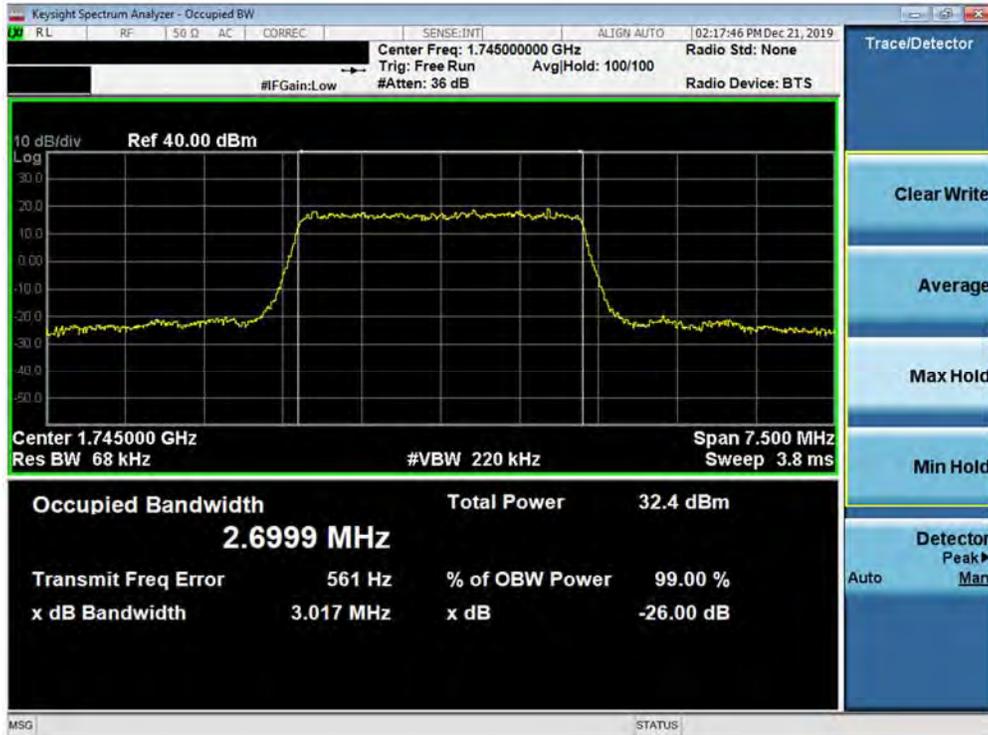


Plot 7-43. Occupied Bandwidth Plot (Band 66/4 - 1.4MHz 64-QAM - Full RB Configuration)



Plot 7-44. Occupied Bandwidth Plot (Band 66/4 - 1.4MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 41 of 329



Plot 7-45. Occupied Bandwidth Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)



Plot 7-46. Occupied Bandwidth Plot (Band 66/4 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 42 of 329



Plot 7-47. Occupied Bandwidth Plot (Band 66/4 - 3.0MHz 64-QAM - Full RB Configuration)



Plot 7-48. Occupied Bandwidth Plot (Band 66/4 - 3.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 43 of 329



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



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

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 44 of 329

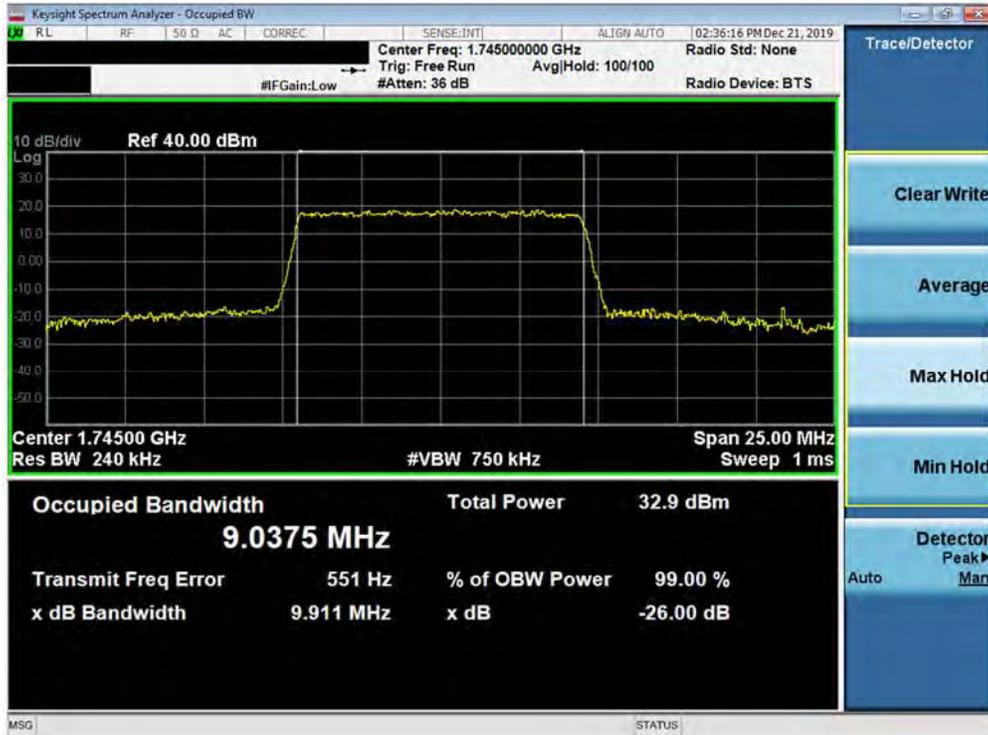


Plot 7-51. Occupied Bandwidth Plot (Band 66/4 - 5.0MHz 64-QAM - Full RB Configuration)

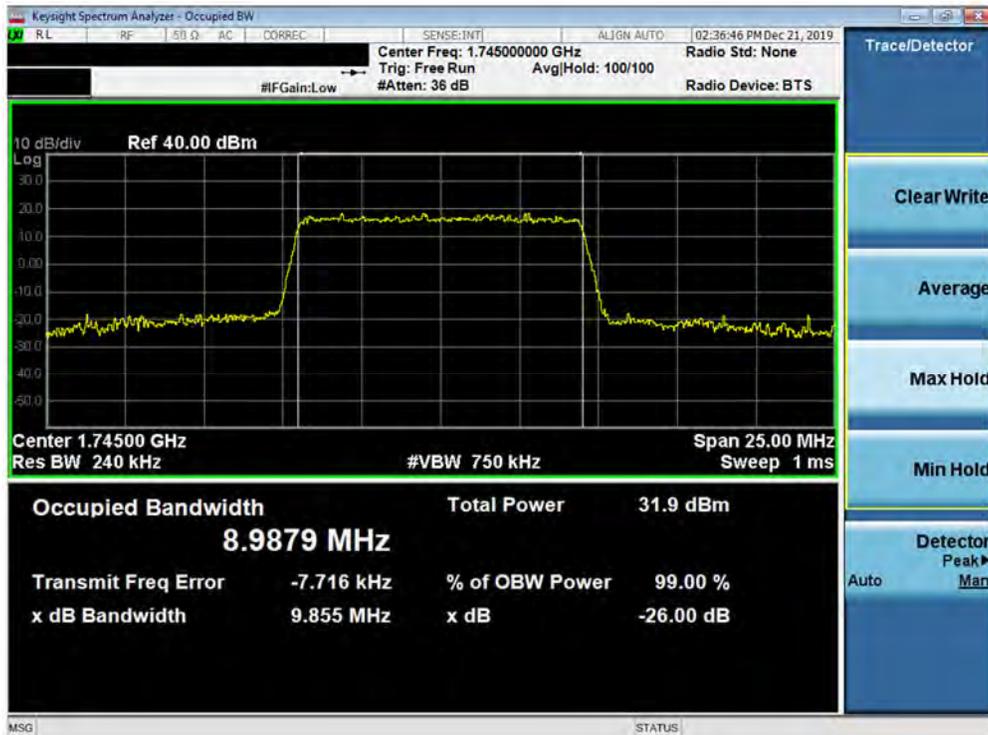


Plot 7-52. Occupied Bandwidth Plot (Band 66/4 - 5.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 45 of 329



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



Plot 7-54. Occupied Bandwidth Plot (Band 66 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 46 of 329



Plot 7-55. Occupied Bandwidth Plot (Band 66/4 - 10.0MHz 64-QAM - Full RB Configuration)

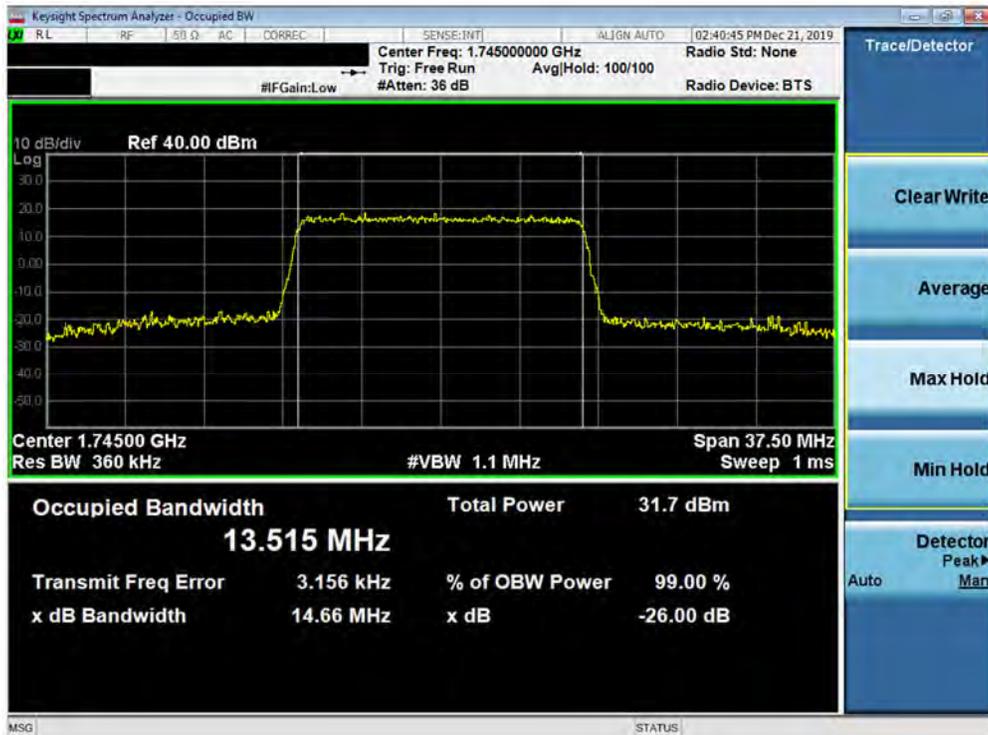


Plot 7-56. Occupied Bandwidth Plot (Band 66/4 - 10.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 47 of 329



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

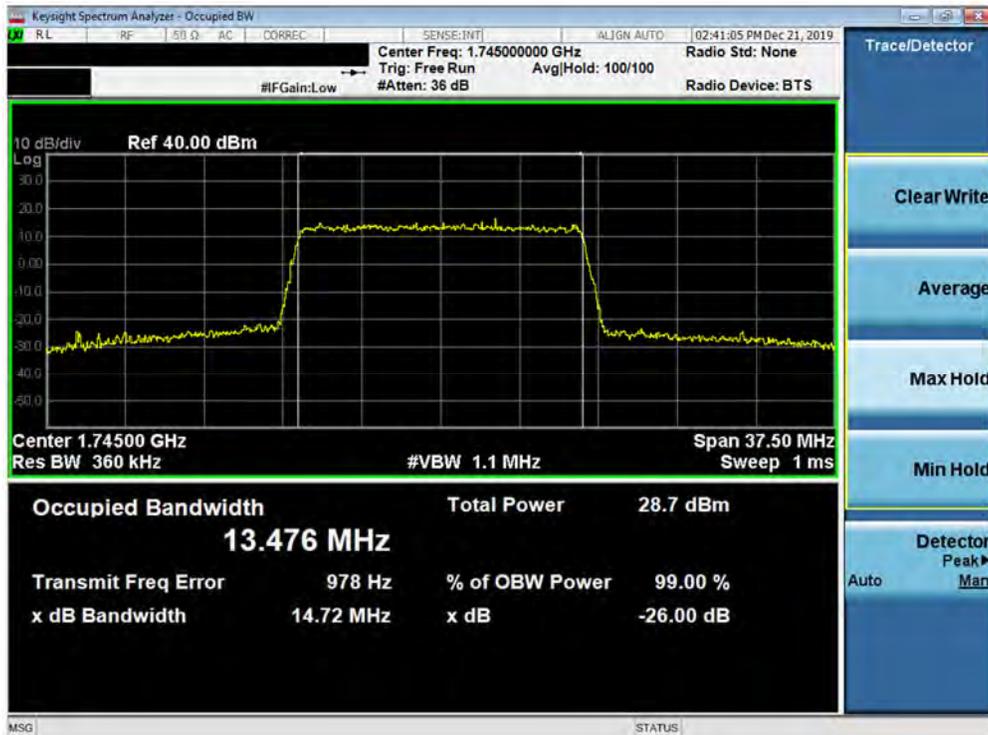


Plot 7-58. Occupied Bandwidth Plot (Band 66/4 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 48 of 329



Plot 7-59. Occupied Bandwidth Plot (Band 66/4 - 15.0MHz 64-QAM - Full RB Configuration)

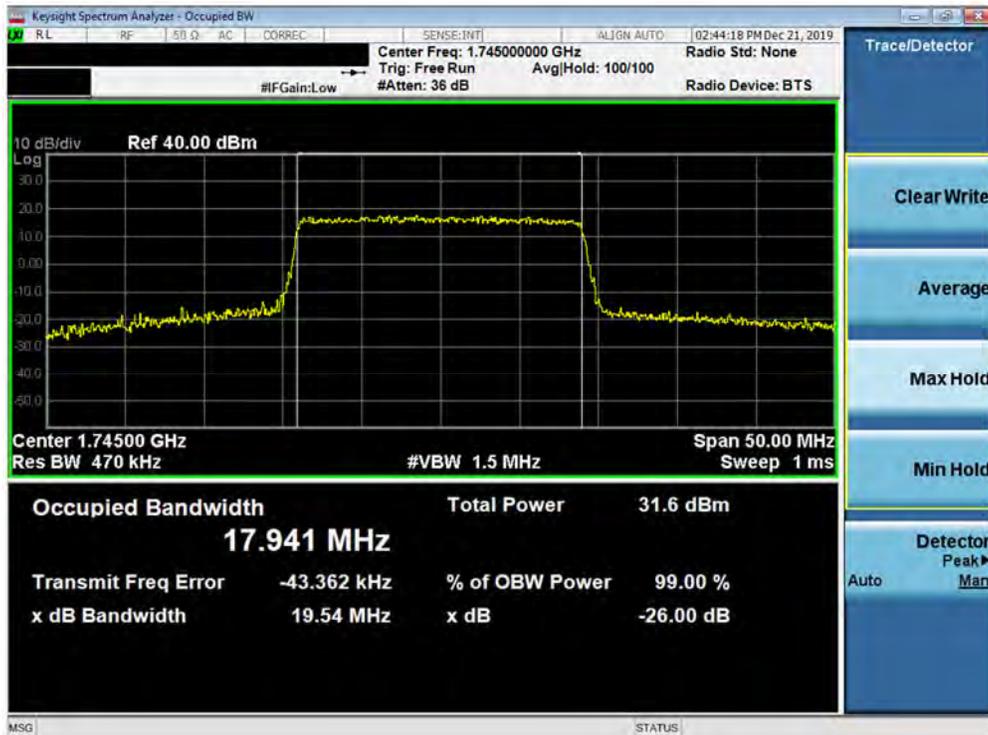


Plot 7-60. Occupied Bandwidth Plot (Band 66/4 - 15.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 49 of 329



Plot 7-61. Occupied Bandwidth Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-62. Occupied Bandwidth Plot (Band 66/4 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 50 of 329



Plot 7-63. Occupied Bandwidth Plot (Band 66/4 - 20.0MHz 64-QAM - Full RB Configuration)



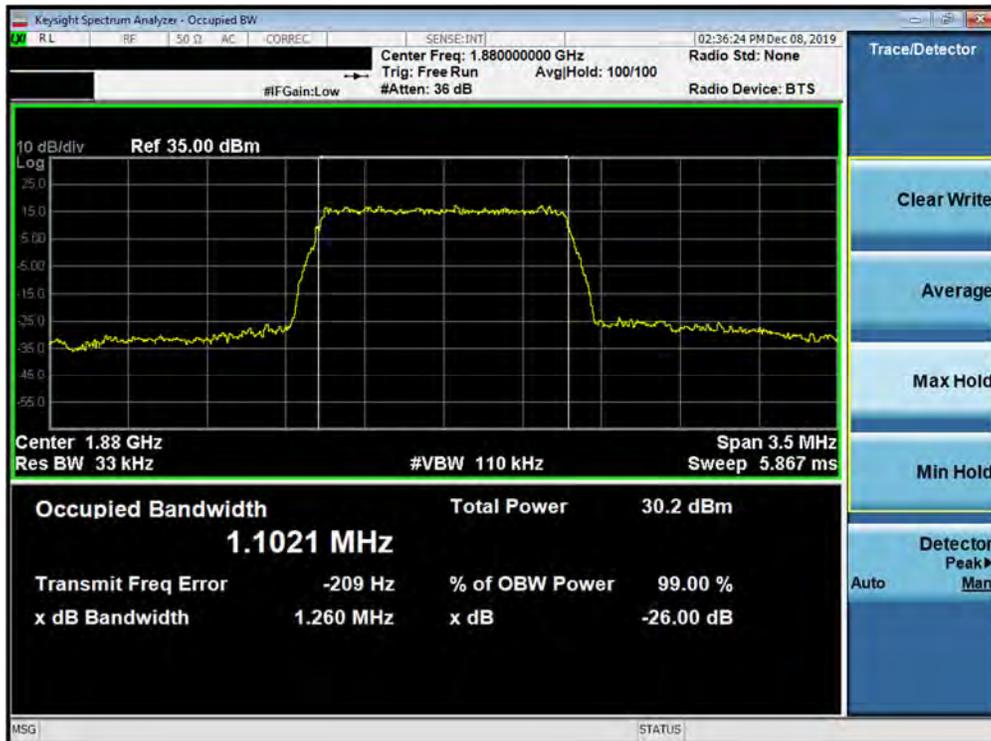
Plot 7-64. Occupied Bandwidth Plot (Band 66/4 - 20.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 51 of 329

## Band 2

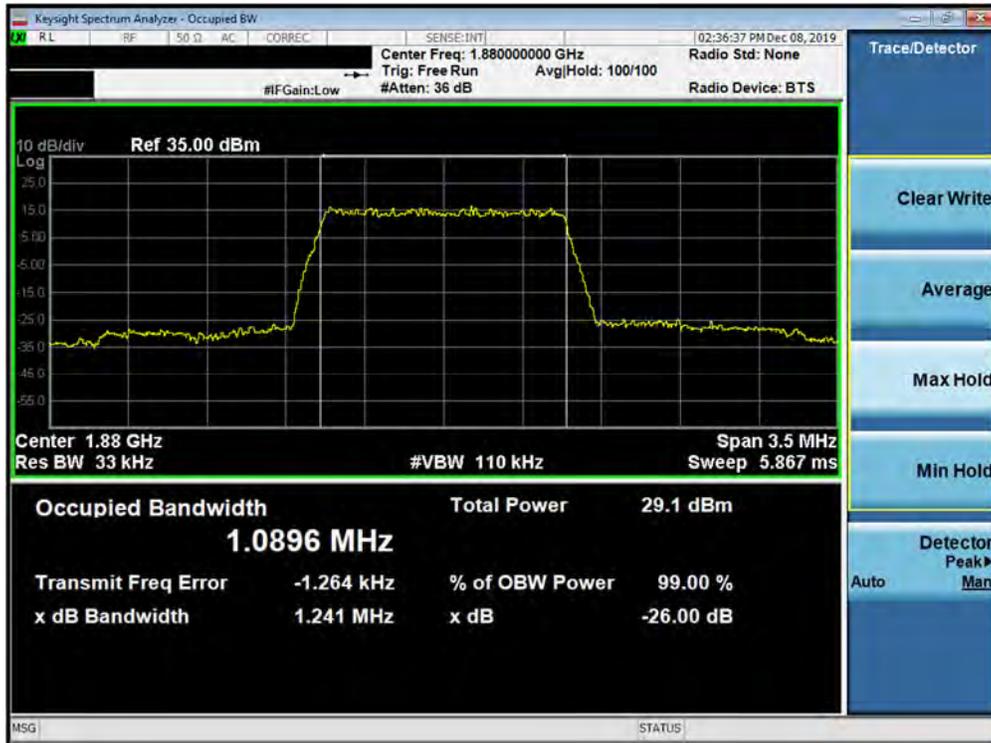


Plot 7-65. Occupied Bandwidth Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-66. Occupied Bandwidth Plot (Band 2 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 52 of 329



Plot 7-67. Occupied Bandwidth Plot (Band 2 - 1.4MHz 64-QAM - Full RB Configuration)

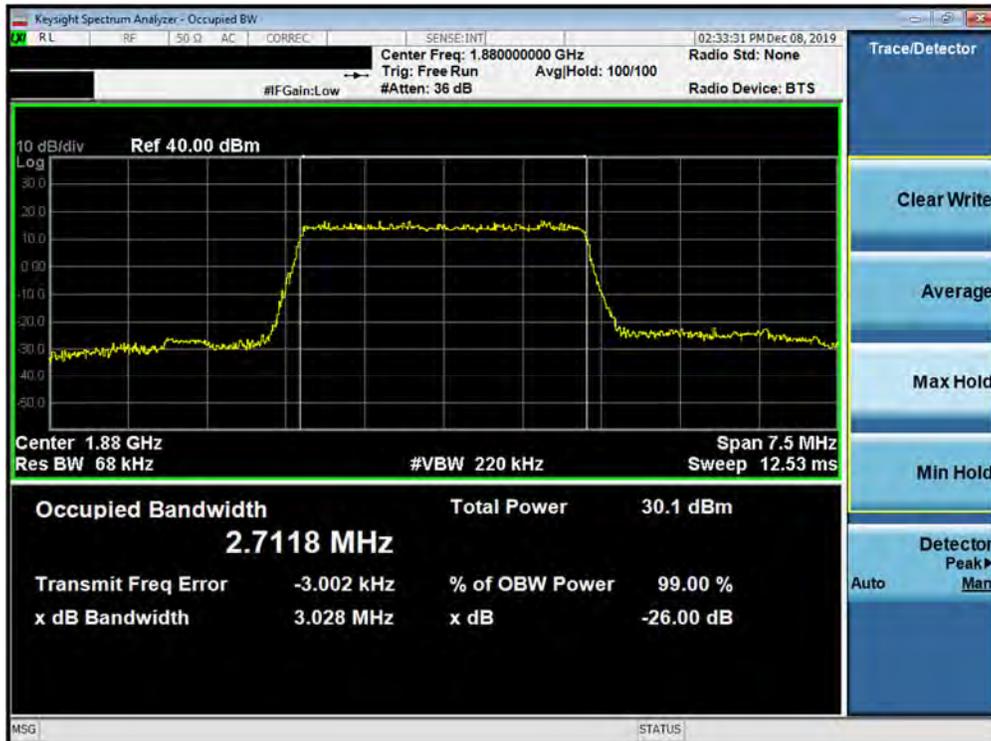


Plot 7-68. Occupied Bandwidth Plot (Band 2 - 1.4MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 53 of 329



Plot 7-69. Occupied Bandwidth Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



Plot 7-70. Occupied Bandwidth Plot (Band 2 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 54 of 329

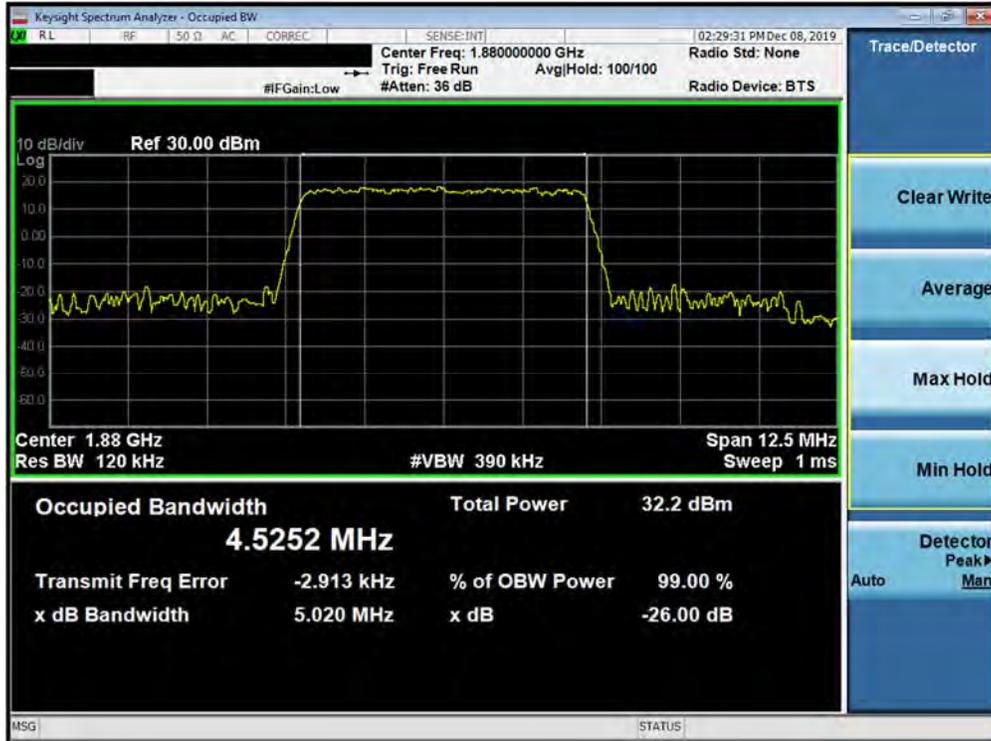


Plot 7-71. Occupied Bandwidth Plot (Band 2 - 3.0MHz 64-QAM - Full RB Configuration)

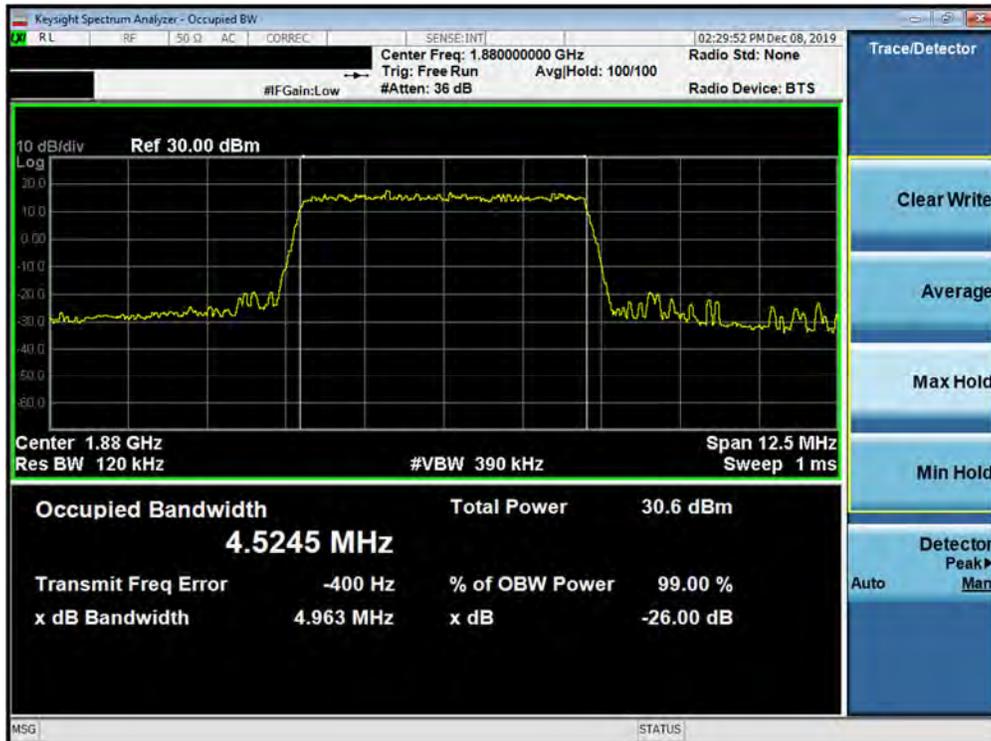


Plot 7-72. Occupied Bandwidth Plot (Band 2 - 3.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 55 of 329

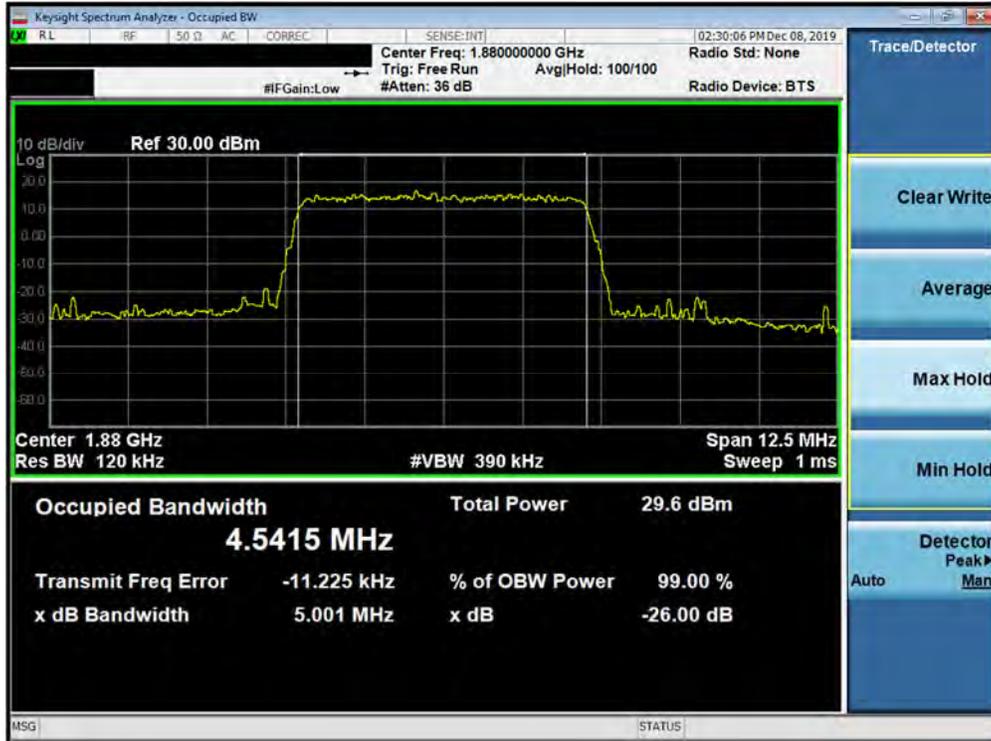


Plot 7-73. Occupied Bandwidth Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

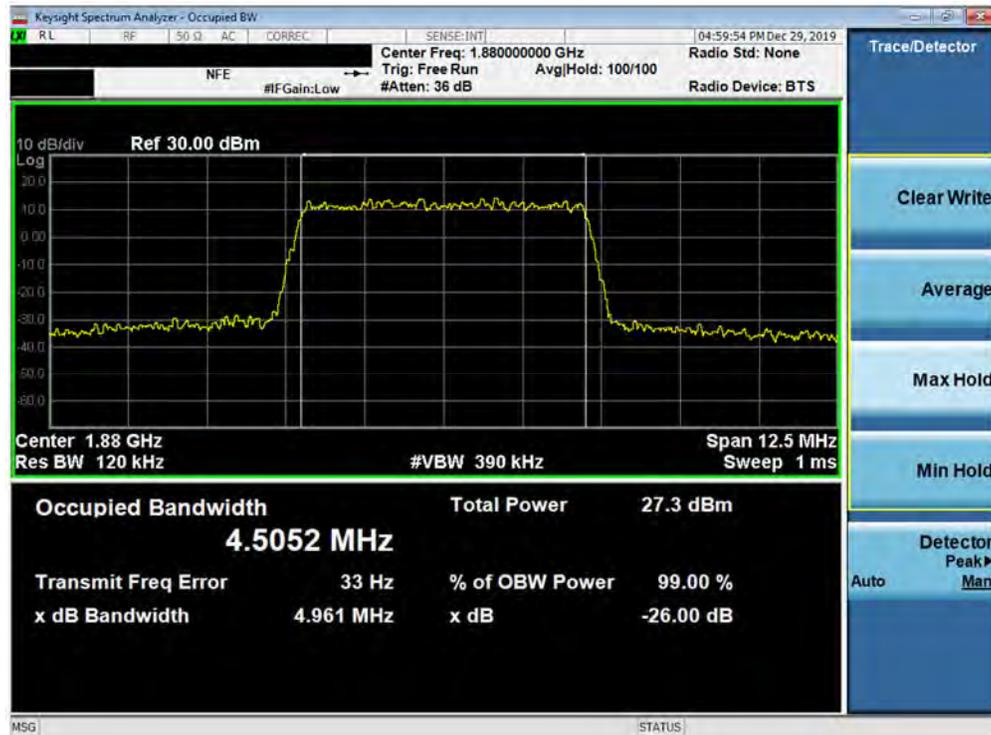


Plot 7-74. Occupied Bandwidth Plot (Band 2 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 56 of 329

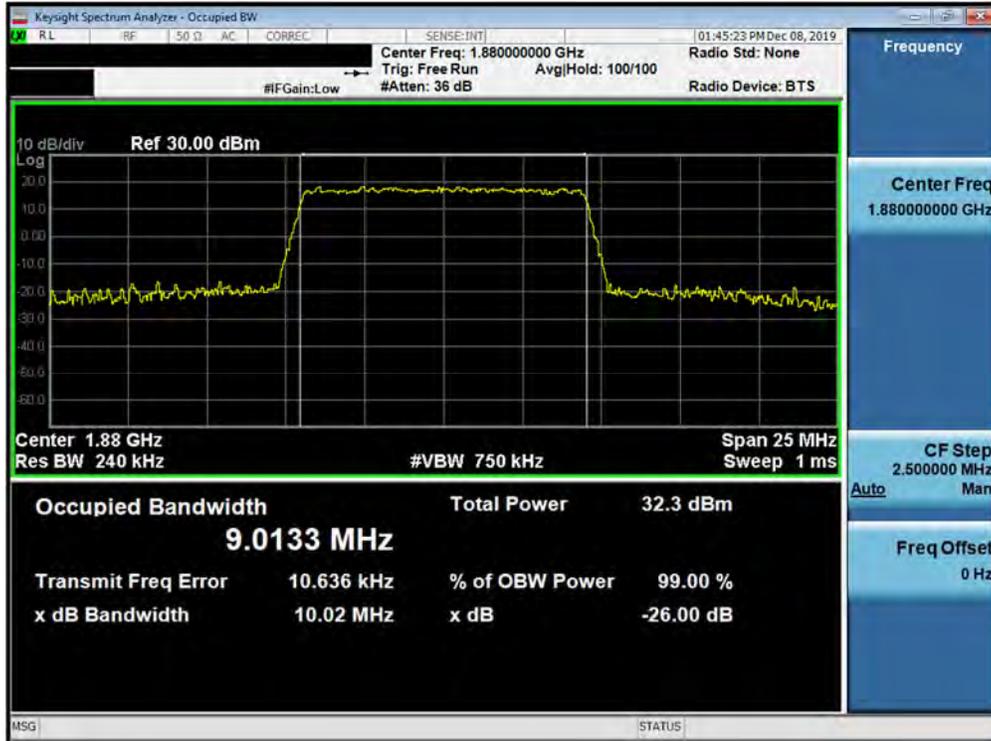


Plot 7-75. Occupied Bandwidth Plot (Band 2 - 5.0MHz 64-QAM - Full RB Configuration)

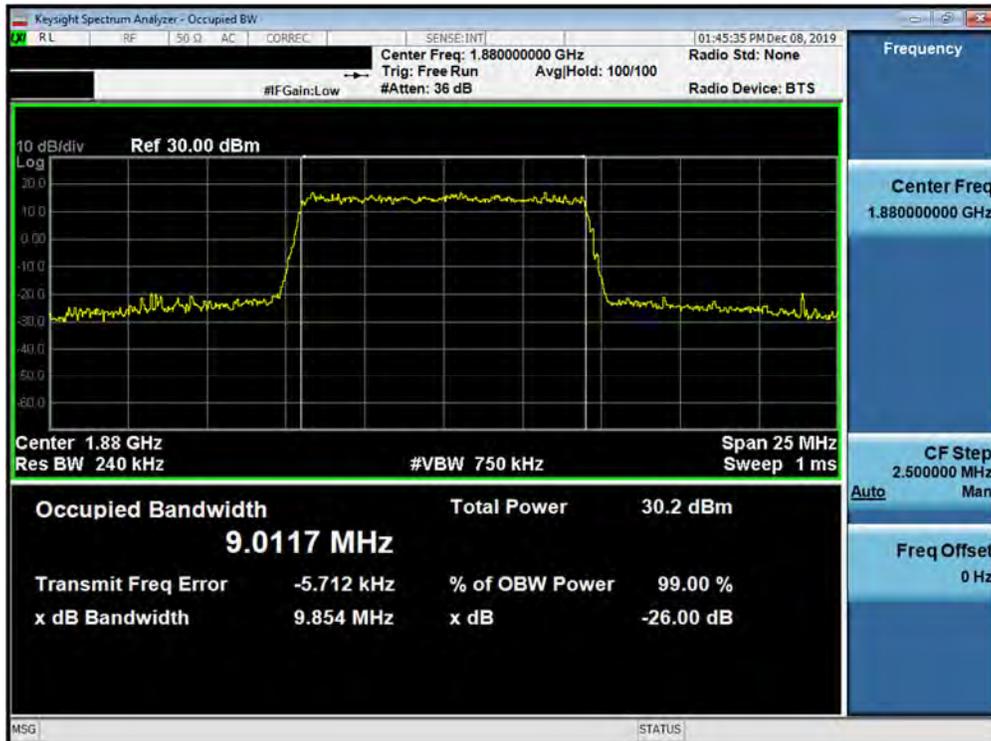


Plot 7-76. Occupied Bandwidth Plot (Band 2 - 5.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 57 of 329

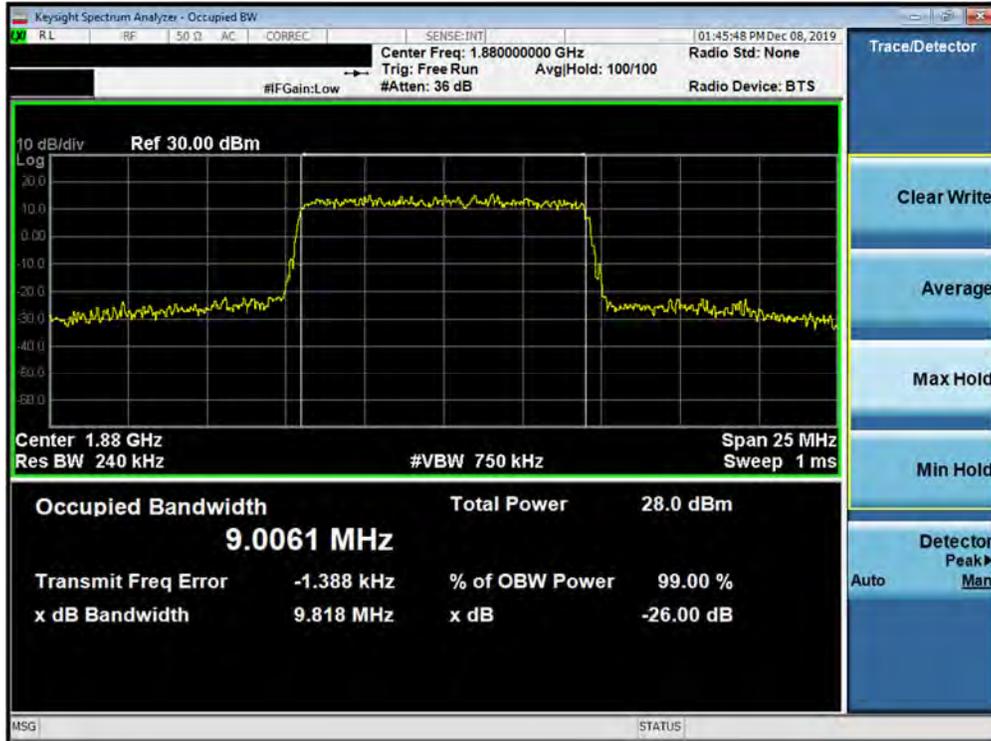


Plot 7-77. Occupied Bandwidth Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-78. Occupied Bandwidth Plot (Band 2 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 58 of 329



Plot 7-79. Occupied Bandwidth Plot (Band 2 - 10.0MHz 64-QAM - Full RB Configuration)

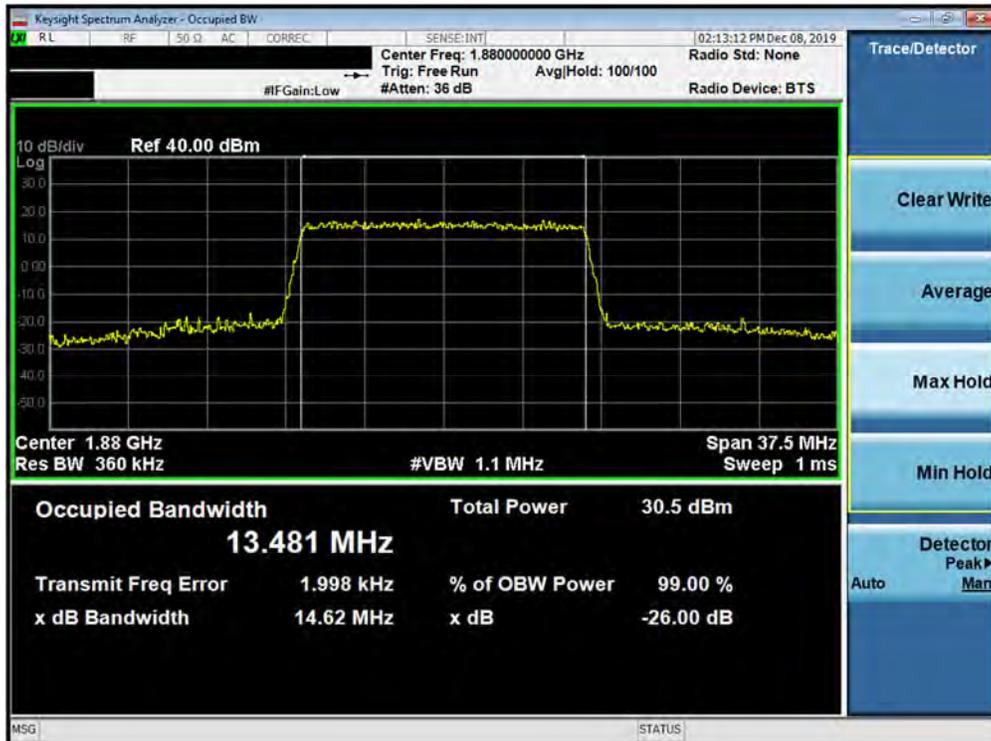


Plot 7-80. Occupied Bandwidth Plot (Band 2 - 10.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 59 of 329



Plot 7-81. Occupied Bandwidth Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

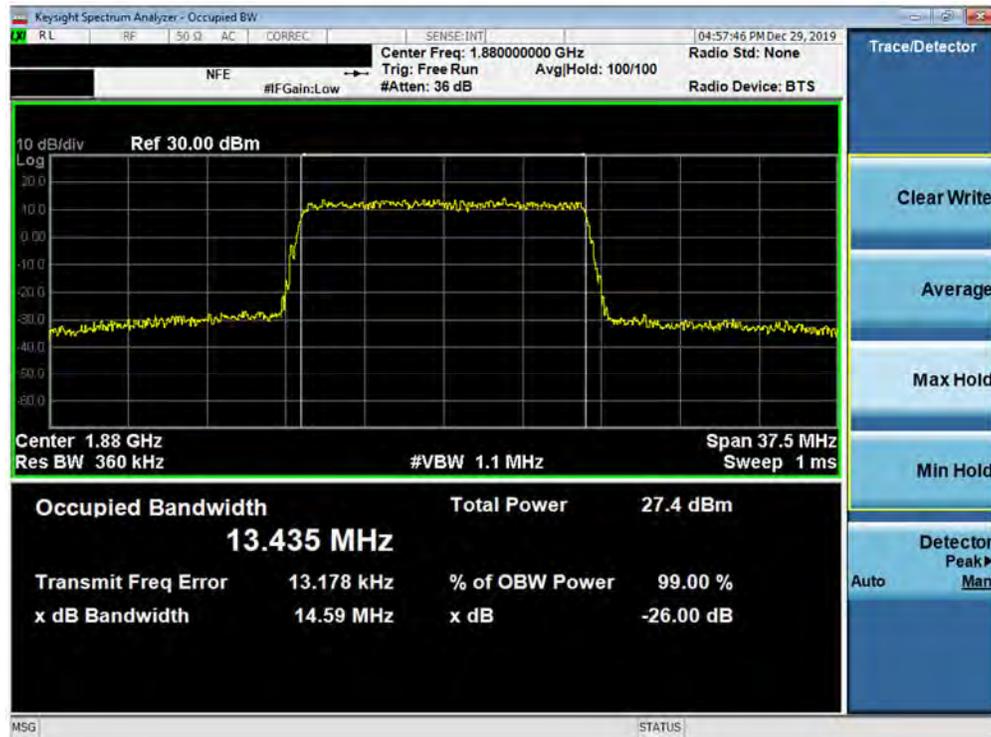


Plot 7-82. Occupied Bandwidth Plot (Band 2 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 60 of 329



Plot 7-83. Occupied Bandwidth Plot (Band 2 - 15.0MHz 64-QAM - Full RB Configuration)

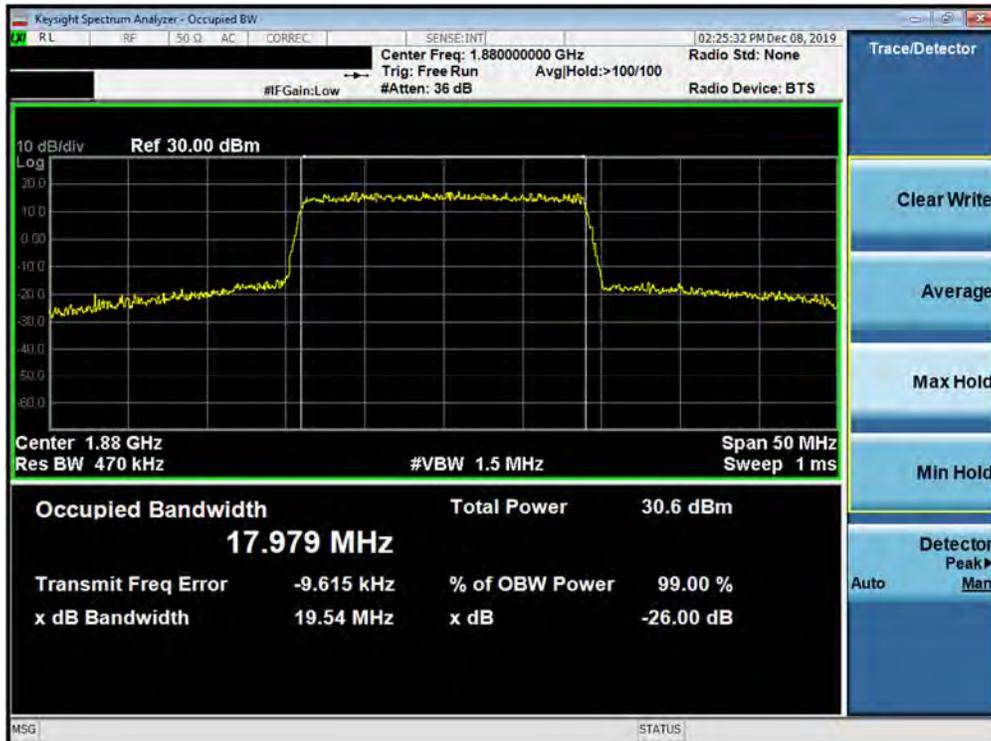


Plot 7-84. Occupied Bandwidth Plot (Band 2 - 15.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 61 of 329



Plot 7-85. Occupied Bandwidth Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

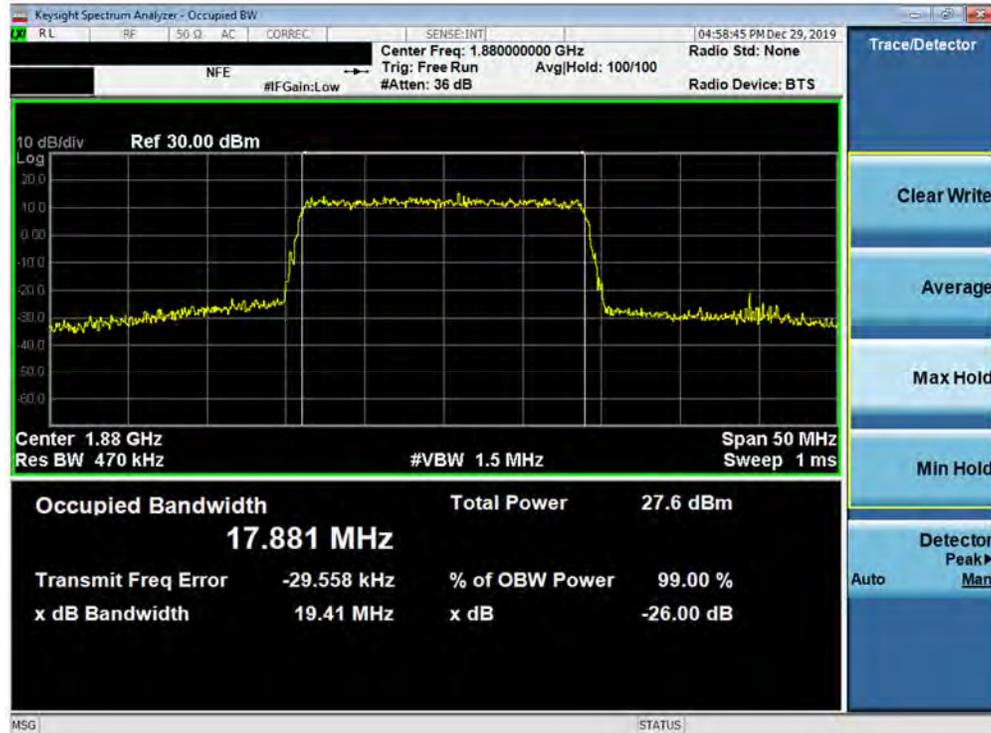


Plot 7-86. Occupied Bandwidth Plot (Band 2 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 62 of 329



Plot 7-87. Occupied Bandwidth Plot (Band 2 - 20.0MHz 64-QAM - Full RB Configuration)



Plot 7-88. Occupied Bandwidth Plot (Band 2 - 20.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 63 of 329

### Band 30



Plot 7-89. Occupied Bandwidth Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-90. Occupied Bandwidth Plot (Band 30 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 64 of 329



Plot 7-91. Occupied Bandwidth Plot (Band 30 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-92. Occupied Bandwidth Plot (Band 30 - 5.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 65 of 329



Plot 7-93. Occupied Bandwidth Plot (Band 30 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-94. Occupied Bandwidth Plot (Band 30 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 66 of 329



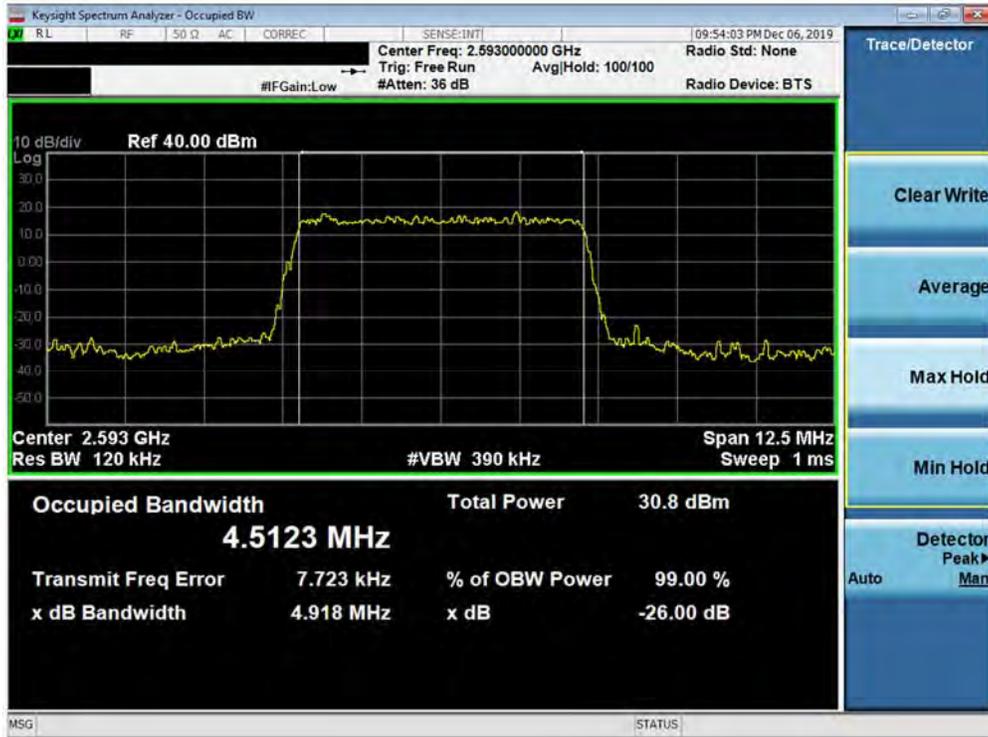
Plot 7-95. Occupied Bandwidth Plot (Band 30 - 10.0MHz 64-QAM - Full RB Configuration)



Plot 7-96. Occupied Bandwidth Plot (Band 30 - 10.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 67 of 329

# Band 41



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



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

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 68 of 329

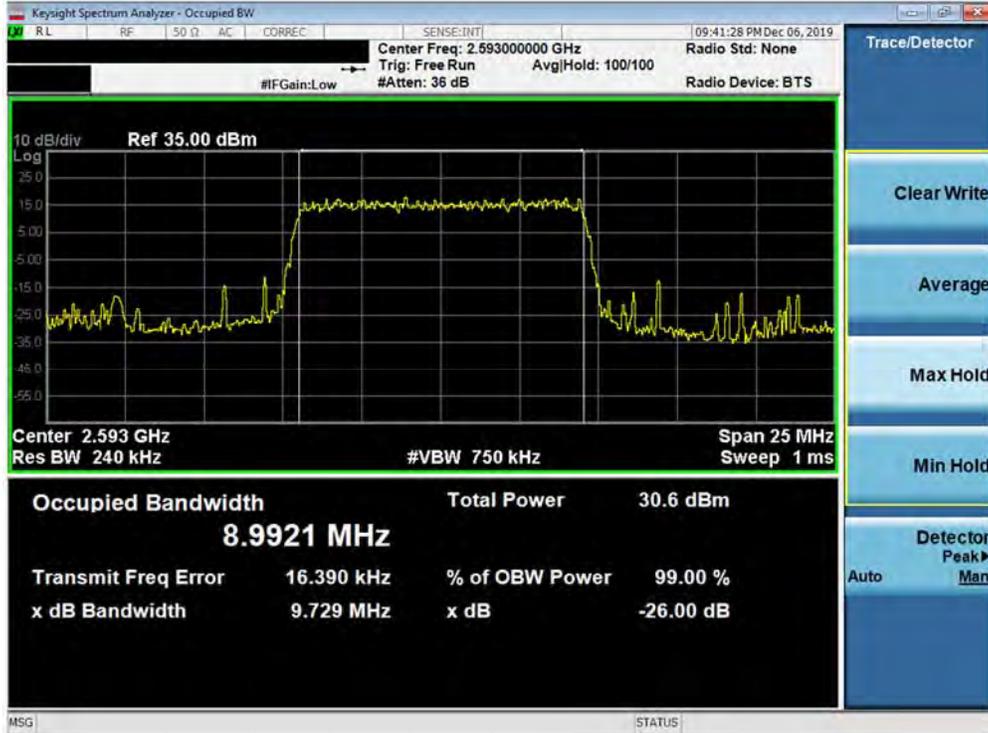


Plot 7-99. Occupied Bandwidth Plot (Band 41 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-100. Occupied Bandwidth Plot (Band 41 - 5.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 69 of 329



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



Plot 7-102. Occupied Bandwidth Plot (Band 41 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 70 of 329



Plot 7-103. Occupied Bandwidth Plot (Band 41 - 10.0MHz 64-QAM - Full RB Configuration)



Plot 7-104. Occupied Bandwidth Plot (Band 41 - 10.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 71 of 329



Plot 7-105. Occupied Bandwidth Plot (Band 41 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-106. Occupied Bandwidth Plot (Band 41 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 72 of 329



Plot 7-107. Occupied Bandwidth Plot (Band 41 - 15.0MHz 64-QAM - Full RB Configuration)



Plot 7-108. Occupied Bandwidth Plot (Band 41 - 15.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 73 of 329

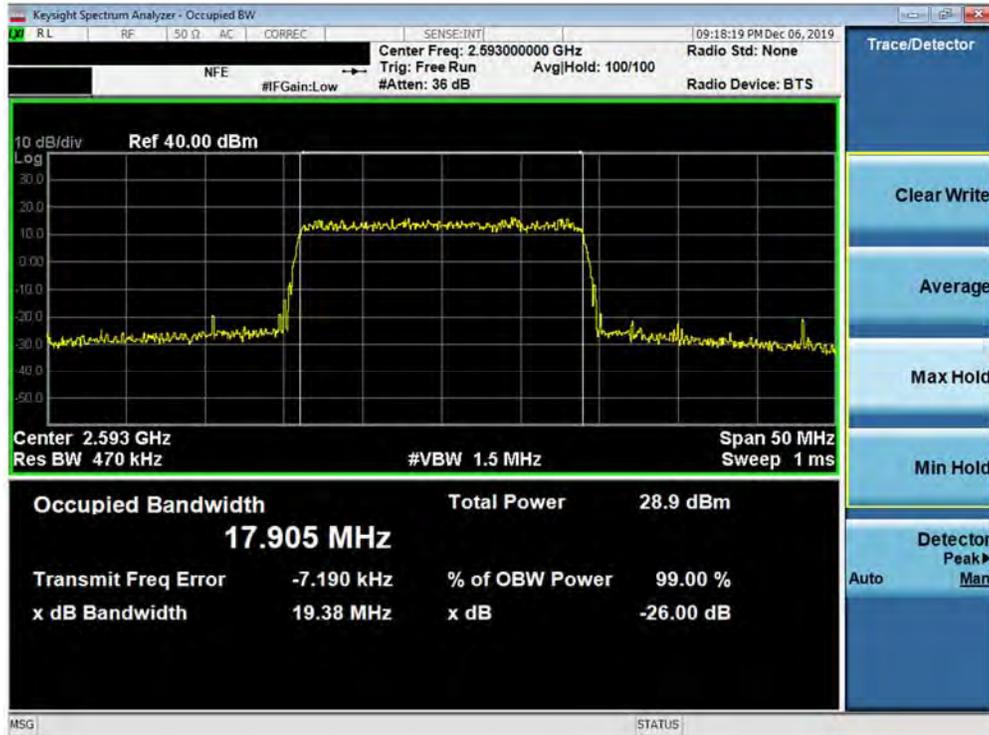


Plot 7-109. Occupied Bandwidth Plot (Band 41 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-110. Occupied Bandwidth Plot (Band 41 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 74 of 329



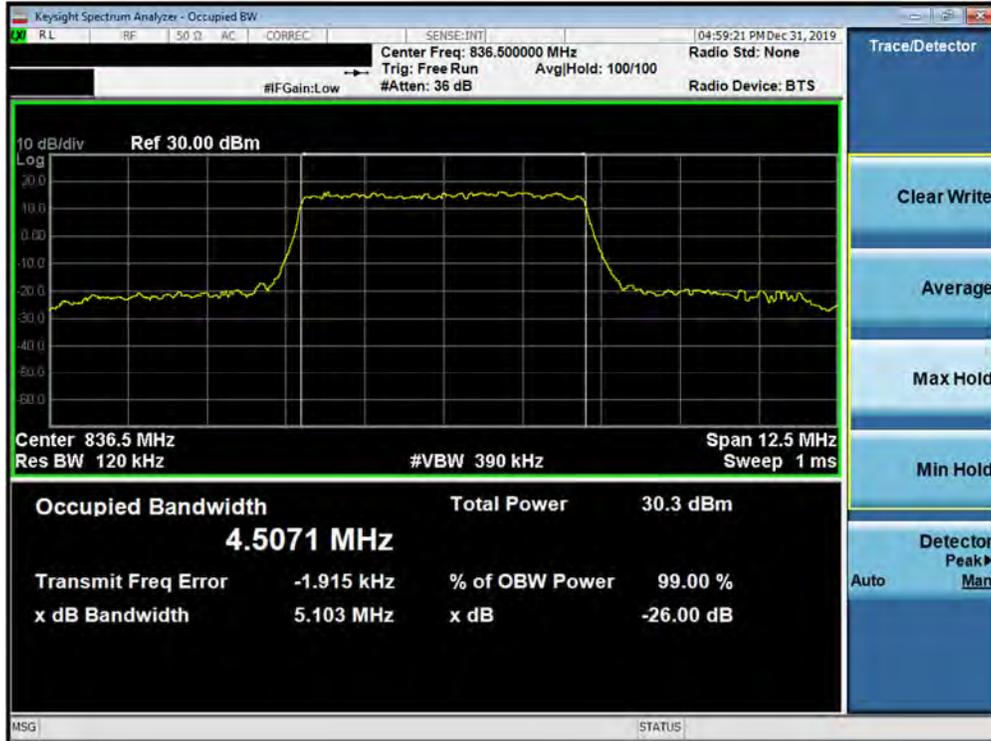
Plot 7-111. Occupied Bandwidth Plot (Band 41 - 20.0MHz 64-QAM - Full RB Configuration)



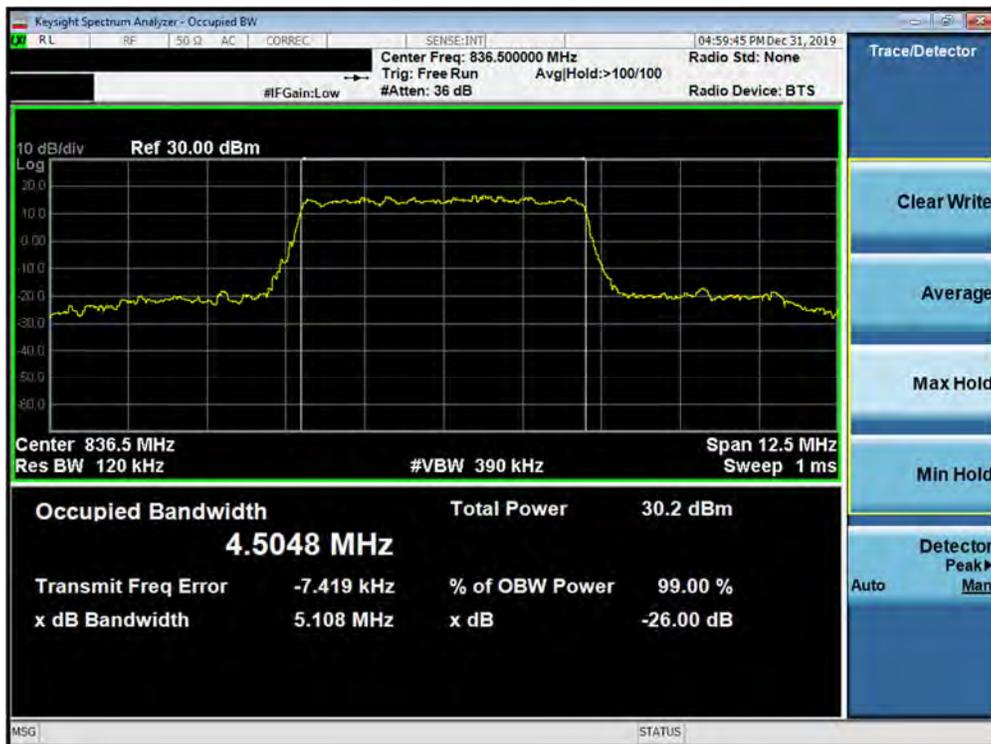
Plot 7-112. Occupied Bandwidth Plot (Band 41 - 20.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 75 of 329

### 5G NR n5



Plot 7-113. Occupied Bandwidth Plot (5G NR n5 - 5.0MHz QPSK - CP - CP - Full RB Configuration)

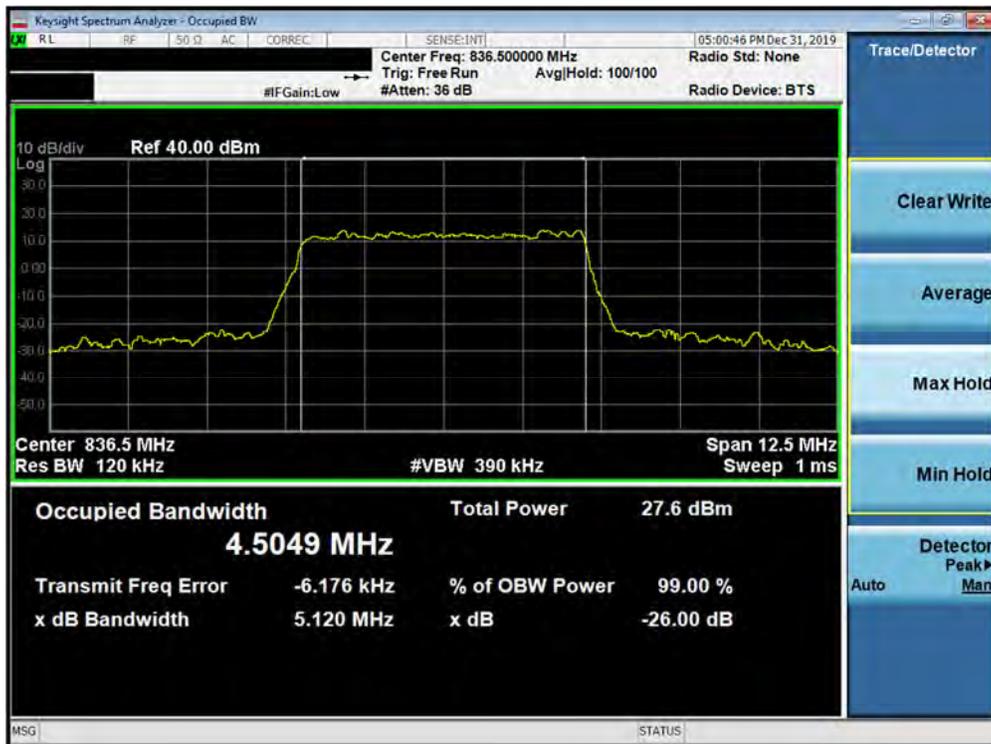


Plot 7-114. Occupied Bandwidth Plot (5G NR n5 - 5.0MHz 16-QAM - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Plot 7-115. Occupied Bandwidth Plot (5G NR n5 - 5.0MHz 64-QAM - CP - Full RB Configuration)

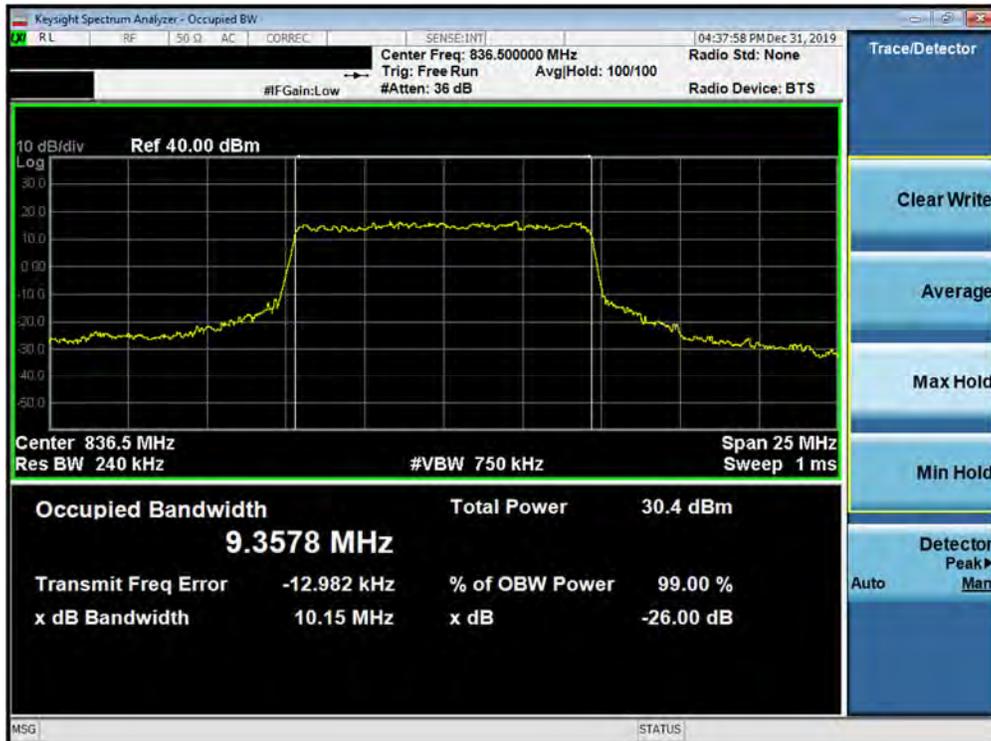


Plot 7-116. Occupied Bandwidth Plot (5G NR n5 - 5.0MHz 256-QAM - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 77 of 329

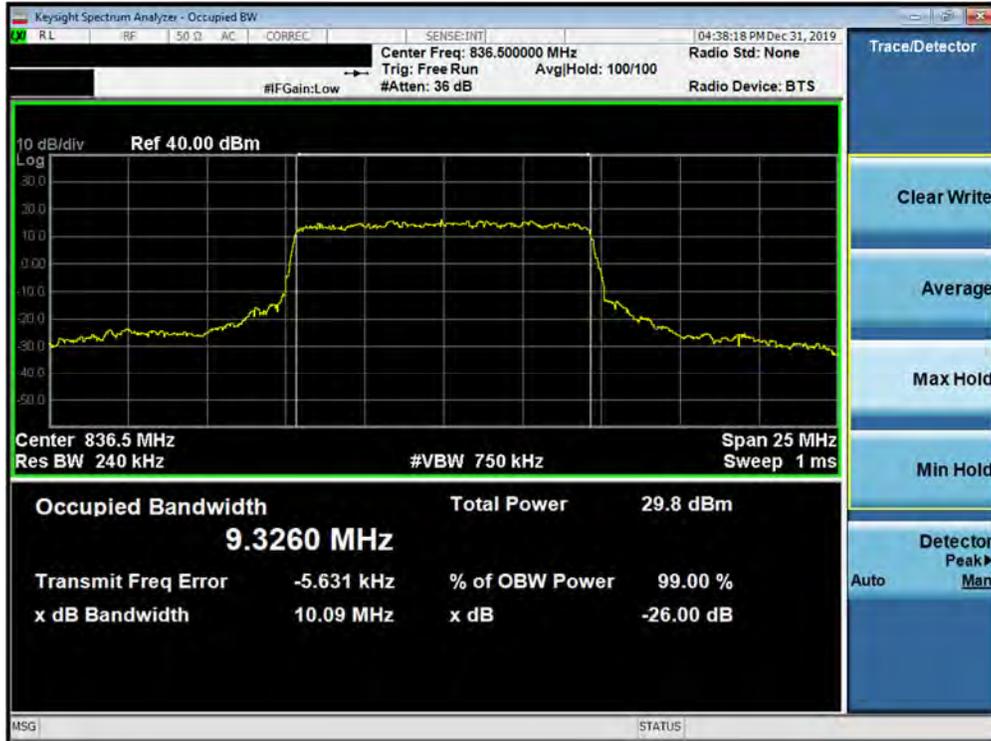


Plot 7-117. Occupied Bandwidth Plot (5G NR n5 - 10.0MHz QPSK - CP - CP - Full RB Configuration)

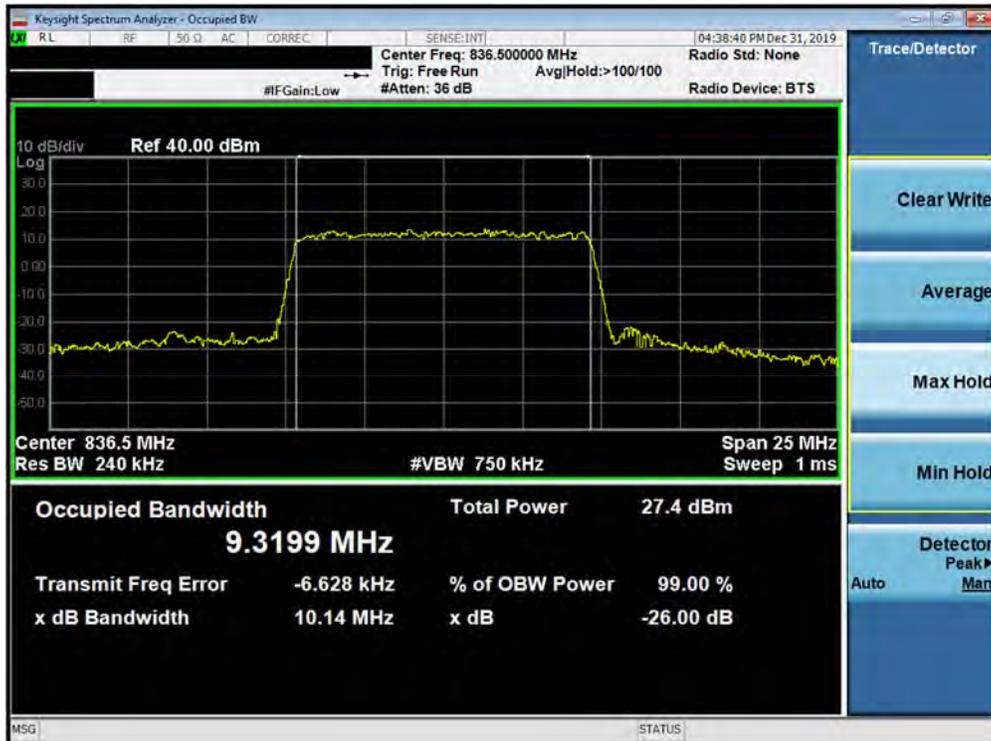


Plot 7-118. Occupied Bandwidth Plot (5G NR n5 - 10.0MHz 16-QAM - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Plot 7-119. Occupied Bandwidth Plot (5G NR n5 - 10.0MHz 64-QAM - CP - Full RB Configuration)

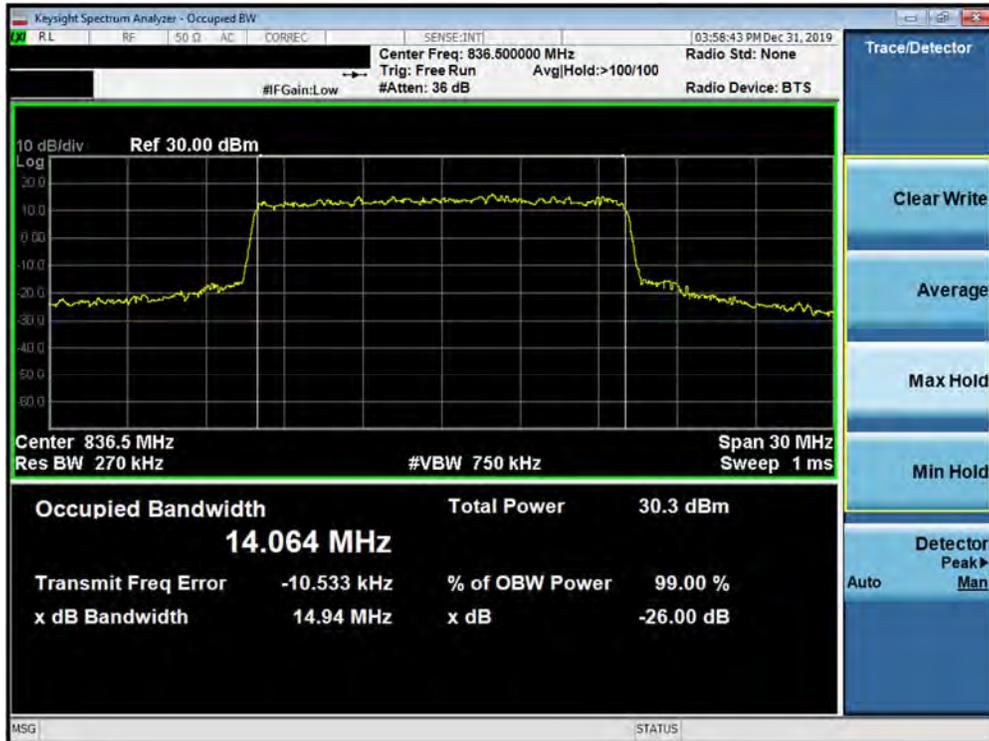


Plot 7-120. Occupied Bandwidth Plot (5G NR n5 - 10.0MHz 256-QAM - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 79 of 329

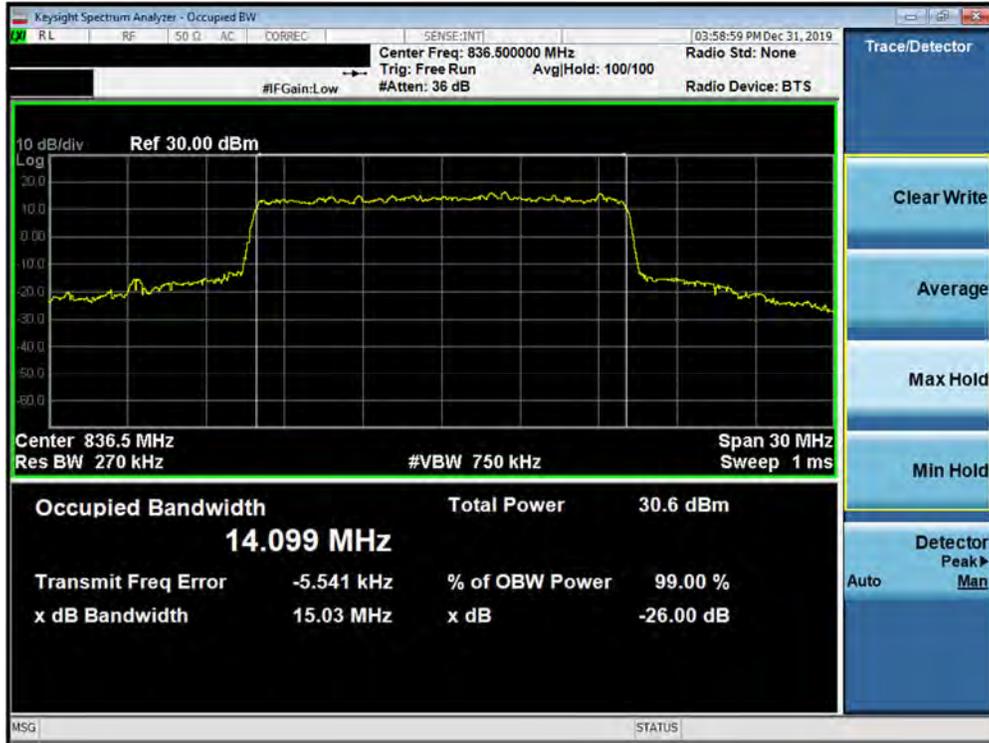


Plot 7-121. Occupied Bandwidth Plot (5G NR n5 - 15.0MHz QPSK - CP - CP - Full RB Configuration)

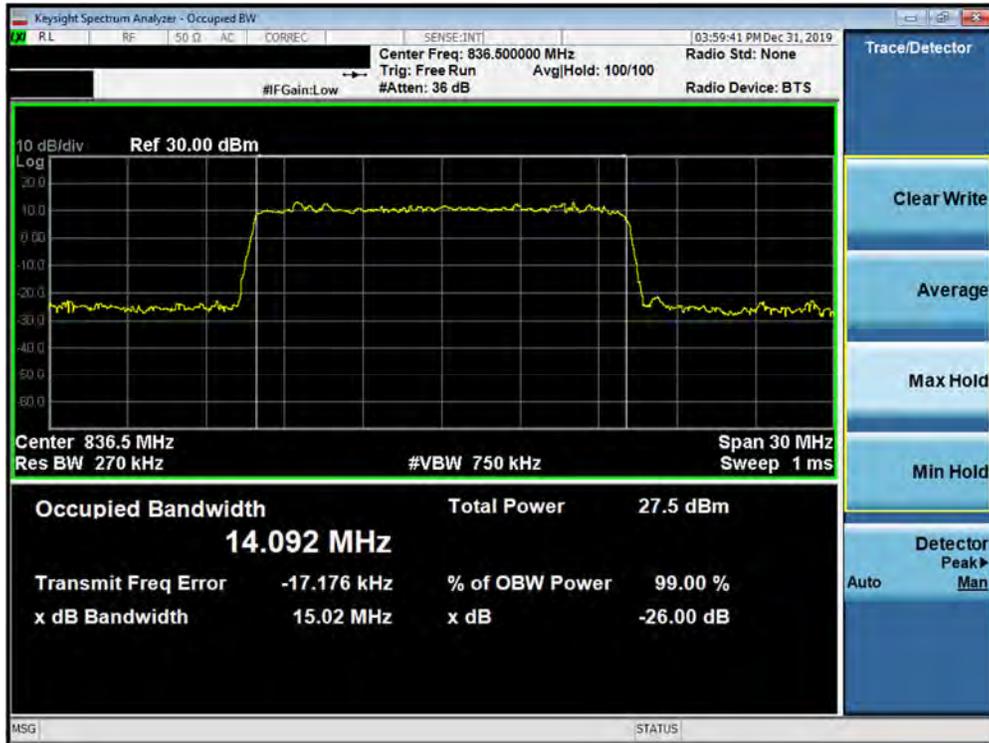


Plot 7-122. Occupied Bandwidth Plot (5G NR n5 - 15.0MHz 16-QAM - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Plot 7-123. Occupied Bandwidth Plot (5G NR n5 - 15.0MHz 64-QAM - CP - Full RB Configuration)



Plot 7-124. Occupied Bandwidth Plot (5G NR n5 - 15.0MHz 256-QAM - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 81 of 329

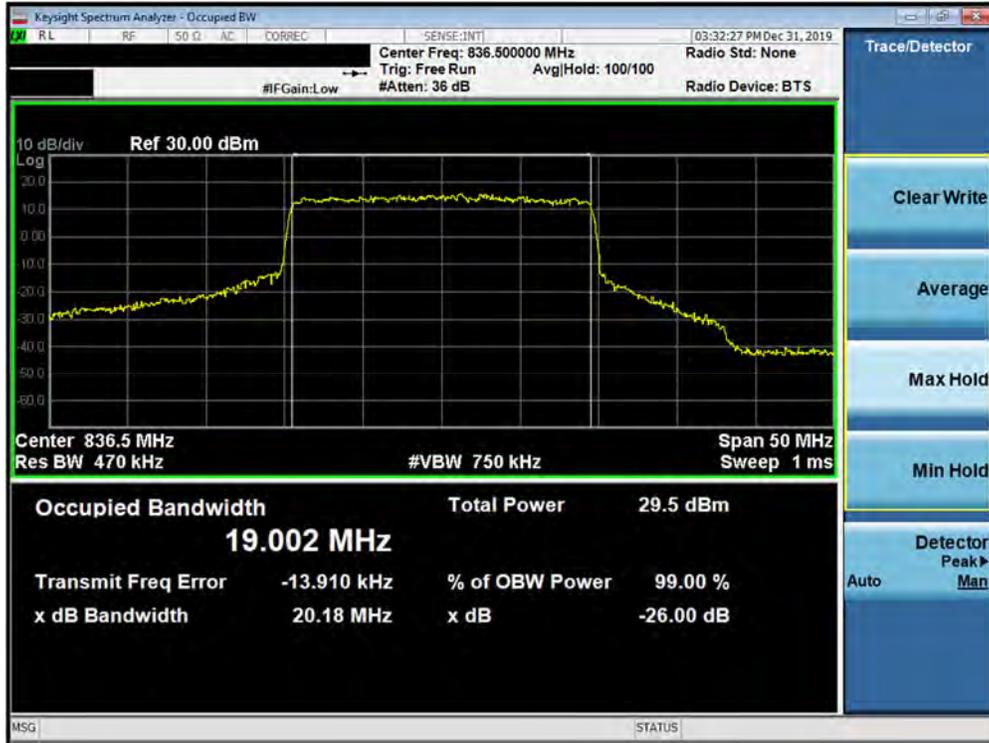


Plot 7-125. Occupied Bandwidth Plot (5G NR n5 - 20.0MHz QPSK - CP - CP - Full RB Configuration)



Plot 7-126. Occupied Bandwidth Plot (5G NR n5 - 20.0MHz 16-QAM - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 82 of 329



Plot 7-127. Occupied Bandwidth Plot (5G NR n5 - 20.0MHz 64-QAM - CP - Full RB Configuration)



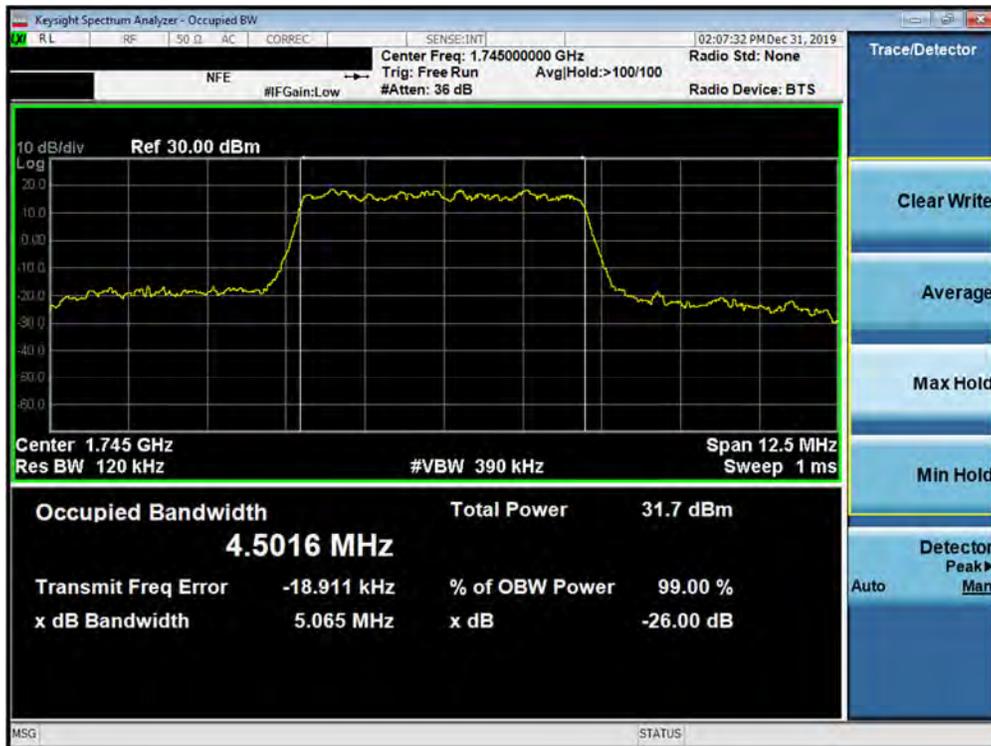
Plot 7-128. Occupied Bandwidth Plot (5G NR n5 - 20.0MHz 256-QAM - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 83 of 329

### 5G NR n66



Plot 7-129. Occupied Bandwidth Plot (5G NR n66 - 5.0MHz QPSK - CP - Full RB Configuration)



Plot 7-130. Occupied Bandwidth Plot (5G NR n66 - 5.0MHz 16-QAM - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset	Page 84 of 329	