

PCTEST ENGINEERING LABORATORY, INC.

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



MEASUREMENT REPORT FCC Part 22, 24, & 27 LTE

Applicant Name:

LG Electronics MobileComm U.S.A 1000 Sylvan Avenue Englewood Cliffs, NJ 07632 United States Date of Testing: 10/24-10/31/2016 Test Site/Location: PCTEST Lab., Columbia, MD, USA Test Report Serial No.: 0Y1610241660-R1.ZNF

ZNFM210

APPLICANT:

FCC ID :

LG ELECTRONICS MOBILECOMM U.S.A

| Application Type: | Certification |
|-------------------------|---|
| FCC Classification: | PCS Licensed Transmitter Held to Ear (PCE) |
| FCC Rule Part(s): | §2; §22; §24; §27 |
| Test Procedure(s): | ANSI/TIA-603-D-2010, KDB 971168 D01 v02r02 |
| EUT Type: | Portable Handset |
| Model(s): | LG-M210, LGM210, M210, LG-MS210, LGMS210, MS210 |
| Test Device Serial No.: | identical prototype [S/N: 69570, 69576, 69577] |

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.

This revised Test Report (S/N: 0Y1610241660-R1.ZNF) supersedes and replaces the previously issued test report (S/N: 0Y1610241660.ZNF) on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

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

Randy Ortanez President



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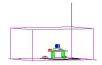


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MEASUREMENT REPORT FCC Part 22, 24, & 27



§2.1033 General Information

| APPLICANT: | LG Electronics MobileCon | nm U.S.A | | | |
|--------------------------------|---------------------------|---------------------|----------------|-------------|--|
| APPLICANT ADDRESS: | 1000 Sylvan Avenue | | | | |
| | Englewood Cliffs, NJ 0763 | 32, United States | | | |
| TEST SITE: | PCTEST ENGINEERING | LABORATORY, INC. | | | |
| TEST SITE ADDRESS: | 7185 Oakland Mills Road, | Columbia, MD 21045 | 5 USA | | |
| FCC RULE PART(S): | §2; §22; §24; §27 | | | | |
| BASE MODEL: | LG-M210 | LG-M210 | | | |
| FCC ID: | ZNFM210 | | | | |
| FCC CLASSIFICATION: | PCS Licensed Transmitte | r Held to Ear (PCE) | | | |
| FREQUENCY TOLERANCE: | ±0.00025 % (2.5 ppm) | | | | |
| Test Device Serial No.: | 69570, 69576, 69577 | Production | Pre-Production | Engineering | |
| DATE(S) OF TEST: | 10/24-10/31/2016 | | | | |
| TEST REPORT S/N: | 0Y1610241660-R1.ZNF | | | | |

Test Facility / Accreditations

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

- PCTEST facility is an FCC registered (PCTEST Reg. No. 159966) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules and Industry Canada (2451B-1).
- PCTEST Lab is accredited to ISO 17025 by U.S. National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP Lab code: 100431-0) in EMC, FCC and Telecommunications.
- PCTEST Lab is accredited to ISO 17025-2005 by the American Association for Laboratory Accreditation (A2LA) in Specific Absorption Rate (SAR) testing, Hearing Aid Compatibility (HAC) testing, CTIA Test Plans, and wireless testing for FCC and Industry Canada Rules.
- PCTEST Lab is a recognized U.S. Conformity Assessment Body (CAB) in EMC and R&TTE (n.b. 0982) under the U.S.-EU Mutual Recognition Agreement (MRA).
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC Guide 65 by the American National Standards Institute (ANSI) in all scopes of FCC Rules and Industry Canada Standards (RSS).
- PCTEST facility is an IC registered (2451B-1) test laboratory with the site description on file at Industry Canada.
- PCTEST is a CTIA Authorized Test Laboratory (CATL) for AMPS, CDMA, and EvDO wireless devices and for Over-the-Air (OTA) Antenna Performance testing for AMPS, CDMA, GSM, GPRS, EGPRS, UMTS (W-CDMA), CDMA 1xEVDO, and CDMA 1xRTT.

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MEASUREMENT REPORT FCC Part 22, 24, & 27

| | | | ERP/ | 'EIRP | | | |
|-------------|--------------|--------------------------------|-----------|-------------|------------|---------------|--|
| Mode | FCC Rule | Tx Frequency (MHz) | Max Power | Max. Pow er | Emission | Modulation | |
| WIOGC | Part | | (W) | (dBm) | Designator | Woddiation | |
| LTE Band 12 | 27 | 699.7 - 715.3 | 0.065 | 18.14 | 1M12G7D | QPSK | |
| LTE Band 12 | 27 | 699.7 - 715.3 | 0.003 | 16.68 | 1M12W7D | 16QAM | |
| LTE Band 12 | 27 | 700.5 - 714.5 | 0.047 | 19.13 | 2M72G7D | QPSK | |
| LTE Band 12 | 27 | 700.5 - 714.5 | 0.062 | 18.34 | 2M72W7D | 16QAM | |
| LTE Band 12 | 27 | 701.5 - 713.5 | 0.000 | 19.66 | 4M53G7D | QPSK | |
| LTE Band 12 | 27 | 701.5 - 713.5 | 0.093 | 19.00 | 4M50W7D | 16QAM | |
| LTE Band 12 | 27 | 701.5 - 713.5 | 0.100 | 20.01 | 8M97G7D | QPSK | |
| LTE Band 12 | 27 | 704 - 711 | 0.080 | 19.03 | 8M95W7D | 16QAM | |
| LTE Band 5 | 27 22H | 824.7 - 848.3 | 0.080 | 19.03 | 1M12G7D | QPSK | |
| LTE Band 5 | 22H 22H | 824.7 - 848.3 | 0.075 | 17.38 | 1M12W7D | 16QAM | |
| LTE Band 5 | 22H 22H | 825.5 - 847.5 | 0.055 | 18.95 | 2M70G7D | QPSK | |
| | 22H 22H | | | | | | |
| LTE Band 5 | | 825.5 - 847.5 | 0.057 | 17.56 | 2M72W7D | 16QAM | |
| LTE Band 5 | 22H | 826.5 - 846.5 826.5 - 846.5 | 0.096 | 19.82 | 4M51G7D | QPSK 100AM | |
| LTE Band 5 | 22H | 829 - 844 | 0.068 | 18.31 | 4M49W7D | 16QAM | |
| LTE Band 5 | 22H | | 0.088 | 19.45 | 8M97G7D | QPSK | |
| LTE Band 5 | 22H | 829 - 844 | 0.070 | 18.42 | 8M97W7D | 16QAM | |
| LTE Band 4 | 27 | 1710.7 - 1754.3 | 0.319 | 25.03 | 1M13G7D | QPSK | |
| LTE Band 4 | 27 | 1710.7 - 1754.3 | 0.248 | 23.95 | 1M11W7D | 16QAM | |
| LTE Band 4 | 27 | 1711.5 - 1753.5 | 0.299 | 24.76 | 2M72G7D | QPSK | |
| LTE Band 4 | 27 | 1711.5 - 1753.5 | 0.242 | 23.84 | 2M71W7D | 16QAM | |
| LTE Band 4 | 27 | 1712.5 - 1752.5 | 0.319 | 25.03 | 4M51G7D | QPSK | |
| LTE Band 4 | 27 | 1712.5 - 1752.5 | 0.250 | 23.98 | 4M51W7D | 16QAM | |
| LTE Band 4 | 27 | 1715 - 1750 | 0.321 | 25.06 | 8M96G7D | QPSK | |
| LTE Band 4 | 27 | 1715 - 1750 | 0.227 | 23.56 | 8M97W7D | 16QAM | |
| LTE Band 4 | 27 | 1717.5 - 1747.5 | 0.280 | 24.47 | 13M5G7D | QPSK | |
| LTE Band 4 | 27 | 1717.5 - 1747.5 | 0.220 | 23.42 | 13M4W7D | 16QAM | |
| LTE Band 4 | 27 | 1720 - 1745 | 0.310 | 24.91 | 17M9G7D | QPSK | |
| LTE Band 4 | 27 | 1720 - 1745 | 0.250 | 23.98 | 17M8W7D | 16QAM | |
| LTE Band 2 | 24E | 1850.7 - 1909.3 | 0.283 | 24.51 | 1M12G7D | QPSK | |
| LTE Band 2 | 24E | 1850.7 - 1909.3 | 0.264 | 24.21 | 1M13W7D | 16QAM | |
| LTE Band 2 | 24E | 1851.5 - 1908.5 | 0.272 | 24.35 | 2M73G7D | QPSK | |
| LTE Band 2 | 24E | 1851.5 - 1908.5 | 0.223 | 23.49 | 2M73W7D | 16QAM | |
| LTE Band 2 | 24E | 1852.5 - 1907.5 | 0.293 | 24.66 | 4M52G7D | QPSK | |
| LTE Band 2 | 24E | 1852.5 - 1907.5 | 0.241 | 23.82 | 4M51W7D | 16QAM | |
| LTE Band 2 | 24E | 1855 - 1905 | 0.298 | 24.74 | 8M96G7D | QPSK | |
| LTE Band 2 | 24E | 1855 - 1905 | 0.249 | 23.97 | 8M95W7D | 16QAM | |
| LTE Band 2 | 24E | 1857.5 - 1902.5 | 0.242 | 23.83 | 13M4G7D | QPSK | |
| LTE Band 2 | 24E | 1857.5 - 1902.5 | 0.203 | 23.07 | 13M4W7D | 16QAM | |
| LTE Band 2 | 24E | 1860 - 1900 | 0.257 | 24.10 | 17M9G7D | QPSK | |
| LTE Band 2 | 24E | 1860 - 1900 | 0.217 | 23.37 | 17M9W7D | 16QAM | |
| | EUT Overview | | | | | | |

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INTRODUCTION 1.0

1.1 Scope

Measurement and determination of electromagnetic emissions (EME) 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 Industry Canada Certification and Engineering Bureau.

1.2 Testing Facility

The map below shows the location of the PCTEST LABORATORY, its proximity to the FCC Laboratory, the Columbia vicinity, the Baltimore-Washington Internt'I (BWI) airport, the city of Baltimore and the Washington, DC area. (See Figure 1-1).

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility located at 7185 Oakland Mills Road, Columbia, MD 21046. The site coordinates are 39° 10'23" N latitude and 76° 49'50" W longitude. The facility is 0.4 miles North of the FCC laboratory, and the ambient signal and ambient signal strength are approximately equal to those of the FCC laboratory. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2014 on January 22, 2015.

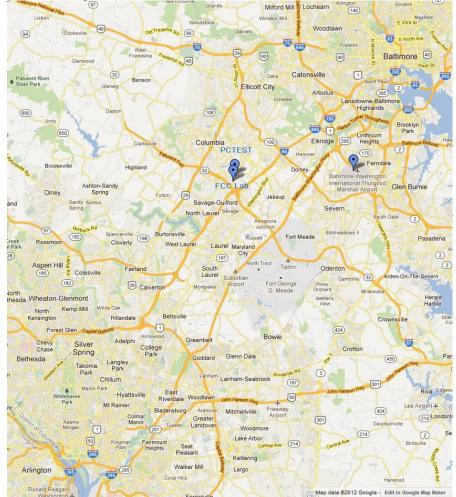


Figure 1-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **LG Portable Handset FCC ID: ZNFM210**. The test data contained in this report pertains only to the emissions due to the EUT's LTE function.

2.2 Device Capabilities

This device contains the following capabilities:

850/1900 GSM/GPRS/EDGE, 850/1700/1900 WCDMA/HSPA, Multi-band LTE, 802.11b/g/n WLAN, Bluetooth (1x, EDR, LE)

2.3 Test Configuration

The EUT was tested per the guidance of ANSI/TIA-603-D-2010 and KDB 971168 D01 v02r02. See Section 7.0 of this test report for a description of the radiated and antenna port conducted emissions tests.

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

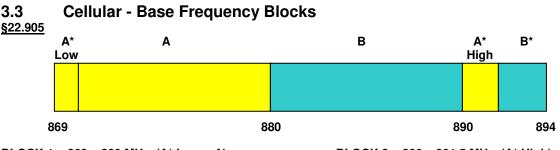
The measurement procedures described in the document titled "Land Mobile FM or PM – Communications Equipment – Measurements and Performance Standards" (ANSI/TIA-603-D-2010) and "Procedures for Compliance Measurement of the Fundamental Emission Power of Licensed Wideband (> 1 MHz) Digital Transmission Systems" (KDB 971168 D01 v02r02) were used in the measurement of the EUT.

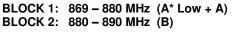
3.2 Block A Frequency Range

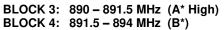
§27.5(c)

<u>698-746 MHz band</u>. 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:

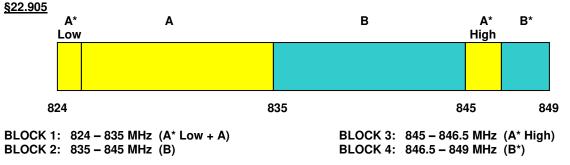
Block A: 698-704 MHz and 728-734 MHz; Block B: 704-710 MHz and 734-740 MHz; and Block C: 710-716 MHz and 740-746 MHz.



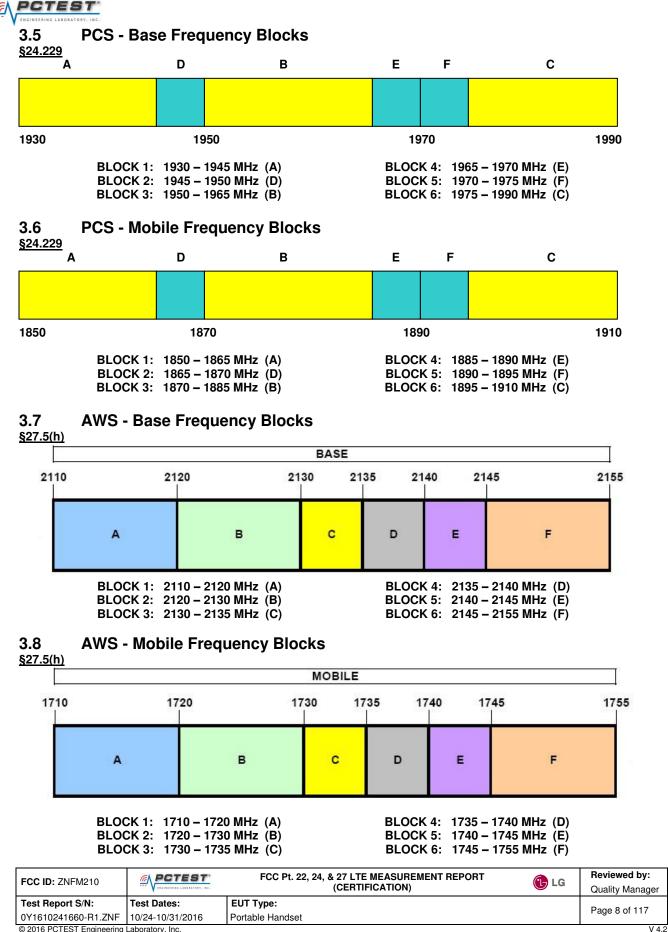








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3.9 Radiated Power and Radiated Spurious Emissions §2.1053 §22.913(a.2) §22.917(a) §24.232(c) §24.238(a) §27.50(c.10) §27.50(d.4) §27.53(g) §27.53(h)

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. A 72.4cm high PVC support structure is placed on top of the turntable. A 3" (~7.6cm) sheet of high density polystyrene is used as the table top and is placed on top of the PVC supports to bring the total height of the table to 80cm.

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 v02r02.

Per the guidance of ANSI/TIA-603-D-2010, a half-wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

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

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

The calculated P_d levels are then compared to the absolute spurious emission limit of -13dBm which is equivalent to the required minimum attenuation of 43 + 10log₁₀(Power [Watts]).

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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 data shown herein 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 |

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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 C63.5-2006.

| Manufacturer | Model | Description | Cal Date | Cal Interval | Cal Due | Serial Number |
|-----------------|--------------|--|------------|----------------------------|------------|---------------|
| - | LTx3 | Licensed Transmitter Cable Set | 7/12/2016 | Annual | 7/12/2017 | LTx3 |
| - | RE1 | Radiated Emissions Cable Set (UHF/EHF) | 7/11/2016 | Annual | 7/11/2017 | RE1 |
| Agilent | N9020A | MXA Signal Analyzer | 11/5/2015 | Annual | 11/5/2016 | US46470561 |
| Anritsu | MT8820C | Radio Communication Analyzer | 4/14/2016 | Annual | 4/14/2017 | 6201240328 |
| Espec | ESX-2CA | Environmental Chamber | 3/4/2016 | Annual | 3/4/2017 | 17620 |
| ETS Lindgren | 3117 | 1-18 GHz DRG Horn (Medium) | 4/26/2016 | 4/26/2016 Biennial 4/26 | | 125518 |
| ETS Lindgren | 3164-08 | Quad Ridge Horn Antenna | 4/26/2016 | 4/26/2016 Biennial 4 | | 128337 |
| Mini Circuits | TVA-11-422 | RF Power Amp | | N/A | | QA1317001 |
| Mini-Circuits | SSG-4000HP | Synthesized Signal Generator | | N/A | | 11403100002 |
| Mini Circuits | PWR-SEN-4GHS | USB Power Sensor | 3/4/2016 | Annual | 3/4/2017 | 11401010036 |
| PCTEST | - | EMC Switch System | 7/6/2016 | Annual | 7/6/2017 | NM2 |
| Rohde & Schwarz | CMW500 | Radio Communication Tester | 10/20/2016 | Annual | 10/20/2017 | 100976 |
| Rohde & Schwarz | ESU40 | EMI Test Receiver (40GHz) | 7/15/2016 | 7/15/2016 Annual 7/15/2017 | | 100348 |
| Schwarzbeck | UHA 9105 | Dipole Antenna (400 - 1GHz) Rx | 11/18/2015 | Biennial | 11/18/2017 | 91052523RX |
| Seekonk | NC-100 | Torque Wrench 5/16", 8" lbs | 3/2/2016 | Biennial | 3/2/2018 | N/A |

Table 5-1. Test Equipment

Note:

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

16QAM 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 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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TEST RESULTS 7.0

7.1 Summary

| Company Name: | LG Electronics MobileComm U.S.A |
|---------------------|--|
| FCC ID: | <u>ZNFM210</u> |
| FCC Classification: | PCS Licensed Transmitter Held to Ear (PCE) |
| Mode(s): | LTE |

| FCC Part Section(s) | Test Description | Test Limit | Test Condition | Result | Reference | | | |
|--|--|--|-------------------|--------|------------------------------|--|--|--|
| TRANSMITTER MC | TRANSMITTER MODE (TX) | | | | | | | |
| 2.1049 | Occupied Bandwidth | N/A | | PASS | Section 7.2 | | | |
| 2.1051 22.917(a) 24.238(a) 27.53(g) 27.53(h) | Out of Band Emissions | > 43 + 10log ₁₀ (P[Watts]) at Band Edge and for all out-of-band emissions | | PASS | Section 7.3, 7.4 | | | |
| 24.232(d) | Peak-Average Ratio | < 13 dB | | PASS | Section 7.5 | | | |
| 2.1046 | Transmitter Conducted Output Power | N/A | CONDUCTED | PASS | See RF Exposure Report | | | |
| 2.1055. 22.355 24.235 27.54 | Frequency Stability | < 2.5 ppm (Part 22) and fundamental emissions stay within authorized frequency block (Part 24, 27) | | PASS | Section 7.8 | | | |
| 22.913(a.2) | Effective Radiated Power (Band 5) | < 7 Watts max. ERP | | PASS | Section 7.6 | | | |
| 27.50(c.10) | Effective Radiated Power (Band 12) | < 3 Watts max. ERP | | PASS | Section 7.6 | | | |
| 24.232(c) | Equivalent Isotropic Radiated Power (Band 2) | < 2 Watts max. EIRP | RADIATED | PASS | Section 7.6 | | | |
| 27.50(d.4) | Equivalent Isotropic Radiated Power (Band 4) | < 1 Watts max. EIRP | | PASS | Section 7.6 | | | |
| 2.1053 22.917(a) 24.238(a) 27.53(g) 27.53(h) | Undesirable Emissions | > 43 + 10log ₁₀ (P[Watts]) for all out-of-band emissions | | PASS | Section 7.7 | | | |

Notes:

All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst 1) case emissions.

Table 7-1. Summary of Test Results

- 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 2) 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.
- All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the 3) 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 4.2.

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7.2 Occupied Bandwidth §2.1049

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 v02r02 - Section 4.2

Test Settings

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

1 – 5% of the 99% occupied bandwidth observed in Step 7

Test Setup

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

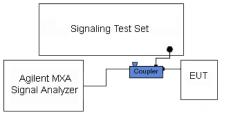


Figure 7-1. Test Instrument & Measurement Setup

Test Notes

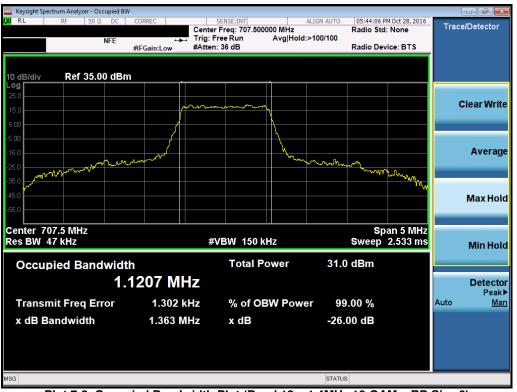
None.

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Plot 7-1. Occupied Bandwidth Plot (Band 12 - 1.4MHz QPSK - RB Size 6)



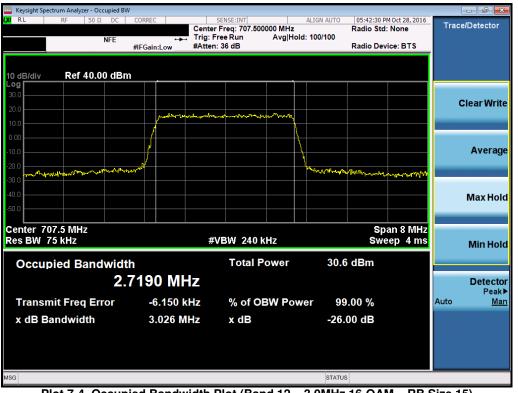
Plot 7-2. Occupied Bandwidth Plot (Band 12 – 1.4MHz 16-QAM – RB Size 6)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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| Keysight Spectrum Analyzer | r - Occupied B | N | | | | | | | | | | |
|-----------------------------------|----------------|---------|---------|------------|------------------------|---------|----------|------------|-------------------------|----------------|------|-------------------|
| LXI RL RF | 50 Ω DC | CORREC | | | ISE:INT eq: 707.500 | 000 MH- | | ALIGN AUTO | 05:42:10 P Radio Std | M Oct 28, 2016 | Trac | e/Detector |
| | NFE | | | Trig: Free | Run | | old: | 100/100 | | | | |
| | | #IFGain | :Low | #Atten: 36 | 6 dB | | | | Radio Dev | ice: BTS | | |
| | | | | | | | | | | | | |
| | 0.00 dBr | n | | | | | | | | | | |
| Log 30.0 | | | | | | | | | | | | |
| | | | | | | | | | | | (| Clear Write |
| 20.0 | | | mono | mar and | Mul round | m | | | | | | |
| 10.0 | | 1 | | | | | 1 | | | | | |
| 0.00 | | - 1 | | | | | 1 | | | | | _ |
| -10.0 | | | | | | | ł | | | | | Average |
| -20.0 | water aformed | yan a | | | | | | monum | - | . my hrywny | | |
| -30.0 | | | | | | | | | | | | |
| -40.0 | | | | | | | | | | | | Max Hold |
| -50.0 | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Center 707.5 MHz Res BW 75 kHz | | | | 41 / D | W 240 k | LI | | | | an 8 MHz | | |
| Res BW 75 KHZ | | | | #VD | W 240 K | пΖ | | | SWE | ep 4 ms | | Min Hold |
| Occupied Ba | ndwid | th | | | Total P | ower | | 31.9 | dBm | | | |
| | | | 4 8/11 | | | | | | | | | |
| | Ζ. | 1.19. | 1 MH | Z | | | | | | | | Detector Peak► |
| Transmit Freq | Error | 4 | .207 kH | z | % of OE | 3W Po | we | er 99 | 9.00 % | | Auto | Man |
| x dB Bandwidt | th | 3. | .033 MH | z | x dB | | | -26. | 00 dB | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| MSG | | | | | | | | STATU | s | | | |
| | | | | | | | _ | | | | | |

Plot 7-3. Occupied Bandwidth Plot (Band 12 - 3.0MHz QPSK - RB Size 15)



Plot 7-4. Occupied Bandwidth Plot (Band 12 – 3.0MHz 16-QAM – RB Size 15)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | Reviewed by: Quality Manager | | |
|---------------------------|------------------|--|---------------------------------|----------------|--|
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Plot 7-5. Occupied Bandwidth Plot (Band 12 - 5.0MHz QPSK - RB Size 25)



Plot 7-6. Occupied Bandwidth Plot (Band 12 - 5.0MHz 16-QAM - RB Size 25)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 💽 LG | Reviewed by: Quality Manager |
|---------------------------|------------------|--|------|---------------------------------|
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| 🔤 Keysight Sp | ectrum Analy | zer - Occupi | ied BW | | | | | | | | | | | |
|----------------------|--------------|--------------|--|-----------|-----------|-----------|------------------------|----------|--------|--------|------------|----------------|------|-------------|
| L <mark>XI</mark> RL | RF | 50 Ω [| DC | CORREC | | | NSE:INT req: 707.50 | 0000 MH- | ALIG | N AUTO | 05:34:08 P | M Oct 28, 2016 | Trac | e/Detector |
| | | NF | E | | | Trig: Fre | e Run | Avg Hol | d: 100 | 0/100 | | | | |
| | | | | #IFGain:L | ow | #Atten: 3 | 86 dB | | | | Radio Dev | ice: BTS | | |
| | | | | | | | | | | | | | | |
| 10 dB/div | Ref | 30.00 (| dBm | | | | | | | | | | | |
| Log 20.0 | | | | | | | | | | | | | | |
| 10.0 | | | | renner | erren Mar | ᠉᠃᠃᠂᠂ | | mann | ~~~ | | | | | Clear Write |
| 0.00 | | | 1 | | | | | | 1 | ١ | | | | |
| | | | , | | | | | | | 1 | | | | |
| -10.0 | | | 1 | | | | | | | ٦, | | | | Average |
| -20.0 | www.www. | mm | e de la compañía de la | | | | | | | www. | Mul Mar | mm | | Average |
| | | | | | | | | | | | | | | |
| -40.0 | | | | | | | | | + | | | | | |
| -50.0 | | | | | | | | | | | | | | Max Hold |
| -60.0 | | | | | | | | | | | | | | |
| Center 7 | 07.5 MH | 7 | | | | | | | | | Sna | n 20 MHz | | |
| Res BW | | | | | | #VE | 3W 620 | kHz | | | Swe | ep 1 ms | | Min Hold |
| | | | | | | | | | | | | | | Minitiona |
| Occu | pied B | andw | idtł | ו | | | Total I | Power | | 32.0 | dBm | | | |
| | | | 8.8 | 9689 | MH | z | | | | | | | | Detector |
| | | | | | | | 0/ - 5 0 | DW D | | | 00.0/ | | 0 | Peak► |
| Trans | mit Fre | q Erroi | ſ | 0. | 974 k | HZ | % of C | BW Pow | ver | 99 | .00 % | | Auto | Man |
| x dB E | Bandwid | dth | | 9.9 | 30 M | Hz | x dB | | | -26. | 00 dB | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| MSG | | | | | | | | | | STATUS | | | | |

Plot 7-7. Occupied Bandwidth Plot (Band 12 – 10.0MHz QPSK – RB Size 50)



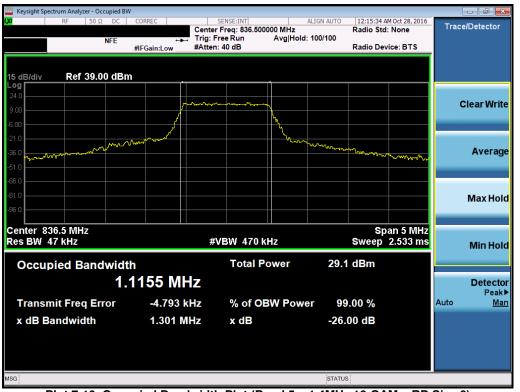
Plot 7-8. Occupied Bandwidth Plot (Band 12 - 10.0MHz 16-QAM - RB Size 50)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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Plot 7-9. Occupied Bandwidth Plot (Band 5 – 1.4MHz QPSK – RB Size 6)



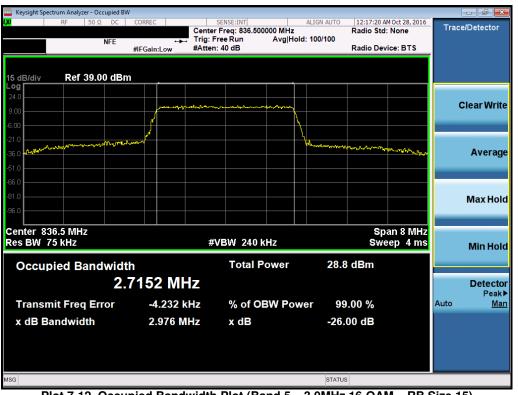
Plot 7-10. Occupied Bandwidth Plot (Band 5 – 1.4MHz 16-QAM – RB Size 6)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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| Keysight Spec | | | | | | | | | | | | | _ | |
|--------------------|----------|--------|---------|--|-------|-------------|-------------------------|---------|----|-------------|-------------------------|--|------|-------------------|
| l <mark>,XI</mark> | RF | 50 Ω | DC | CORREC | | | NSE:INT reg: 836.500 | 000 MHz | | ALIGN AUTO | 12:16:45 A Radio Std | M Oct 28, 2016 | Trac | e/Detector |
| | | N | IFE | | ÷ | , Trig: Fre | e Run | | | 100/100 | | | | |
| | | | | #IFGain | :Low | #Atten: 4 | 0 dB | | | | Radio Dev | rice: BTS | | |
| | | | | | | | | | | | | | | |
| 15 dB/div | Ref | 39.00 | dBr | n | | | | | | | | | | |
| 24.0 | | | | | | | | | | | | | | |
| 9.00 | | | | | monor | uni | mehangana | mann | | | | | | Clear Write |
| | | | | 1 | | | | | ١, | | | | | |
| -6.00 | | | | 1 | | | | | ٦, | | | | | |
| -21.0 | mun | man | ՟ֈֈֈՠֈՠ | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | | | | | - marthonno | Menner | american and the provide of the second | | |
| -36.0 | | | | | | | | | | | | | | Average |
| -51.0 | | | | | | | | | | | | | | |
| -66.0 | | | | | | | | | | | | | | |
| -81.0 | | | | | | | | | | | | | | Max Hold |
| -96.0 | | | | | | | | | | | | | | maxitora |
| | | | | | | | | | | | | | | |
| Center 83 | | z | | | | -40.0 | | | | | | an 8 MHz | | |
| Res BW 7 | экнz | | | | | #VE | 3W 240 k | HZ | | | SWE | ep 4 ms | | Min Hold |
| Occup | ied B | land | Nid | th | | | Total P | ower | | 29.8 | dBm | | | |
| | | Annen | | | | | | | | | | | | |
| | | | 2. | 699 | | ΠZ | | | | | | | | Detector Peak▶ |
| Transm | nit Free | q Erro | or | 1 | .879 | (Hz | % of O | BW Po | we | er 99 | .00 % | | Auto | Man |
| x dB Ba | andwig | dth | | 2 | 995 N | IHz | x dB | | | -26. | 00 dB | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| MSG | | | | | | | | | | STATUS | | | | |
| MSG | | | | | | | | | | STATUS | | | | |

Plot 7-11. Occupied Bandwidth Plot (Band 5 – 3.0MHz QPSK – RB Size 15)



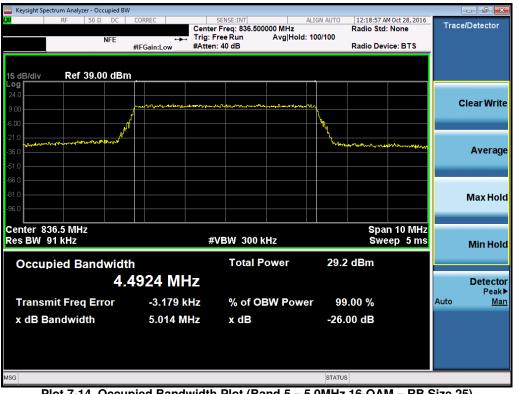
Plot 7-12. Occupied Bandwidth Plot (Band 5 – 3.0MHz 16-QAM – RB Size 15)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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| Keysight Spectrum Analyzer | - Occupied BW | 1 | | | | | | | | - 6 - × |
|----------------------------|---------------|-------------|------------|--------------------------|-------------------|-----------|-------------------------|----------------|------|----------------|
| LXI RF | 50 Ω DC | CORREC | | ENSE:INT Freg: 836.50 | | LIGN AUTO | 12:18:30 A Radio Std | M Oct 28, 2016 | Trac | e/Detector |
| | NFE | | 🛶 Trig: Fr | ee Run | Avg Hold: | 100/100 | | | | |
| | | #IFGain:Low | #Atten: | 40 dB | | | Radio Dev | vice: BTS | | |
| | | | | | | | | | | |
| | 9.00 dBm | <u>ו</u> | | | | _ | | | | |
| 24.0 | | | | | | | | | | |
| 9.00 | | monund | monter | markmann | aaaadha fall-baba | ~ | | | (| Clear Write |
| -6.00 | | ł | | | | h | | | | |
| | , N | | | | | - M | | | | |
| -21.0 | and a second | | | | | how | m Malim | have marked | | Average |
| -36.0 | | | | | | | | | | Average |
| -51.0 | | | | | | | | | | |
| -66.0 | | | | | | | | | | |
| -81.0 | | | | | | | | | | Max Hold |
| -96.0 | | | | | | | | | | |
| Center 836.5 MHz | | | | | | | Sna | n 10 MHz | | |
| Res BW 91 kHz | | | #\ | /BW 3001 | kHz | | | eep 5 ms | | Min Hold |
| | | | | | | | | | | WIIII HOIG |
| Occupied Ba | ndwidt | h | | Total F | ower | 29.9 | dBm (| | | |
| | 4 | 5117 N | IH7 | | | | | | | Detector |
| | | | | | | | | | | Peak▶ |
| Transmit Freq | Error | -2.77 | 3 kHz | % of O | BW Powe | r 99 | 0.00 % | | Auto | <u>Man</u> |
| x dB Bandwidt | h | 5.020 | MHz | x dB | | -26. | 00 dB | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| MSG | | | | | | STATU | 5 | | | |

Plot 7-13. Occupied Bandwidth Plot (Band 5 – 5.0MHz QPSK – RB Size 25)



Plot 7-14. Occupied Bandwidth Plot (Band 5 – 5.0MHz 16-QAM – RB Size 25)

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| Keysight Spect | trum Analyz | zer - Occ | upied BW | / | | | | | | | | | | |
|-----------------------|-------------|-----------|----------|----------------|--------|------------|------------------------|----------|-----------|--------------|-------------------------|---------------------|------|-------------|
| l <mark>,XI</mark> | RF | 50 Ω | DC | CORREC | | | NSE:INT reg: 836.50 | | ALIC | SN AUTO | 12:19:56 A Radio Std | M Oct 28, 2016 | Trac | e/Detector |
| | | | NFF | | | Trig: Free | | Avg Hold | : 10 | 0/100 | Radio Sta | : None | | |
| | | | | #IFGain:L | ow | #Atten: 4 | 0 dB | | | | Radio Dev | vice: BTS | | |
| | | | | | | | | | | | | | | |
| 15 dB/div | Ref | 39.00 |) dBm | ۱ <u> </u> | | | | | | | | | | |
| Log 24.0 | | | | | | | | | | | | | | |
| | | | | and the second | way | | maderico | - | - | | | | | Clear Write |
| 9.00 | | | | 1 | | | | | | | | | | |
| -6.00 | | | ٨ | | | | | | | 7 | | | | |
| -21.0 | www | - ma | May may | | | | | | | manun | mm | Whowene | | |
| -36.0 | | | | | | | | | | | | | | Average |
| -51.0 | | | | | | | | | | | | | | |
| -66.0 | | | | | | | | | \square | | | | | |
| -81.0 | | | | | | | | | | | | | | Max Hold |
| -96.0 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Center 83 Res BW 1 | | | | | | #\/E | 3W 620 | kH7 | | | | n 20 MHz ep 1 ms | | |
| Kes DW | 00 KHZ | | | | | <i></i> | JVY 0201 | KI IZ | | | 500 | ep mis | | Min Hold |
| Occup | ied B | and | widt | h | | | Total F | Power | | 29. 6 | dBm | | | |
| | | | | 9685 | ML | 7 | | | | | | | | Detector |
| | | | 0., | 9000 | | 2 | | | | | | | | Peak |
| Transm | it Fred | q Err | or | -4. | 510 kH | z | % of O | BW Powe | er | 99 | .00 % | | Auto | <u>Man</u> |
| x dB Ba | ndwid | dth | | 96 | 77 MH | 7 | x dB | | | -26 | 00 dB | | | |
| | | | | 010 | | | A | | | 201 | oo ab | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| MSG | | | | | | | | | | STATUS | | | | |

Plot 7-15. Occupied Bandwidth Plot (Band 5 - 10.0MHz QPSK - RB Size 50)



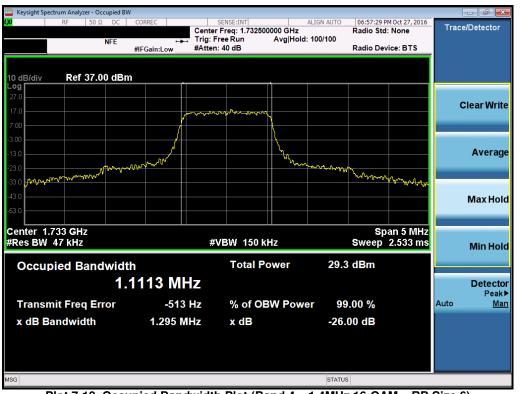
Plot 7-16. Occupied Bandwidth Plot (Band 5 – 10.0MHz 16-QAM – RB Size 50)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 💽 LG | Reviewed by: Quality Manager |
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Plot 7-17. Occupied Bandwidth Plot (Band 4 – 1.4MHz QPSK – RB Size 6)



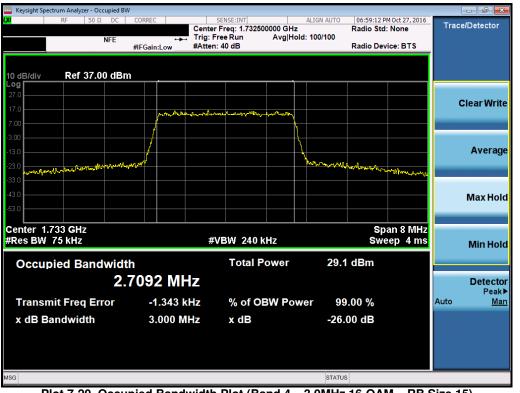
Plot 7-18. Occupied Bandwidth Plot (Band 4 – 1.4MHz 16-QAM – RB Size 6)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 💽 LG | Reviewed by: Quality Manager |
|---------------------------|------------------|--|------|---------------------------------|
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| 🔤 Keysight Spectr | um Analyzer | - Occu | upied BV | / | | | | | | | | | | |
|-------------------------|-------------|-----------|----------|----------|------------|--------------|-------------------------|-------|----|--|-------------------------|----------------------|------|-------------|
| L <mark>XI</mark> | RF 5 | 50 Ω | DC | CORREC | | | NSE:INT reg: 1.73250 | | | ALIGN AUTO | 06:58:37 P Radio Std | M Oct 27, 2016 | Trac | e/Detector |
| | | N | IFE | | | . Trig: Fre | e Run | | | 100/100 | Radio Stu | . None | | |
| | | | | #IFGai | n:Low | #Atten: 4 | 0 dB | | | | Radio Dev | vice: BTS | | |
| | | | | | | | | | | | | | | |
| 10 dB/div | Ref 37 | 7.00 | dBn | า | _ | | | | | | | | | |
| Log 27.0 | | | | | | | | | | | | | | |
| 17.0 | | | | | | | | | | | | | | Clear Write |
| | | | | | randone-la | - marillana | when a show | mound | | | | | | |
| 7.00 | | | | 1 | | | | | Ϊ | | | | | |
| -3.00 | | | | | | | | | Ì. | | | | | • |
| -13.0 | | | | www. | | | | | ľ | | | | | Average |
| -23.0 -23.0 | here when | erel de p | hand | 'yan' '' | | | | | | Mar and a state of the state of | and the second second | Munrulling | | |
| -33.0 | | | | | | | | | | | | | | |
| -43.0 | | | | | | | | | | | | | | Max Hold |
| -53.0 | | | | | | | | | | | | | | |
| Conton 4 7 | 22.00 | | | | | | | | | | 0 | on O Mille | | |
| Center 1.7 #Res BW 7 | | | | | | #VF | 3W 2401 | HZ | | | | an 8 MHz eep 4 ms | | |
| "ites Bri | VIIIZ | | | | | <i>"</i> • E | 511 2401 | 112 | | | UIII | 50p + 1115 | | Min Hold |
| Occupi | ed Ba | nd۱ | widt | h | | | Total P | ower | | 29.9 | dBm | | | |
| | | | | | 0 MI | 7 | | | | | | | | Detector |
| | | | ۷. | 110 | | 12 | | | | | | | | Peak |
| Transmi | it Freq | Erro | or | 4 | .420 I | (Hz | % of O | BW Po | we | er 99 | .00 % | | Auto | <u>Man</u> |
| x dB Ba | ndwidt | h | | 2 | .967 N | 1Hz | x dB | | | -26 | 00 dB | | | |
| | in a what | | | E | | 11 12 | Aub | | | -20. | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| MSG | | | | | | | | | | STATUS | | | | |

Plot 7-19. Occupied Bandwidth Plot (Band 4 – 3.0MHz QPSK – RB Size 15)



Plot 7-20. Occupied Bandwidth Plot (Band 4 – 3.0MHz 16-QAM – RB Size 15)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
|---------------------------|------------------|--|------|---------------------------------|
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Plot 7-21. Occupied Bandwidth Plot (Band 4 – 5.0MHz QPSK – RB Size 25)



Plot 7-22. Occupied Bandwidth Plot (Band 4 – 5.0MHz 16-QAM – RB Size 25)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
|---------------------------|------------------|--|------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 05 of 117 |
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| Keysight Spectrum Analyzer - Occu | upied BW | | | | | | | | | - đ - ×- |
|-----------------------------------|----------|-------------|--|-------------------------|--------------|----------|-------------------------|----------------|------|-----------------|
| <mark>ι,XI</mark> RF 50 Ω | DC | CORREC | | NSE:INT reg: 1.73250 | | IGN AUTO | 07:04:25 P Radio Std | M Oct 27, 2016 | Trac | e/Detector |
| N | IFE | | . Trig: Fre | e Run | Avg Hold: 1 | 00/100 | Raulo Stu | . None | | |
| | | #IFGain:Low | #Atten: 4 | 0 dB | | | Radio Dev | rice: BTS | | |
| | | | | | | | | | | |
| 10 dB/div Ref 37.00 | dBm | | | | | | | | | |
| 27.0 | | | | | | | | | | |
| 17.0 | | | | | | | | | (| Clear Write |
| 7.00 | | monaland | water and the state of the stat | media | www.www.www. | 4 | | | | |
| -3.00 | | | | | | Į | | | | |
| | M | | | | | 16 | | | | Average |
| -13.0 | کس ہے | | | | | Mr. | | | | Average |
| -23.0 | | | | | | | Mr. North March | Margaran | | |
| -33.0 | | | | | | | | | | |
| -43.0 | | | | | | | | | | Max Hold |
| -53.0 | | | | | | | | | | |
| Center 1.733 GHz | | | | | | | Spa | n 20 MHz | | |
| #Res BW 180 kHz | | | #VE | 3W 620 k | Hz | | | ep 1 ms | | Min Hold |
| | | | | | | | | | | minitiona |
| Occupied Bandy | | | | Total P | ower | 29.5 | 5 dBm | | | |
| | 8.8 | 9564 MI | ΙZ | | | | | | | Detector |
| T | | 0.504 | | 0/ - 5 05 | | | 00.0/ | | Auto | Peak► |
| Transmit Freq Erro | or | -2.501 I | | % of OE | 3W Power | 99 | .00 % | | Auto | Man |
| x dB Bandwidth | | 9.844 N | IHz | x dB | | -26. | 00 dB | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| MSG | | | | | | STATUS | 3 | | | |

Plot 7-23. Occupied Bandwidth Plot (Band 4 – 10.0MHz QPSK – RB Size 50)



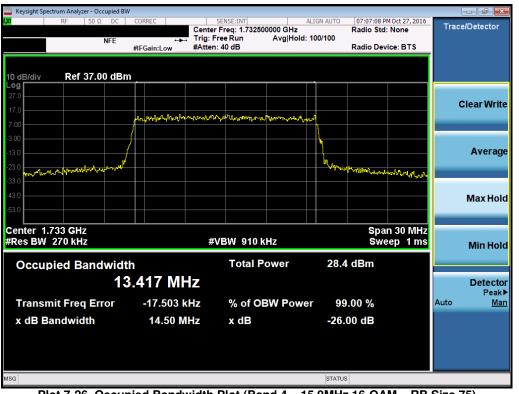
Plot 7-24. Occupied Bandwidth Plot (Band 4 – 10.0MHz 16-QAM – RB Size 50)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
|---------------------------|------------------|--|------|---------------------------------|
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| Keysight Spectrum Analyzer - Occupied I | 3W | | | | | x |
|---|------------------|--|---------------------------------------|-----------------|----------------|-----|
| L <mark>X/</mark> RF 50Ω DC | CORREC | SENSE:INT AL | IGN AUTO 07:06:55 Radio St | PM Oct 27, 2016 | Trace/Detector | |
| NFE | Trig | : Free Run Avg Hold: 1 | | a. None | | |
| | #IFGain:Low #Att | ten: 40 dB | Radio D | evice: BTS | | |
| | | | | | | |
| 10 dB/div Ref 37.00 dB | m | | | | | |
| 27.0 | | | | | | |
| 17.0 | | | | | Clear Wri | ite |
| | pressmann | yayloologa. Ar flor prost frankansarasha | ~ | | | |
| 7.00 | | | | | | |
| -3.00 | | | 4 | | Avera | - |
| -13.0 | / | | ha. | | Avera | ge |
| -23.0 Annorthy margaret | | | " " " " " " " " " " " " " " " " " " " | Munumber | | |
| -33.0 | | | | | | |
| -43.0 | | | | | Max Ho | ld |
| -53.0 | | | | | | |
| Center 1.733 GHz | | | Sn | an 30 MHz | | |
| #Res BW 270 kHz | | #VBW 910 kHz | | veep 1 ms | Min Ho | Jd |
| | | | | _ | WIITHO | iu. |
| Occupied Bandwid | lth | Total Power | 29.2 dBm | | | |
| 1 | 3.453 MHz | | | | Detect | or |
| | | | | | Peal | |
| Transmit Freq Error | -12.045 kHz | % of OBW Power | r 99.00 % | | Auto <u>M</u> | an |
| x dB Bandwidth | 14.52 MHz | x dB | -26.00 dB | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| MSG | | | STATUS | | | |

Plot 7-25. Occupied Bandwidth Plot (Band 4 – 15.0MHz QPSK – RB Size 75)



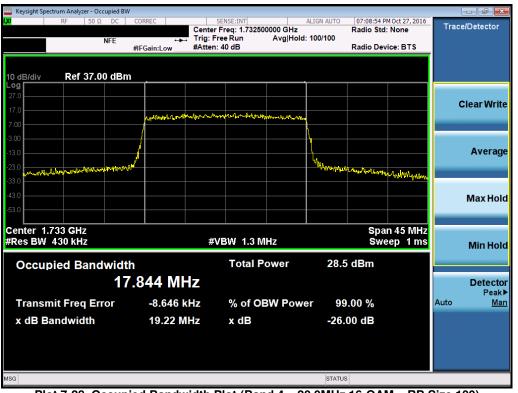
Plot 7-26. Occupied Bandwidth Plot (Band 4 – 15.0MHz 16-QAM – RB Size 75)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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| 🛄 Keysight Spectru | m Analyzer - | Occupied | BW | | | | | | | | | | |
|--------------------|---------------|---|--------|---------|------------|----------------|--------------------------------|-----------------|----------------|------------------------------|----------------|-------|--------------|
| LXI | RF 50 | Ω DC | CO | RREC | | | NSE:INT reg: 1.73250 | | ALIGN AUTO | 07:08:31 P | M Oct 27, 2016 | Trac | e/Detector |
| | | NFE | | | - - | Trig: Free | e Run | Avg Hold | : 100/100 | | | | |
| | | | #IF | Gain:Lo | w | #Atten: 4 | 0 dB | | | Radio Dev | rice: BTS | | |
| | | | | | | | | | | | | | |
| 10 dB/div | Ref 37 | .00 dE | 3m | · | | | | | | | | | |
| Log 27.0 | | | | | | | | | | | | | |
| 17.0 | | | | | | | | | | | | | Clear Write |
| 7.00 | | | | portur | ahartha | and the second | ๛๛๚ฃ฿๛๛๛ | ale adaptations | 4 | | | | |
| -3.00 | | | | | | | | | | | | | |
| -13.0 | | | / | | | | | | X. | | | | Average |
| | | | | | | | | | nut and a line | | | | Average |
| -23.0 -33.0 | www.ikylahoro | all | 10-1 ° | | | | | | | and a stand the stand of the | www.hitweles | | |
| | | | | | | | | | | | | | |
| -43.0 | | | | | | | | | | | | | Max Hold |
| -53.0 | | | | | | | | | | | | _ | |
| Center 1.73 | 3 GHz | | | | | | | | 1 | Spa | n 45 MHz | | |
| #Res BW 43 | 30 kHz | | | | | #VE | 3W 1.3 № | Hz | | | eep 1 ms | | Min Hold |
| 0 | | | 141- | | | | Total P | 0)W0F | 20.6 | dBm | | | |
| Occupie | ed Ban | | | | | | TOLAT | ower | 29.0 | авт | | | |
| | | 1 | 7.8 | 67 | MH | Z | | | | | | | Detector |
| Transmit | Erea E | rror | | 15 3 | 85 k⊦ | 7 | % of O | 3W Powe | or 00 | .00 % | | Auto | Peak▶ Man |
| | | | | | | | | 50010000 | | | | riaro | <u></u> |
| x dB Ban | dwidth | | | 19.2 | 25 MF | z | x dB | | -26. | 00 dB | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| MSG | | | | | | | | | STATUS | 5 | | | |

Plot 7-27. Occupied Bandwidth Plot (Band 4 – 20.0MHz QPSK – RB Size 100)



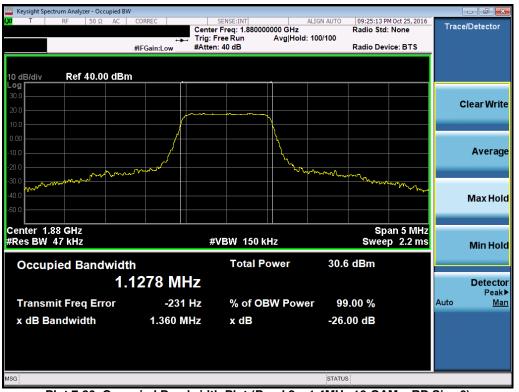
Plot 7-28. Occupied Bandwidth Plot (Band 4 – 20.0MHz 16-QAM – RB Size 100)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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Plot 7-29. Occupied Bandwidth Plot (Band 2 – 1.4MHz QPSK – RB Size 6)



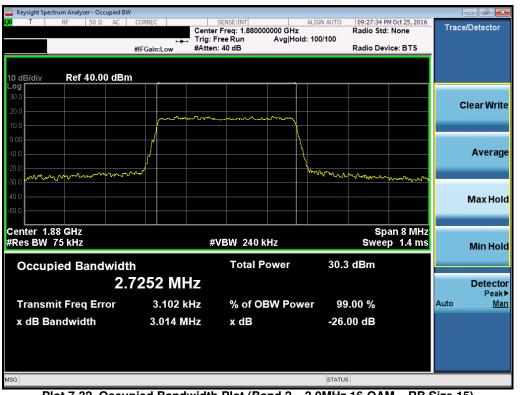
Plot 7-30. Occupied Bandwidth Plot (Band 2 – 1.4MHz 16-QAM – RB Size 6)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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| Keysight Spec | trum Analyzei | r - Occup | ied BW | | | | | | | | | | | |
|---------------|---------------|-------------|---|------|---|----------|--------------|--|-------------|------------|-------------------------|----------------|------|---------------------|
| LXI T | RF | 50 Ω | AC CO | RREC | | | Freg: 1.8800 | | | ALIGN AUTO | 09:26:36 P Radio Std | M Oct 25, 2016 | Trac | e/Detector |
| | | | | | | Talas De | | | | 100/100 | Raulo Stu | . None | | |
| | | | #IF | Gain | :Low | #Atten: | 40 dB | | | | Radio Dev | ice: BTS | | |
| | | | | | | | | | | | | | | |
| 10 dB/div | Ref 4 | 0.00 | dBm | | | | _ | | _ | | | | | |
| Log 30.0 | | | | | | | | | | | | | | |
| 20.0 | | | | | | | | | | | | | | Clear Write |
| 10.0 | | | | | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | m | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | | | | | |
| 0.00 | | | | | | | | | Ì | | | | | |
| | | | | 1 | | | | | \setminus | | | | | Average |
| -10.0 | | | | 1 | | | | | | | | | | Average |
| -20.0 | Land and a | $\sim \sim$ | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | | | | | | www.www.w | www | man | | |
| -30.0 | | | | | | | | | | | | | | |
| -40.0 | | | | | | | | | | | | | | Max Hold |
| -50.0 | | | | | | | | | | | | | | |
| Center 1. | R8 GHZ | | | | | <u> </u> | | | | | Sp | an 8 MHz | | |
| #Res BW | | | | | | #V | /BW 240 | kHz | | | | p 1.4 ms | | Min Hold |
| | | | | | | | | | | | | | | minnora |
| Occup | ied Ba | | | | | | Total I | ower | | 31.3 | dBm | | | |
| | | | 2.72 | 28' | 1 MI | Ηz | | | | | | | | Detector |
| T | :4 F | - | - | | 274 | | 0/ -60 | DW/D- | | | 00.0/ | | Auto | Peak▶ <u>Man</u> |
| | nit Freq | | | | -371 | | % of C | BWPO | we | er 98 | .00 % | | Auto | Ivian |
| x dB Ba | andwidt | th | | 3. | 039 N | lHz | x dB | | | -26. | 00 dB | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| MSG | | | | | | | | | | STATU | 6 | | | |

Plot 7-31. Occupied Bandwidth Plot (Band 2 – 3.0MHz QPSK – RB Size 15)



Plot 7-32. Occupied Bandwidth Plot (Band 2 – 3.0MHz 16-QAM – RB Size 15)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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| 🔤 Ke | ysight Spectr | rum Analy | yzer - Occ | upied BW | 1 | | | | | | | | | | |
|-------------------|---------------|-----------|------------|----------|---|--------|-----------|---------|-----------|--------|------------|-------------------------|----------------|------|-------------|
| L <mark>XI</mark> | T | RF | 50 Ω | AC | CORREC | | | NSE:INT | 00000 GHz | ALIC | GN AUTO | 09:30:13 P Radio Std | M Oct 25, 2016 | Trac | e/Detector |
| | | | | | | | Trig: Fre | | Avg Ho | ld: 10 | 0/100 | Radio Stu | . None | | |
| | | | | | #IFGain: | Low | #Atten: 4 | l0 dB | | | | Radio Device: BTS | | | |
| | | | | | | | | | | | | | | | |
| | B/div | Ref | f 40.0 |) dBm | ۱ <u>, </u> | | | | | | | | | | |
| Log 30.0 | | | | | | | | | | | | | | | |
| 20.0 | | | | | | | | | | | | | | | Clear Write |
| | | | | | mon | | | hours | L | ~~ | | | | | |
| 10.0 | | | | | 1 | | | | | | ί, | | | | |
| 0.00 | | | | | ſ' | | | | | + | 1 | | | | _ |
| -10.0 | <u> </u> | | | - r/ | | | | | | + | - \ | | | | Average |
| -20.0 | | | | | | | | | | | <u> </u> | | | | |
| -30.0 | mm | harr | mm | m | | | | | | | 3 | Man | Monnor | | |
| -40.0 | L | | | | | | | | | _ | | | | | Max Hold |
| -50.0 | | | | | | | | | | | | | | | Maxilola |
| | | | | | | | | | | | | | | | |
| | nter 1.8 | | | | | | | | | | | | n 10 MHz | | |
| #Re | s BW 9 | 91 KH2 | Z | | | | #VE | 3W 300 | kHz | | | Swee | p 1.2 ms | | Min Hold |
| C |)ccupi | ed E | Band | widt | h | | | Total F | Power | | 30.1 | dBm | | | |
| | | | | | 5160 | MH | 7 | | | | | | | | Detector |
| | | | | | 5100 | | 12 | | | | | | | | Peak► |
| Т | ransmi | it Fre | q Err | or | | -157 | Hz | % of O | BW Pov | ver | 99 | .00 % | | Auto | <u>Man</u> |
| x | dB Ba | ndwi | dth | | 4.9 | 958 MI | Hz | x dB | | | -26. | 00 dB | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 0747 | | | | |
| MSG | | | | | | | | | | | STATUS | | | | |

Plot 7-33. Occupied Bandwidth Plot (Band 2 - 5.0MHz QPSK - RB Size 25)



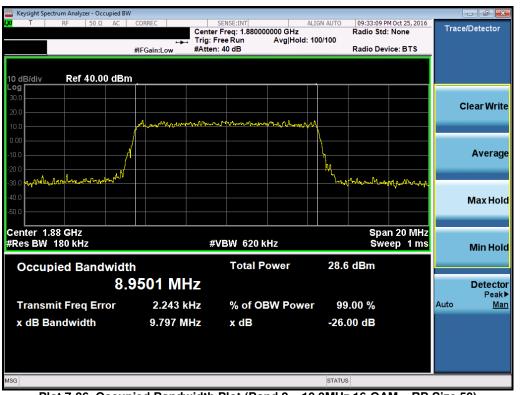
Plot 7-34. Occupied Bandwidth Plot (Band 2 – 5.0MHz 16-QAM – RB Size 25)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 💽 LG | Reviewed by: Quality Manager | |
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| Keysight Spectrum Ana | Keysight Spectrum Analyzer - Occupied BW | | | | | | | | | | | - 6 |
|------------------------|--|----------|------------|------------|-----------|-------------------------|---------------------|-----------|---------------------------|----------------------------------|------|-------------|
| L <mark>XI</mark> T RF | 50 Ω | AC | CORREC | | | NSE:INT reg: 1.88000 | | ALIGN AUT | 0 09:32:40 P Radio Std | M Oct 25, 2016 | Trac | e/Detector |
| | | | | | Trig: Fre | e Run | Avg Hold | : 100/100 | | | | |
| | | | #IFGain:L | .ow | #Atten: 4 | 0 dB | | | Radio Dev | rice: BTS | | |
| | | | | | | | | | | | | |
| | ef 40.00 | 0 dBm | | | | | | | | | | |
| Log 30.0 | | | | | | | | | | | | |
| 20.0 | | | | | | | | | | | (| Clear Write |
| 10.0 | | | ~ quer com | and marked | www.ww | man | an with my willy an | ~~~ | | | | |
| 0.00 | | | | | | | | l N | | | | |
| -10.0 | | Å | | | | | | 4 | | | | Average |
| | | 5 | | | | | | h ال | | | | Average |
| -20.0 | <u>ኤ.</u> | man | | | | | | <u>ا</u> | hand | 0.000 - 0 | | |
| -30.0 | 1. 1 | | | | | | | | port didays | an all an front of the second of | | |
| -40.0 | | | | | | | | | | | | Max Hold |
| -50.0 | | | | | | | | | | | | |
| Center 1.88 GH | z | <u> </u> | | | | | | | Spa | n 20 MHz | | |
| #Res BW 180 k | | | | | #VE | 3W 620 k | Hz | | | eep 1 ms | | Min Hold |
| | | | | | | _ | | | | | | Millinoid |
| Occupied I | Band | | | | | Total P | ower | 2 | 9.6 dBm | | | |
| | | 8.8 | 9620 | MH | Z | | | | | | | Detector |
| T | | | 2 | 0071- | | N/ - 5 OI | D14/ D | | 00 00 0/ | | Auto | Peak► |
| Transmit Fre | | or | | 807 k | | % of O | BW Powe | | 99.00 % | | Auto | Man |
| x dB Bandw | idth | | 9.7 | '39 M | Hz | x dB | | -2 | 6.00 dB | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| MSG | | | | | | | | STA | TUS | | | |

Plot 7-35. Occupied Bandwidth Plot (Band 2 - 10.0MHz QPSK - RB Size 50)



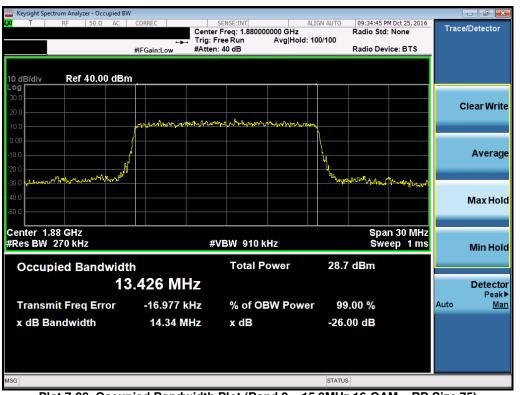
Plot 7-36. Occupied Bandwidth Plot (Band 2 – 10.0MHz 16-QAM – RB Size 50)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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| 🔤 Key | sight Spectru | ım Analyzer | - Occup | pied BW | | | | | | | | | | | |
|-------------------|---------------|-----------------|---------|---------|----------|---------------|----------|-----------|------------|--------|----------|-------------------------|----------------|------|-------------|
| L <mark>XI</mark> | T | RF 5 | 50 Ω | AC | CORREC | | | SENSE:INT | 000000 GHz | ALIG | N AUTO | 09:34:10 P Radio Std | M Oct 25, 2016 | Trac | e/Detector |
| | | | | | | | Trig: F | ree Run | Avg Ho | ld: 10 | 0/100 | | | | |
| | _ | | | | #IFGain: | ow | #Atten: | 40 dB | | | | Radio Dev | vice: BTS | | |
| | | | | | | | | | | | | | | | |
| 10 dE | 3/div | Ref 4 | 0.00 | dBm | | | | | | | | | | | |
| Log 30.0 | | | | | | | | | | | | | | | |
| 20.0 | | | | | | | | | | | | | | (| Clear Write |
| 10.0 | | | | | an mark | on har hanner | an Malan | www. | sherbowww. | 1. | | | | | |
| | | | | 1 | | | | | | | | | | | |
| 0.00 | | | | 1 | | | | | | | 1 | | | | Average |
| -10.0 | | | | n. | | | | | | | ۰ ۱ | | | | Average |
| -20.0 | | . co. id-locale | m. | M | | | | | | | The work | maryan | Balan n I | | |
| | ᡒᢛ᠇᠇ᢏᢑᡘᡙᠬᢇᠠ | 4.4.4.4.4 | | | | | | | | | | | 1 - MARANA | | |
| -40.0 | | | | | | | | | | | | | | | Max Hold |
| -50.0 | | | | | | | | | | | | | | _ | |
| Cent | ter 1.88 | GHz | | | | | | | | | | Spa | n 30 MHz | | |
| | BW 2 | | | | | | #\ | /BW 910 | kHz | | | | eep 1 ms | | Min Hold |
| | | | | | | | | _ | _ | | | | | | Millinoid |
| 0 | ccupi | ed Ba | ndv | | | | | Total | Power | | 29.8 | dBm | | | |
| | | | | 13 | .425 | M | Z | | | | | | | | Detector |
| | | | | _ | - | 0071 | | 0/ - 5 6 | | | 0.0 | 00.0/ | | Auto | Peak► |
| | ansmi | | | or | | 807 k | | % OT (| DBW Pov | ver | 99 | .00 % | | Auto | Man |
| x | dB Bar | ndwidt | h | | 14 | .48 M | Hz | x dB | | | -26. | 00 dB | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| MSG | | | | | | | | | | | STATUS | 3 | | | |

Plot 7-37. Occupied Bandwidth Plot (Band 2 - 15.0MHz QPSK - RB Size 75)



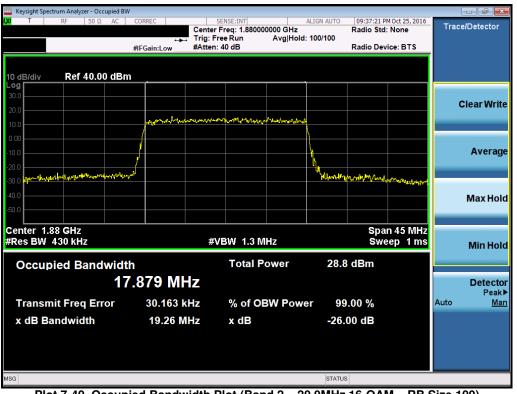
Plot 7-38. Occupied Bandwidth Plot (Band 2 – 15.0MHz 16-QAM – RB Size 75)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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| 🔤 Ke | eysight Sp | ectrum (| Analyzer - (| Occupie | ed BW | | | | | | | | | | |
|-------------------|-----------------|----------------|--------------|-----------|---------|----------|---------|---------------|--------------------------|-----------|---------------|-----------------|---------------------|------|-------------------|
| L <mark>XI</mark> | Т | RF | 50 | ΩA | C CO | RREC | | | ENSE:INT Freg: 1.8800 | | ALIGN AUTO | 09:35:57 P | M Oct 25, 2016 | Trac | e/Detector |
| | | | | | | | | . Trig: Fr | ee Run | Avg Hold: | : 100/100 | | | | |
| | | | | | #IF | Gain:L | .ow | #Atten: | 40 dB | | | Radio Dev | ice: BTS | | |
| | | | | | | | | | | | | | | | |
| | B/div | | Ref 40. | 00 d | Bm | _ | | | | | | | | | |
| Log 30.0 | | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | Clear Write |
| 20.0 | 1 | | | | | . And | m harry | Mudall Hander | my 1kin mana | | | | | | |
| 10.0 | 1 | | | | | í. | | | | | \ | | | | |
| 0.00 | | | | | | | | | | | l – | | | | _ |
| -10.0 | \vdash | | | | | \vdash | | | | | h | | | | Average |
| -20.0 | \vdash | | mant | a dha ant | ation | \vdash | | | | | No. Josefully | a la seta la se | | | |
| -30.0 | ካማኒሐክላ | (hanger lander | A.Meller . | 1004 C | - 1 × 4 | | | | | | | www.wywluy | mullighypu | | |
| -40.0 | \vdash | | | | | _ | | | | | | | | | Max Hold |
| -50.0 | L | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | nter 1 es BW | | | | | | | -#34 | 'BW 1.31 | | | | n 45 MHz ep 1 ms | | |
| #RC | :S DW | 4JU | КПZ | | | | | #V | DVV I.JI | VILLE | | 300 | ep mis | | Min Hold |
| C |)ccu | pied | l Ban | dwi | idth | | | | Total I | Power | 29.9 | dBm | | | |
| | | | | | 17.8 | 000 | N/L | 1- | | | | | | | Detector |
| | | | | | 0.11 | 90 | IVIT | 12 | | | | | | | Detector Peak▶ |
| Т | rans | mit F | req E | rror | | 15. | 016 k | Hz | % of O | BW Powe | er 99 | .00 % | | Auto | Man |
| x | dB E | Band | width | | | 19 | .27 M | IHz | x dB | | -26. | 00 dB | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| MSG | | | | | | | | | | | STATU | | | | |
| wi3G | | | | | | | | | | | STATU | · | | | |

Plot 7-39. Occupied Bandwidth Plot (Band 2 – 20.0MHz QPSK – RB Size 100)



Plot 7-40. Occupied Bandwidth Plot (Band 2 – 20.0MHz 16-QAM – RB Size 100)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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7.3 Spurious and Harmonic Emissions at Antenna Terminal §22.1051 §22.917(a) §24.238(a) §27.53(g) §27.53(h)

Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates 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.

The minimum permissible attenuation level of any spurious emission is $43 + \log_{10}(P_{[Watts]})$, where P is the transmitter power in Watts.

Test Procedure Used

KDB 971168 D01 v02r02 - Section 6.0

Test Settings

- 1. Start frequency was set to 30MHz and stop frequency was set to at least 10 * the fundamental frequency (separated into at least two plots per channel)
- 2. Detector = RMS
- 3. Trace mode = trace average
- 4. Sweep time = auto couple
- 5. The trace was allowed to stabilize
- 6. Please see test notes below for RBW and VBW settings

Test Setup

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

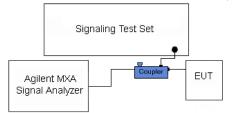


Figure 7-2. Test Instrument & Measurement Setup

Test Notes

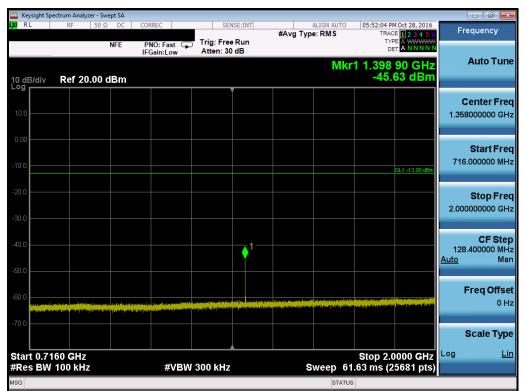
Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1 GHz. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 💽 LG | Reviewed by: Quality Manager |
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| Keysight Spectrun | | | | | | | | | | _ | |
|----------------------------|----------------------------------|--------------------------------|--------------------------------|-------------------------|--------|---|------------|-------------------------------------|----------------------------|----------------------|-----------------------|
| X/RL F | RF 50 S | 2 DC | CORREC | SEI | SE:INT | #Avg Typ | ALIGN AUTO | | 1 Oct 28, 2016 | Freq | uency |
| | | NFE | PNO: Fast G | Trig: Free Atten: 30 | | #Avg typ | e. RWS | TYP | E A WWWWW T A N N N N N | | |
| 10 dB/div R | ef 20.00 | dBm | | | | | M | kr1 697. -45.9 | 90 MHz 95 dBm | A | uto Tui |
| - og 10.0 | | | | | | | | | | | nter Fre |
| 0.00 | | | | | | | | | DL1 -13.00 dBm | | Start Fr DOODO M |
| 20.0 | | | | | | | | | | | Stop Fr 00000 M |
| 40.0 | | | | | | | | | 1 | 66.79 <u>Auto</u> | CF St 90000 M N |
| | a Aleman a dina di alemania di a | . Ale El avez li fest à sura m | er, om fold store in othistory | | | Aller of an elisten static stars and a static | | a ya tifaya ya da barba ya da ya da | | Fr | e q Off s 0 |
| 70.0 | | | | | | | | | | So | ale Ty |
| tart 30.0 MH Res BW 100 | | | #VBV | V 300 kHz | | S | weep 32 | Stop 6 .06 ms (1 | 97.9 MHz 3359 pts) | Log | ļ |
| SG | | | | | | | STATUS | | | | |

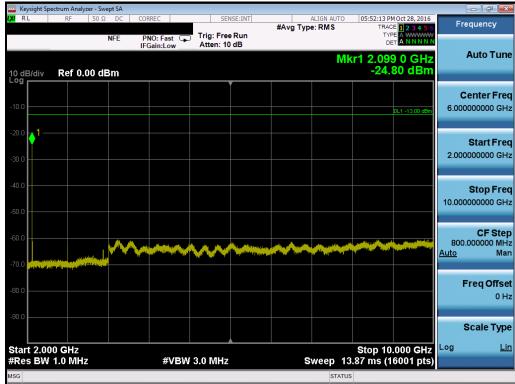
Plot 7-41. Conducted Spurious Plot (Band 12 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



Plot 7-42. Conducted Spurious Plot (Band 12 - 5.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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Plot 7-43. Conducted Spurious Plot (Band 12 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



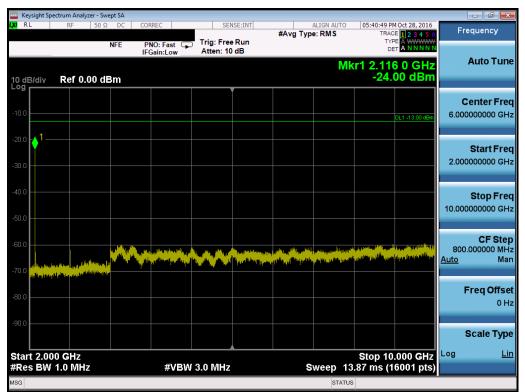
Plot 7-44. Conducted Spurious Plot (Band 12 - 5.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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| Keysight Sp | | | | | | | | | | | | _ | |
|---------------------|-------|--------|-----|----------------------|------|---|---------|--|------------|------------------------------|------------------------------------|-------|--------------------|
| X/RL | RF | 50 Ω | DC | CORREC | | SEI | NSE:INT | #Avg Typ | ALIGN AUTO | TRAC | M Oct 28, 2016 | Fr | equency |
| | | | NFE | PNO: Fa IFGain:Lo | st 🖵 | Trig: Fre Atten: 30 | | | | TY D | | | |
| 10 dB/div | Ref 2 | 0.00 d | Bm | | | | | | Mkı | 1 1.410 ⁻ -49. | 70 GHz 56 dBm | | Auto Tur |
| - ^{og} | | | | | | | Ĭ | | | | | | e un te un E un |
| 10.0 | | | | | | | | | | | | | enter Fre |
| | | | | | | | | | | | | | |
| 0.00 | | | | | | | | | | | | | Start Fr |
| 10.0 | | | | | | | | | | | | 716 | .000000 M |
| | | | | | | | | | | | DL1 -13.00 dBm | | |
| 20.0 | | | | | | | | | | | | | Stop Fr |
| 30.0 | | | | | | | | | | | | 2.000 | 0000000 G |
| 30.0 | | | | | | | | | | | | | |
| 40.0 | | | | | | | | | | | | 128 | CF St .400000 M |
| | | | | | | | | | | | | Auto | М |
| 50.0 | | | | | | | | | | | | | |
| 60.0 | | | | | | | | a de la cara decarada en antilisme | | والمستخدمة وورد مستشعره فالم | and a first a second of parts | F | Freq Offs |
| | | | | | | A second s | | a distance of the second s | | | a na an taite bil inte al faithful | | U |
| 70.0 | | | | | | | | | | | | | Scale Ty |
| | | | | | | | | | | | | | |
| tart 0.71 Res BW | | | | # | VBW | 300 kHz | | s | Sweep 6 | Stop 2.0 | 0000 GHz 5681 pts) | Log | L |
| SG | | | | | | | | | STATU | - | | | |

Plot 7-45. Conducted Spurious Plot (Band 12 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



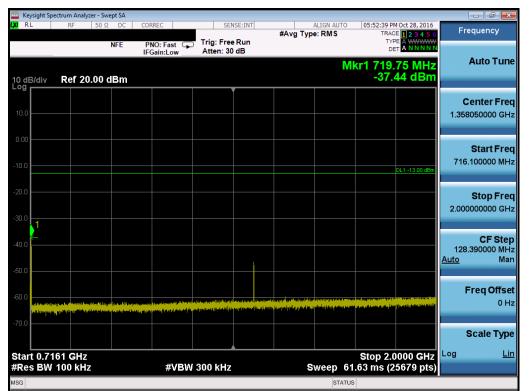
Plot 7-46. Conducted Spurious Plot (Band 12 - 5.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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| RL RF 50 Ω | | | | | | - 6 - |
|-----------------------|--|--|--------------|---|--|---------------------------------------|
| | DC CORREC | SENSE:INT | #Avg Type: F | | :33 PM Oct 28, 2016 TRACE 1 2 3 4 5 6 TYPE A WWWWW | Frequency |
| 0 dB/div Ref 20.00 dE | IFGain:Low | Atten: 30 dB | | Mkr1 6 -(| 97.60 MHz 62.21 dBm | Auto Tur |
| og 10.0 | | | | | | Center Fre 364.000000 Mi |
| 10.0 | | | | | DL1 -13.00 dBm | Start Fr 30.000000 M |
| 20.0 | | | | | | Stop Fr 698.000000 M |
| 10.0 50.0 | | | | | | CF St 66.800000 M <u>Auto</u> M |
| | And the second | Antonio al parte program de la compañía de la comp | | new anti-internet all and all and all and any sector to a | 1. | Freq Offs 0 |
| tart 30.0 MHz | | | | Sto | p 698.0 MHz | Scale Ty |
| Res BW 100 kHz | #VBW 3 | 300 kHz | Swe | eep 32.06 m | s (13361 pts) | |

Plot 7-47. Conducted Spurious Plot (Band 12 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Plot 7-48. Conducted Spurious Plot (Band 12 - 5.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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| Keysight Spectrum Analyz | er - Swept SA | | | | | | | | - đ |
|-----------------------------------|---------------|--------------------------|-------------------------|--------|----------|--|-----------------------|---|------------------------------------|
| CRL RF | 50 Ω DC C | DRREC | SEN | SE:INT | | ALIGN AUTO | | 4 Oct 28, 2016 | Frequency |
| | | PNO: Fast 😱 FGain:Low | Trig: Free Atten: 10 | | #Avg Typ | e:RMS | TYF | E 1 2 3 4 5 6 E A WWWWW A N N N N N | |
| 0 dB/div Ref 0.0 | 00 dBm | | | | | MI | (r1 2.13 -23. | 5 0 GHz 24 dBm | Auto T |
| 10.0 | | | | | | | | DL1 -13.00 dBm | Center F 6.000000000 |
| 30.0 | | | | | | | | | Start F 2.000000000 |
| 40.0 | | | | | | | | | Stop F 10.000000000 |
| 60.0 70.0 | ···· | | ~~~ | | | a politika na politika na sta politika na politika na sta | | | CF \$ 800.000000 <u>Auto</u> |
| 30.0 | | | | | | | | | Freq Of |
| 90.0 | | | | | | | | | Scale T |
| Start 2.000 GHz Res BW 1.0 MHz | | #VBW | 3.0 MHz | | s | weep 1 | Stop 10 3.87 ms (1 | .000 GHz 6001 pts) | 9 |
| SG | | | | | | STATU | | / | |

Plot 7-49. Conducted Spurious Plot (Band 12 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



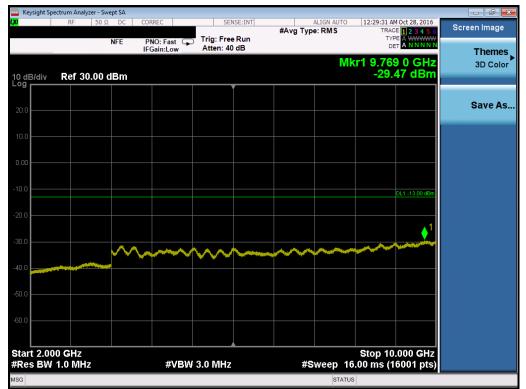
Plot 7-50. Conducted Spurious Plot (Band 5 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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| Keysight : XI | Spectrum Anal RF | yzer - Swept SA 50 Ω DC | CORREC | SENSE:INT | ALIGN AUTO | 12:27:58 AM Oct 28, 2016 | |
|------------------|---------------------|----------------------------|--|-----------|----------------|--|-------------------|
| | 14 | NFE | PNO: Fast G | | #Avg Type: RMS | TRACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNN | Peak Search |
| 10 dB/div _og | Ref 3 | 0.00 dBm | | | Mk | r1 1.648 50 GHz -46.74 dBm | NextPe |
| 20.0 | | | | | | | Next Pk Rig |
| 0.00 | | | | | | | Next Pk Lo |
| 20.0 | | | | | | DL1 -13.00 dBm | Marker De |
| 30.0 | | | | | | | Mkr→ |
| 50.0 | | | A de la maneta de particular de la maneta de la | | | | Mkr→RefL |
| | 490 GHz | | | | | Stop 2.0000 GHz | M a 1 o |
| | V 100 KH | 2 | #VBW | 300 kHz | Sweep 5 | 5.25 ms (23021 pts) | |

Plot 7-51. Conducted Spurious Plot (Band 5 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



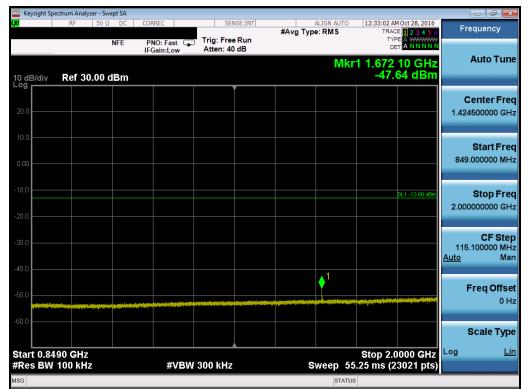
Plot 7-52. Conducted Spurious Plot (Band 5 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🔁 LG | Reviewed by: Quality Manager |
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| Keysight Sp XI | ectrum Anal RF | yzer - swe 50 Ω | | CORRE | C | | SEN | ISE:INT | | ALIGN AUTO | | M Oct 28, 2016 | | |
|-----------------------|-------------------|--------------------|-----|--------------|-------------------|-------------|--------------------|-----------|--|---|----------------------|--|---------------------|----------------------------|
| | | | NFE | PNO IFGai | :Fast ← in:Low | ► Tri At | g: Free ten: 40 | Run dB | #Avg Ty | pe:RMS | TΥ | CE 1 2 3 4 5 6 (PE A WWWWW A N N N N N | | quency |
| 10 dB/div | Ref 3 | 0.00 d | Bm | | | | | | | Μ | kr1 760 -52 | .30 MHz 16 dBm | | Auto Tu |
| 20.0 | | | | | | | | | | | | | | enter Fr DOOOOO M |
| 0.00 | | | | | | | | | | | | | | Start Fr 000000 M |
| -10.0 | | | | | | | | | | | | DL1 -13.00 dBm | | Stop Fr 000000 M |
| 40.0 | | | | | | | | | | | | | 79.4 <u>Auto</u> | CF S1 400000 M M |
| 50.0 | | | | | | | | | ng the second synchronized as the second | in a fall grow to grow provide the second state | | | F | req Off 0 |
| -60.0 | | | | | | | | | | | | | | cale Ty |
| Start 30.0 ≇Res BW | | z | | | #VB | W 300 |) kHz | | | Sweep 38 | Stop 8 3.11 ms (* | 824.0 MHz 15881 pts) | Log | |
| ISG | | | | | | | | | | STATU | | | | |

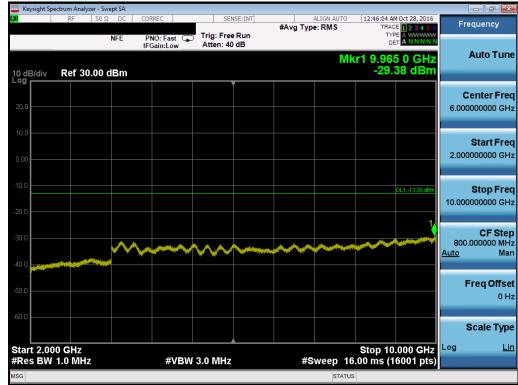
Plot 7-53. Conducted Spurious Plot (Band 5 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Plot 7-54. Conducted Spurious Plot (Band 5 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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Plot 7-55. Conducted Spurious Plot (Band 5 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Plot 7-56. Conducted Spurious Plot (Band 5 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
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| Keysight Spe | | | | | | | | | | | - | |
|---------------------|-------|--------|-----|-------------------------|------------|----------|----------|------------|-----------------------|--|----------------------|-------------------------------|
| XI | RF | 50 Ω | DC | CORREC | S | ENSE:INT | #Avg Typ | ALIGN AUTO | | Oct 28, 2016 | Free | quency |
| | | I | NFE | PNO: Fast IFGain:Low | Trig: Fre | | #Avg iyp | e: RIVIS | TYP | 1 2 3 4 5 6 A WWWWW A N N N N N | | |
| 10 dB/div | Ref 3 | 0.00 d | Bm | | | | | M | kr1 850. -47.8 | 10 MHz 39 dBm | A | uto Tur |
| - og 20.0 | | | | | | | | | | | | e nter Fre 00000 GH |
| 0.00 | | | | | | | | | | | | Start Fr 00000 M |
| 20.0 | | | | | | | | | | DL1 -13.00 dBm | | Stop Fr 00000 G |
| 30.0 | | | | | | | | | | | 115.0 <u>Auto</u> | CF St 00000 M N |
| | | | | | | | | | | an the state of th | Fi | e q Off s 0 |
| 50.0 | | | | | | | | | | | S | cale Ty |
| tart 0.85 Res BW | | | | #V | BW 300 kH: | z | s | weep 55 | Stop 2.0 .20 ms (2 | 000 GHz 3001 pts) | Log | Ţ |
| SG | | | | | | | | STATUS | | | | |

Plot 7-57. Conducted Spurious Plot (Band 5 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Plot 7-58. Conducted Spurious Plot (Band 5 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager | | | | |
|---------------------------|--|--|------|---------------------------------|--|--|--|--|
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| Keysight Spectrum Analy | | | | | | | | |
|----------------------------------|--|----------------------------|---|----------|---|-------------------------|--------------------------------------|--|
| KI RF | 50 Ω DC | CORREC | SENSE:INT | #Avg Typ | ALIGN AUTO | | Oct 27, 2016 | Frequency |
| | NFE | PNO: Fast ↔→ IFGain:Low | Trig: Free Run Atten: 40 dB | #Avg iyp | DE: RIVIS | TYPE | 1 2 3 4 5 6 A WWWW A N N N N N | |
| 10 dB/div Ref 3 | 0.00 dBm | | | | M | (r1 1.702 -35.87 | 0 GHz 4 dBm | Auto Tu |
| 20.0 | | | | | | | | Center Fr 869.000000 M |
| 0.00 | | | | | | | | Start Fr 30.000000 M |
| 20.0 | | | | | | | DL1 -13.00 dBm | Stop Fr 1.708000000 G |
| 10.0 | | | | | | | 1 | CF St 167.800000 M <u>Auto</u> M |
| 50.0 | (************************************* | | يبذر توم ^{ري} ة ^م الا ^{رد} (¹ | | an da yana bada da sha a sh | n, sakalarin ni mende | قىمىرىيە يومۇپ، بىرەل كەنبە | Freq Offs 0 |
| 60.0 | | | | | | | | Scale Ty |
| tart 0.0300 GHz Res BW 1.0 MH | | #VBW 3 | LO MHz | | Sween_2 | Stop 1.7 2.237 ms (3 | 080 GHz 3357 pts) | Log <u>i</u> |
| sg | | #VBW 0 | AV 111112 | | STATUS | - | , and proj | |

Plot 7-59. Conducted Spurious Plot (Band 4 – 10.0MHz QPSK – RB Size 1, RB Offset 0– Low Channel)



Plot 7-60. Conducted Spurious Plot (Band 4 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager |
|---------------------------|------------------|--|------|---------------------------------|
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| 0 dB/div Ref | NFE | | sense:INT 40 dB | #Avg Typ | | TRAC TYP DE 1 19.44 | 1 5 GHz 89 dBm | Frequency Auto Tur |
|---------------------------------|-----------|-------------|--------------------|----------|---------|------------------------------|-----------------------|-------------------------|
| -og | | | | #Avg Typ | | TYP DE 1 19.44 | 1 5 GHz | |
| -og | 30.00 dBm | | Ĭ | | Mkr | 1 19.44 -24. | 1 5 GHz 89 dBm | Auto Tur |
| | | | | | | | | |
| 20.0 | | | | | | | | Center Fre |
| | | | | | | | | 15.00000000 GH |
| 10.0 | | | | | | | | Start Fre |
| 0.00 | | | | | | | | 10.00000000 GH |
| 10.0 | | | | | | | DL1 -13.00 dBm | Stop Fre |
| 20.0 | | | | | | | 1 | 20.000000000 GH |
| 30.0 | | | | | | | maria | CF Ste 1.00000000 GF |
| 40.0 | | | | | | | | Auto Ma |
| 50.0 | | | | | | | | Freq Offs |
| | | | | | | | | 01 |
| 60.0 | | | | | | | | Scale Typ |
| Start 10.000 GF Res BW 1.0 M | | #VBW 3.0 MH | <u> </u> | | woon 47 | Stop 20 | .000 GHz 0001 pts) | Log <u>L</u> |
| | 112 | #VEW 3.0 MI | 12 | 5 | status | | ooo r pis) | |

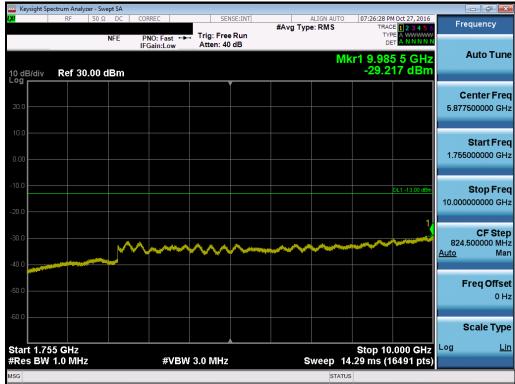
Plot 7-61. Conducted Spurious Plot (Band 4 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



Plot 7-62. Conducted Spurious Plot (Band 4 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager | | | | |
|---------------------------|--|--|------|---------------------------------|--|--|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 40 of 117 | | | | |
| 0Y1610241660-R1.ZNF | 10/24-10/31/2016 | Portable Handset | | Page 46 of 117 | | | | |
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Plot 7-63. Conducted Spurious Plot (Band 4 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Plot 7-64. Conducted Spurious Plot (Band 4 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager | | | | |
|---------------------------|--|--|------|---------------------------------|--|--|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Page 47 of 117 | | | | |
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| Keysight Spectrum Anal | | | | | | | - 7 |
|-----------------------------------|--|----------------------------|--|--|---------------------------------|---|---|
| XI RF | 50 Ω DC | CORREC | SENSE:INT | #A | ALIGN AUTO | 07:30:25 PM Oct 27, 2016 | Frequency |
| | NFE | PNO: Fast ↔→ IFGain:Low | Trig: Free Run Atten: 40 dB | #Avg Typ | DE: RIVIS | TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A NNNN | |
| 10 dB/div Ref 3 | 0.00 dBm | | | | Mł | r1 1.635 0 GHz -40.859 dBm | Auto Tur |
| 20.0 | | | | | | | Center Fre 870.000000 M⊦ |
| 0.00 | | | | | | | Start Fre 30.000000 Mi |
| 20.0 | | | | | | DL1 -13.00 dBm | Stop Fr 1.710000000 G |
| 40.0 | | | | | | 1 | CF Sto 168.000000 M <u>Auto</u> M |
| 50.0 | 1224-15-99-99-99-99-99-99-99-99-99-99-99-99-99 | | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | alland tage all the second | and a stand of the stand of the | | Freq Offs 0 |
| 60.0 | | | | | | | Scale Ty |
| Start 0.0300 GHz Res BW 1.0 MH | | #VBW | 3.0 MHz | | Sweep_2 | Stop 1.7100 GHz .240 ms (3361 pts) | Log <u>L</u> |
| ISG | | <i>"</i> 0 E M | ono-11112 | | STATUS | 1 | |

Plot 7-65. Conducted Spurious Plot (Band 4 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



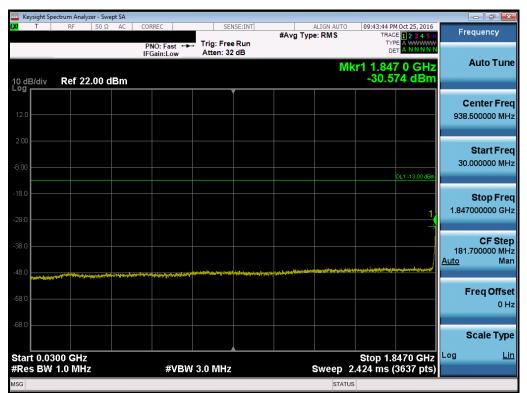
Plot 7-66. Conducted Spurious Plot (Band 4 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🔁 LG | Reviewed by: Quality Manager | | | | |
|---------------------------|--|--|------|---------------------------------|--|--|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Demo 49 of 117 | | | | |
| 0Y1610241660-R1.ZNF | 10/24-10/31/2016 | Portable Handset | | Page 48 of 117 | | | | |
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| Keysight Spectrum | Analyzer - Swep | it SA | | | | | | | | _ | |
|---------------------------------|-----------------|-------|--------------------------|---------------------------|---------|----------|------------|----------------------|--|-----------------------|---------------------------------|
| XI RF | 50 Ω | DC CC | ORREC | SEN | ISE:INT | | ALIGN AUTO | | 4 Oct 27, 2016 | Erec | quency |
| | N | IFE I | PNO: Fast ↔ FGain:Low | . Trig: Free Atten: 40 | | #Avg Typ | e: RMS | TYP | E 1 2 3 4 5 6 E A WWWW A N N N N N | | |
| 10 dB/div Re | f 30.00 di | Зm | | | | | Mkı | 1 19.28 -25. | 2 0 GHz 15 dBm | A | uto Tune |
| 20.0 | | | | | | | | | | | enter Free 00000 GH |
| 0.00 | | | | | | | | | | | Start Fre |
| -10.0 | | | | | | | | | DL1 -13.00 dBm | | Stop Fre 00000 GH |
| 30.0 | ~~~~~ | - | | | | | | | | 1.0000 <u>Auto</u> | CF Ste 00000 G⊦ Ma |
| 40.0 50.0 | | | | | | | | | | | eq Offs |
| 60.0 | | | | | | | | | | S | cale Typ |
| Start 10.000 G #Res BW 1.0 I | | | #VBW | 3.0 MHz | | s | weep 17 | Stop 20 .33 ms (2 | .000 GHz 0001 pts) | Log | Li |
| ISG | | | | | | | STATU | S | | | |

Plot 7-67. Conducted Spurious Plot (Band 4 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Plot 7-68. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0– Low Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕒 LG | Reviewed by: Quality Manager | | | | |
|---------------------------|--|--|------|---------------------------------|--|--|--|--|
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| Keysight Spectrum Analyzer - Swept SA | | | | | _ d <mark>-</mark> × |
|---------------------------------------|------------|--------------|------------------------------|---|---|
| T RF 50 Ω AC | CORREC | SENSE:INT | ALIGN AUTO #Avg Type: RMS | TRACE 1 2 3 4 5 6 TYPE A WWWWW | Frequency |
| 0 dB/div Ref 22.00 dBm | IFGain:Low | Atten: 32 dB | Ν | DET A NNNNN Ikr1 9.688 0 GHz -40.81 dBm | Auto Tun |
| 12.0 | | | | | Center Fre 5.955000000 G⊢ |
| 3.00 | | | | DL1 -13.00 dBm | Start Fre 1.910000000 GF |
| 8.0 | | | | | Stop Fr 10.000000000 Gi |
| 38.0 | | | | 1 | CF Sto 809.000000 M <u>Auto</u> M |
| 58.0 | | | | | Freq Offs 0 |
| tart 1.910 GHz | | | | Stop 10.000 GHz | Scale Ty |
| Res BW 1.0 MHz | #VBW : | 3.0 MHz | Sweep 1 | 4.02 ms (16181 pts) | |

Plot 7-69. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



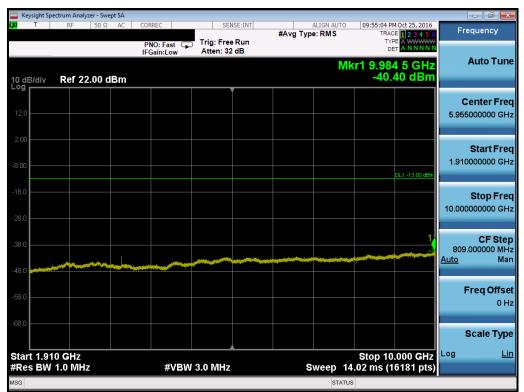
Plot 7-70. Conducted Spurious Plot (Band 2 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | | | | | |
|---------------------------|------------------|--|--|----------------|--|--|--|
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| Keysight Sp | ectrum Ana | | | | | | | | | | - 6 💌 |
|------------------|------------|--------|----|-----------------------------|-------------------------|----------|------------|--|--|-------------|------------|
| XI T | RF | 50 Ω | AC | CORREC | | #Avg Typ | ALIGN AUTO | TRA T) | PM Oct 25, 2016 CE 1 2 3 4 5 6 (PE A WWWWW | Fr | equency |
| | | | | IFGain:Low | Atten: 32 | | | 0 | A N N N N N | | |
| 10 dB/div Log | Ref 2 | 2.00 d | Bm | | | | Μ | kr1 1.56 -46 | 7 0 GHz .05 dBm | | Auto Tun |
| | | | | | Ì | | | | | c | enter Fre |
| 12.0 | | | | | | | | | | | .000000 MH |
| 2.00 | | | | | | | | | | | |
| 2.00 | | | | | | | | | | | Start Fre |
| -8.00 | | | | | | | | | | 30 | .000000 M⊢ |
| | | | | | | | | | DL1 -13.00 dBm | | |
| -18.0 | | | | | | | | | | | Stop Fre |
| -28.0 | | | | | | | | | | 1.850 | 000000 GH |
| | | | | | | | | | | | CF Ste |
| -38.0 | | | | | | | | 1 | | | -000000 MH |
| -48.0 | | | | a linear a subject with the | ولنميه ويورونه والمراجع | | | and the second | *** | <u>Auto</u> | Ma |
| جعفيمالله ميه | | | | | | | | | | | req Offs |
| -58.0 | | | | | | | | | | | 0+ |
| -68.0 | | | | | | | | | | | |
| | | | | | | | | | | ; | Scale Typ |
| Start 0.03 | 300 GH | 7 | | | | | | Stop 1 | 8500 GHz | Log | L |
| #Res BW | | | | #VBW | 3.0 MHz | | Sweep | 2.427 ms | (3641 pts) | | |
| MSG | | | | | | | STATU | s | | | |

Plot 7-71. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Plot 7-72. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🔁 LG | Reviewed by: Quality Manager |
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| Keysight S | pectrum Analy | | | | | | | | | | _ | - 6 🗙 |
|------------------|---------------|---------|----|-------------------------|-------------------------|---------|----------|----------------------|------------------|-------------------|-------------|----------------------|
| X IT | RF | 50 Ω | AC | CORREC | SEI | NSE:INT | #Avg Typ | ALIGN AUTO e: RMS | | M Oct 25, 2016 | Fr | equency |
| | _ | | | PNO: Fast IFGain:Low | Trig: Free Atten: 32 | | | | TYI Di | | | A |
| 10 dB/div Log | Ref 22 | 2.00 dl | Bm | | | | | Mk | r1 16.98 -33. | 6 5 GHz 26 dBm | | Auto Tune |
| | | | | | | Í | | | | | c | enter Fred |
| 12.0 | | | | | | | | | | | 15.000 | 000000 GH |
| 2.00 | | | | | | | | | | | | Start Free |
| -8.00 | | | | | | | | | | | 10.000 | 0000000 GH |
| -18.0 | | | | | | | | | | DL1 -13.00 dBm | | |
| | | | | | | | | | | | 20.000 | Stop Fre |
| -28.0 | | | | | | | | 1 | | | | |
| -38.0 | | - | | | | ~~~~ | |] | | | | CF Ste 0000000 GH |
| -48.0 | | | | | | | | | | | <u>Auto</u> | Ma |
| -58.0 | | | | | | | | | | | I | Freq Offse |
| | | | | | | | | | | | | 0 H |
| -68.0 | | | | | | | | | | | | Scale Typ |
| Start 10. | 000 GHz | | | | | | | | Stop 20 | .000 GHz | Log | Li |
| #Res BW | / 1.0 MH | z | | #VBV | / 3.0 MHz | | s | | 25.33 ms (2 | 20001 pts) | | |
| MSG | | | | | | | | STAT | US | | | |

Plot 7-73. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



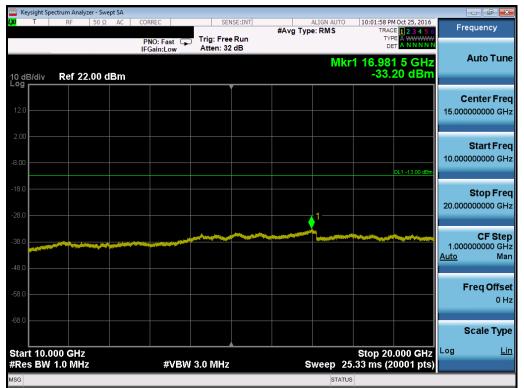
Plot 7-74. Conducted Spurious Plot (Band 2 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | 🕑 LG | Reviewed by: Quality Manager |
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| Keysight Sp | ectrum Ana | | | | | | | | | | | |
|----------------------------------|------------------|--------|----|-------------|-------------------------|--------|----------|------------|----------------------|-------------------------------------|---------------------|-------------------------------|
| XI T | RF | 50 Ω | AC | CORREC | SEI | SE:INT | #Avg Typ | ALIGN AUTO | | M Oct 25, 2016 | Fre | equency |
| | _ | | | PNO: Fast G | Trig: Free Atten: 32 | | #Avg typ | e: KIVIS | TYP | E 1 2 3 4 5 6 E A WWWW A NNNN | | |
| 10 dB/div | Ref 2 | 2.00 d | Bm | | | | | Mł | (r1 1.91 -23. | 1 0 GHz 13 dBm | | Auto Tun |
| 12.0 | | | | | | | | | | | | enter Fre 500000 G⊦ |
| 2.00 8.00 | | | | | | | | | | DL1 -13.00 dBm | 1.911 | Start Fre |
| 18.0 1 — 28.0 — | | | | | | | | | | | 10.000 | Stop Fr 000000 G |
| .38.0 | | | | | | | | | | | 808. <u>Auto</u> | CF Ste 900000 M M |
| 48.0 58.0 | | | | | | | | | | | F | req Offs 0 |
| 68.0 | | | | | | | | | | | | Scale Ty |
| Start 1.9 ⁷ Res BW | 11 GHz 1.0 MH | z | | #VBV | V 3.0 MHz | | s | weep 14 | Stop 10 .02 ms (1 | .000 GHz 6179 pts) | Log | Ĺ |
| ISG | | | | | | | | STATUS | 6 | | | |

Plot 7-75. Conducted Spurious Plot (Band 2 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Plot 7-76. Conducted Spurious Plot (Band 2 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

| FCC ID: ZNFM210 | | FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION) | | | | | |
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