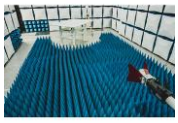
PCTEST
7185 Oakland Mills Road, Columbia, MD 21046 USA
Tel. 410.290.6652 / Fax 410.290.6654
http://www.pctest.com



# PART 22 MEASUREMENT REPORT

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

**Date of Testing:**
6/4 - 8/7/2020
**Test Site/Location:**
PCTEST Lab. Columbia, MD, USA
**Test Report Serial No.:**
1M2006040088-02.ZNF

| | |
|---|---|
| **FCC ID:** | **ZNFG900VM** |
| **Applicant Name:** | **LG Electronics USA, Inc.** |

| | |
|---|---|
| **Application Type:** | Class II Permissive Change |
| **Model:** | LM-G900VM |
| **Additional Models:** | LMG900VM, G900VM, LM-G900QM6, LMG900QM6, G900QM6, LM-G902V, LMG902V, G902V |
| **EUT Type:** | Portable Handset |
| **FCC Classification:** | PCS Licensed Transmitter Held to Ear (PCE) |
| **FCC Rule Part:** | 22 |
| **Test Procedure(s):** | ANSI C63.26-2015, ANSI/TIA-603-E-2016, KDB 971168 D01 v03r01 |
| **Class II Permissive Change(s):** | See FCC Change Document |

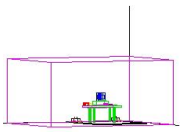
This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947. Test results reported herein relate only to the item(s) tested.

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

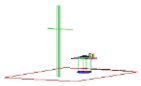
Randy Ortanez
President

ACCREDITED
CERT #2041.01

# TABLE OF CONTENTS



# PART 22 MEASUREMENT REPORT



| Mode | Bandwidth | Modulation | Tx Frequency Range [MHz] | ERP | |
|---|---|---|---|---|---|
| | | | | Max. Power [W] | Max. Power [dBm] |
| GSM/GPRS | N/A | GMSK | 824.2 - 848.8 | 0.731 | 28.64 |
| EDGE | | 8-PSK | 824.2 - 848.8 | 0.167 | 22.22 |
| WCDMA | N/A | Spread Spectrum | 826.4 - 846.6 | 0.112 | 20.48 |
| CDMA | N/A | Spread Spectrum | 824.70 - 848.31 | 0.039 | 15.96 |
| LTE Band 5 | 10 MHz | QPSK | 829.0 - 844.0 | 0.053 | 17.21 |
| | | 16QAM | 829.0 - 844.0 | 0.044 | 16.41 |
| | | 64QAM | 829.0 - 844.0 | 0.035 | 15.45 |
| NR Band n5 | 20 MHz | π/2 BPSK | 834.0 - 839.0 | 0.058 | 17.62 |
| | | QPSK | 834.0 - 839.0 | 0.058 | 17.66 |
| | | 16QAM | 834.0 - 839.0 | 0.038 | 15.81 |
| | | 64QAM | 834.0 - 839.0 | 0.027 | 14.38 |
| | | 256QAM | 834.0 - 839.0 | 0.018 | 12.56 |

## EUT Overview

# 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.

# 2.0 PRODUCT INFORMATION

## 2.1 Equipment Description

The Equipment Under Test (EUT) is the **LG Portable Handset FCC ID:ZNFG900VM**. The test data contained in this report pertains only to the emissions due to the EUT's licensed transmitters that operate under the provisions of Part 22.

**Test Device Serial No.:** 04963, 04971

## 2.2 Device Capabilities

This device contains the following capabilities:

CDMA, GSM/GPRS/EDGE, WCDMA/HSPA, LTE, 5G NR, WLAN, UNII, Bluetooth (1x, EDR, LE), NFC

## 2.3 Test Configuration

The EUT was tested per the guidance of ANSI/TIA-603-E-2016 and KDB 971168 D01 v03r01. See Section 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.

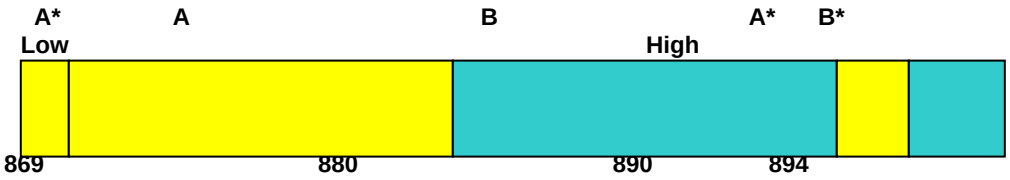
# 3.0 DESCRIPTION OF TESTS

## 3.1 Evaluation Procedure

The measurement procedures described in the "Land Mobile FM or PM – Communications Equipment – Measurements and Performance Standards" (ANSI/TIA-603-E-2016) and "Measurement Guidance for Certification of Licensed Digital Transmitters" (KDB 971168 D01 v03r01) were used in the measurement of the EUT.

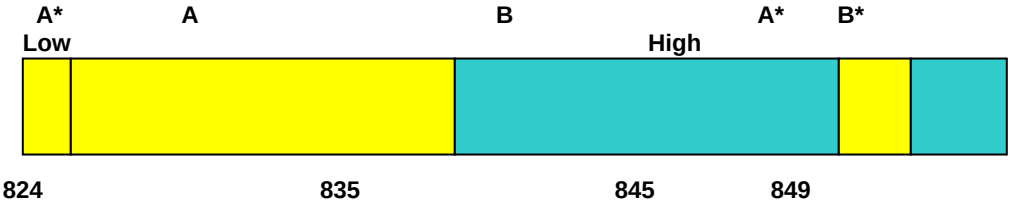
**Deviation from Measurement Procedure……..None**

## 3.2 Cellular - Base Frequency Blocks




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

## 3.3 Cellular - Mobile Frequency Blocks




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

## 3.4 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.

For radiated power measurements, substitution method is used per the guidance of ANSI/TIA-603-E-2016. A half-wave dipole is substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

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

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

For radiated spurious emissions measurements and calculations, conversion method is used per the formulas in KDB 971168 Section 5.8.4. Field Strength (EIRP) is calculated using the following formulas:

$$E_{[dB\mu V/m]} = \text{Measured amplitude level}_{[dBm]} + 107 + \text{Cable Loss}_{[dB]} + \text{Antenna Factor}_{[dB/m]}$$

And

$$EIRP_{[dBm]} = E_{[dB\mu V/m]} + 20\log D - 104.8;$$ where D is the measurement distance in meters.

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.

Radiated power and radiated spurious emission levels are investigated with the receive antenna horizontally and vertically polarized per ANSI/TIA-603-E-2016.

# 4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the $U_{CISPR}$ measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

| Contribution | Expanded Uncertainty (±dB) |
|---|---|
| Conducted Bench Top Measurements | 1.13 |
| Radiated Disturbance (<1GHz) | 4.98 |
| Radiated Disturbance (>1GHz) | 5.07 |
| Radiated Disturbance (>18GHz) | 5.09 |

# 5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

| Manufacturer | Model | Description | Cal Date | Cal Interval | Cal Due | Serial Number |
|---|---|---|---|---|---|---|
| Agilent | E5515C | Wireless Communications Test Set | N/A | | | GB46310798 |
| Anritsu | MT8821C | Radio Communication Analyzer | N/A | | | 6201381794 |
| Com-Power | AL-130 | 9kHz - 30MHz Loop Antenna | 10/10/2019 | Biennial | 10/10/2021 | 121034 |
| Espec | ESX-2CA | Environmental Chamber | 8/13/2019 | Annual | 8/13/2020 | 17620 |
| ETS Lindgren | 3164-08 | Quad Ridge Horn Antenna | 3/12/2020 | Biennial | 3/12/2022 | 128337 |
| ETS Lindgren | 3164-08 | Quad Ridge Horn Antenna | 2/22/2019 | Biennial | 2/22/2021 | 128338 |
| Mini Circuits | TVA-11-422 | RF Power Amp | N/A | | | QA1317001 |
| Mini-Circuits | SSG-4000HP | Synthesized Signal Generator | N/A | | | 11208010032 |
| Rohde & Schwarz | CMU200 | Base Station Simulator | N/A | | | 836371/0079 |
| Rohde & Schwarz | CMW500 | Radio Communication Tester | N/A | | | 100976 |
| Rohde & Schwarz | ESU40 | EMI Test Receiver (40GHz) | 9/23/2019 | Annual | 9/23/2020 | 100348 |
| Rohde & Schwarz | SFUNIT-Rx | Shielded Filter Unit | 2/10/2020 | Annual | 2/10/2021 | 102134 |
| Rohde & Schwarz | SFUNIT-Rx | Shielded Filter Unit | 2/21/2020 | Annual | 2/21/2021 | 102133 |
| Sunol | DRH-118 | Horn Antenna (1-18GHz) | 10/3/2019 | Biennial | 10/3/2021 | A050307 |

**Table 5-1. Test Equipment**

**Notes:**

1. For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

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

# 6.0 SAMPLE CALCULATIONS

## Spurious Radiated Emission

**Example: Spurious emission at 3700.40 MHz**

The receive 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 3700.40 MHz. So 6.1 dB is added to the signal generator reading of –30.9 dBm yielding –24.80 dBm. The fundamental EIRP was 25.50 dBm so this harmonic was 25.50 dBm – (-24.80) = 50.3 dBc.

# 7.0 TEST RESULTS

## 7.1 Summary

Company Name: LG Electronics USA, Inc.

FCC ID: ZNFG900VM

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

Mode(s): NR/GSM/GPRS/WCDMA/CDMA/LTE

| Test Condition | Test Description | FCC Part Section(s) | RSS Section(s) | Test Limit | Test Result | Reference |
|---|---|---|---|---|---|---|
| RADIATED | Effective Radiated Power / Equivalent Isotropic Radiated Power | 22.913(a)(5) | RSS-132(5.4) | < 7 Watts max. ERP | PASS | Section 7.2 |
| | Radiated Spurious Emissions | 2.1053, 22.917(a) | RSS-132(5.5) | > 43 + 10 log10 (P[Watts]) for all out-of-band emissions | PASS | Section 7.3 |

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

**Notes:**

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

## 7.2 Radiated Power (ERP)

**Test Overview**

Effective Radiated Power (ERP) measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

**Test Procedures Used**

KDB 971168 D01 v03r01 – Section 5.2.1

ANSI/TIA-603-E-2016 – Section 2.2.17

**Test Settings**

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation. For signals with burst transmission, the signal analyzer's "time domain power" measurement capability is used
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW ≥ 3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points ≥ 2 x span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto". Trigger is set to enable triggering only on full power bursts with the sweep time set less than or equal to the transmission burst duration
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation. For signals with burst transmission, the "gating" function was enabled to ensure that measurements are performed during times in which the transmitter is operating at its maximum power
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

## Test Setup

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

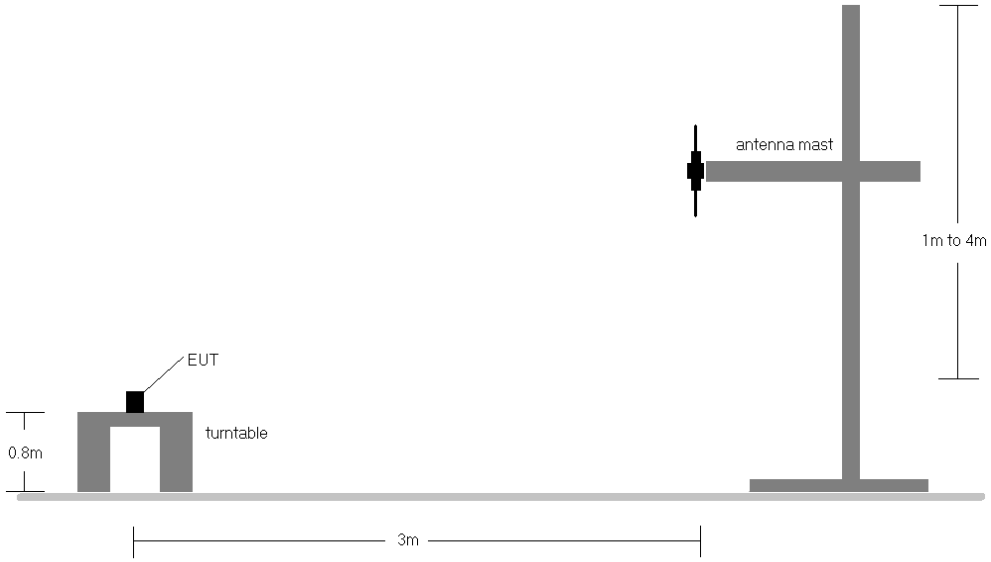



**Figure 7-1. Radiated Test Setup <1GHz**

## Test Notes

1) This device employs GSM, GPRS, and EDGE capabilities. The EUT was tested under all configurations and the highest powers is reported in GPRS mode while transmitting with one slot active.

2) This device employs UMTS technology with WCDMA (AMR/RMC) and HSDPA capabilities. The EUT was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to “1”.

3) This device was tested under all RC and SO combinations and the worst case is reported with RC3/SO55 with "All Up" power control bits.

4) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.

5) This unit was tested with its standard battery.

6) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case setup is reported in the tables below.

7) For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and 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.

| Bandwidth | Mod. | Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Ant. Gain [dBi] | RB Size/Offset | Substitute Level [dBm] | ERP [dBm] | ERP [Watts] | ERP Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 MHz | QPSK | 829.0 | H | 144 | 87 | 6.80 | 1 / 25 | 12.56 | **17.21** | 0.053 | 38.45 | -21.24 |
| | | 836.5 | H | 130 | 89 | 6.68 | 1 / 0 | 11.65 | 16.18 | 0.041 | 38.45 | -22.27 |
| | | 844.0 | H | 218 | 87 | 6.66 | 1 / 0 | 12.49 | 17.00 | 0.050 | 38.45 | -21.45 |
| | 16-QAM | 829.0 | H | 144 | 87 | 6.80 | 1 / 25 | 11.76 | **16.41** | 0.044 | 38.45 | -22.04 |
| | | 836.5 | H | 130 | 89 | 6.68 | 1 / 0 | 10.81 | 15.34 | 0.034 | 38.45 | -23.11 |
| | | 844.0 | H | 218 | 87 | 6.66 | 1 / 0 | 11.78 | 16.29 | 0.043 | 38.45 | -22.16 |
| | 64-QAM | 829.0 | H | 144 | 87 | 6.80 | 1 / 25 | 10.80 | **15.45** | 0.035 | 38.45 | -23.00 |
| | | 836.5 | H | 130 | 89 | 6.68 | 1 / 0 | 9.76 | 14.29 | 0.027 | 38.45 | -24.16 |
| | | 844.0 | H | 218 | 87 | 6.66 | 1 / 0 | 10.91 | 15.42 | 0.035 | 38.45 | -23.03 |
| 10 MHz | QPSK (Opposite Pol.) | 829.0 | V | 316 | 295 | 6.80 | 1 / 25 | 10.29 | 17.09 | 0.051 | 38.45 | -21.36 |

**Table 7-1. ERP Data (LTE Band 5)**

| Bandwidth | Mod. | Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Ant. Gain [dBi] | RB Size/Offset | Substitute Level [dBm] | ERP [dBm] | ERP [Watts] | ERP Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 MHz | π/2 BPSK | 834.0 | H | 100.0 | 75.0 | 6.75 | 1 / 50 | 13.02 | **17.62** | 0.058 | 38.45 | -20.83 |
| | | 836.5 | H | 107.0 | 88.0 | 6.68 | 1 / 0 | 6.11 | 10.64 | 0.012 | 38.45 | -27.81 |
| | | 839.0 | H | 200.0 | 80.0 | 6.70 | 1 / 0 | 5.80 | 10.35 | 0.011 | 38.45 | -28.10 |
| | QPSK | 834.0 | H | 100.0 | 75.0 | 6.75 | 1 / 50 | 13.06 | **17.66** | 0.058 | 38.45 | -20.79 |
| | | 836.5 | H | 107.0 | 88.0 | 6.68 | 1 / 0 | 6.32 | 10.85 | 0.012 | 38.45 | -27.60 |
| | | 839.0 | H | 200.0 | 80.0 | 6.70 | 1 / 0 | 6.27 | 10.82 | 0.012 | 38.45 | -27.63 |
| | 16-QAM | 834.0 | H | 100.0 | 75.0 | 6.75 | 1 / 50 | 11.21 | **15.81** | 0.038 | 38.45 | -22.64 |
| | | 836.5 | H | 107.0 | 88.0 | 6.68 | 1 / 0 | 5.63 | 10.16 | 0.010 | 38.45 | -28.29 |
| | | 839.0 | H | 200.0 | 80.0 | 6.70 | 1 / 0 | 5.06 | 9.61 | 0.009 | 38.45 | -28.84 |
| | 64-QAM | 834.0 | H | 100.0 | 75.0 | 6.75 | 1 / 50 | 9.78 | **14.38** | 0.027 | 38.45 | -24.07 |
| | | 836.5 | H | 107.0 | 88.0 | 6.68 | 1 / 0 | 3.92 | 8.45 | 0.007 | 38.45 | -30.00 |
| | | 839.0 | H | 200.0 | 80.0 | 6.70 | 1 / 0 | 3.78 | 8.33 | 0.007 | 38.45 | -30.12 |
| | 256-QAM | 834.0 | H | 100.0 | 75.0 | 6.75 | 1 / 50 | 7.96 | **12.56** | 0.018 | 38.45 | -25.89 |
| | | 836.5 | H | 107.0 | 88.0 | 6.68 | 1 / 0 | 1.42 | 5.95 | 0.004 | 38.45 | -32.50 |
| | | 839.0 | H | 200.0 | 80.0 | 6.70 | 1 / 0 | 1.18 | 5.73 | 0.004 | 38.45 | -32.72 |
| 20 MHz | QPSK (CP-OFDM) | 834.0 | H | 203.0 | 81.0 | 6.70 | 1 / 50 | 1.57 | **8.27** | 0.007 | 38.45 | -30.18 |
| | QPSK (Opposite Pol.) | 834.0 | V | 147.0 | 99.0 | 6.70 | 1 / 50 | 2.96 | 9.66 | 0.009 | 38.45 | -28.79 |
| | QPSK (Dual Display) | 834.0 | H | 194.0 | 89.0 | 6.70 | 1 / 50 | 10.68 | 17.38 | 0.055 | 38.45 | -21.07 |

**Table 7-2. ERP Data (NR Band n5)**

| Frequency [MHz] | Mode | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Substitute Level [dBm] | Ant. Gain [dBi] | ERP [dBm] | ERP [Watts] | ERP Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 824.20 | GSM850 | V | 139 | 113 | 24.44 | 6.35 | **28.64** | **0.731** | 38.45 | -9.81 |
| 836.60 | GSM850 | V | 143 | 113 | 24.26 | 6.38 | 28.49 | 0.706 | 38.45 | -9.96 |
| 848.80 | GSM850 | V | 151 | 114 | 23.37 | 6.51 | 27.73 | 0.592 | 38.45 | -10.73 |
| 824.20 | GSM850 | H | 220 | 92 | 21.60 | 6.38 | 25.83 | 0.383 | 38.45 | -12.62 |
| 824.20 | EDGE850 | V | 139 | 113 | 17.99 | 6.38 | **22.22** | 0.167 | 38.45 | -16.23 |
| 824.20 | GSM850 (Dual Display) | V | 13 | 113 | 22.84 | 6.38 | 27.07 | 0.509 | 38.45 | -11.38 |

**Table 7-3. ERP Data (GPRS Cell)**

| Frequency [MHz] | Mode | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Substitute Level [dBm] | Ant. Gain [dBi] | ERP [dBm] | ERP [Watts] | ERP Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 826.40 | WCDMA850 | V | 137 | 119 | 16.15 | 6.37 | 20.37 | 0.109 | 38.45 | -18.08 |
| 836.60 | WCDMA850 | V | 147 | 77 | 16.25 | 6.38 | **20.48** | **0.112** | 38.45 | -17.97 |
| 846.60 | WCDMA850 | V | 155 | 60 | 16.08 | 6.48 | 20.41 | 0.110 | 38.45 | -18.04 |
| 836.60 | WCDMA850 | H | 197 | 76 | 12.81 | 6.38 | 17.04 | 0.051 | 38.45 | -21.41 |

**Table 7-4. ERP Data (WCDMA Cell)**

| Frequency [MHz] | Mode | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Substitute Level [dBm] | Ant. Gain [dBi] | ERP [dBm] | ERP [Watts] | ERP Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 824.70 | CDMA850 | V | 353 | 3 | 11.75 | 6.36 | **15.96** | **0.039** | 38.45 | -22.50 |
| 836.52 | CDMA850 | V | 183 | 16 | 11.22 | 6.38 | 15.45 | 0.035 | 38.45 | -23.00 |
| 848.31 | CDMA850 | V | 313 | 13 | 10.74 | 6.50 | 15.09 | 0.032 | 38.45 | -23.36 |
| 824.70 | CDMA850 | H | 100 | 80 | 8.29 | 6.36 | 12.50 | 0.018 | 38.45 | -25.96 |

**Table 7-5. ERP Data (CDMA Cell)**

## 7.3 Radiated Spurious Emissions Measurements

**Test Overview**

Radiated spurious emissions measurements are performed using the field strength conversion method described in KDB 971168 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as peak measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

**Test Procedures Used**

KDB 971168 D01 v03r01 – Section 5.8

**Test Settings**

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW ≥ 3 x RBW
3. Span = 1.5 times the OBW
4. No. of sweep points ≥ 2 x span / RBW
5. Detector = RMS
6. Trace mode = Average (Max Hold for pulsed emissions)
7. The trace was allowed to stabilize

## Test Setup

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

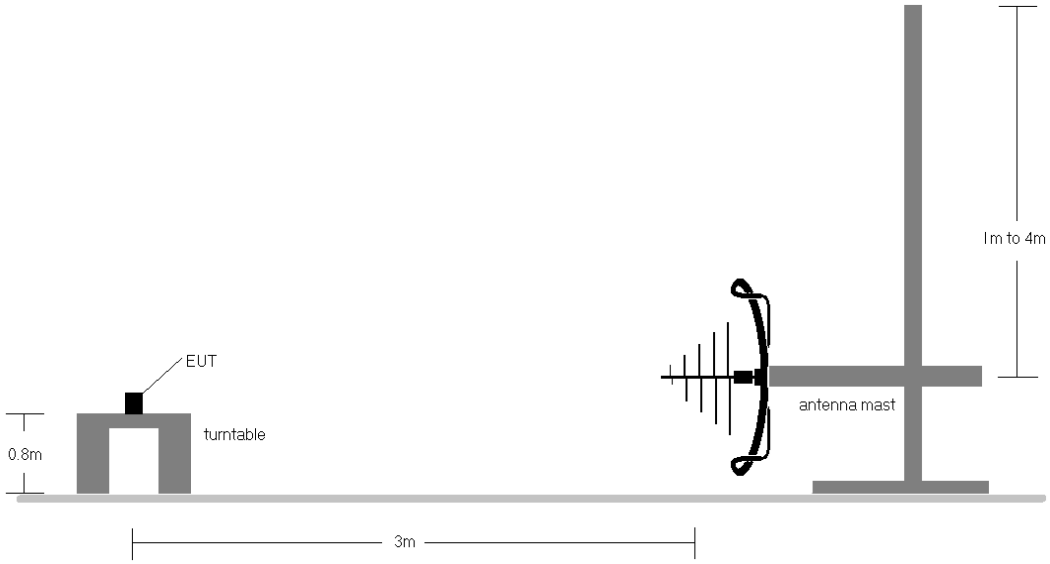



**Figure 7-2. Test Instrument & Measurement Setup < 1GHz**

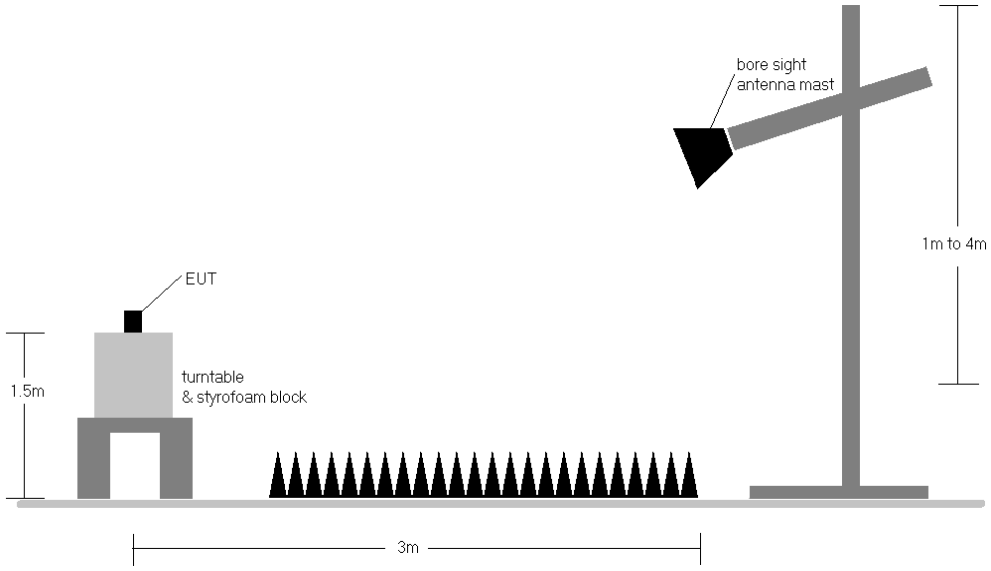



**Figure 7-3. Test Instrument & Measurement Setup >1 GHz**

## Test Notes

1) Field strengths are calculated using the Measurement quantity conversions in KDB 971168 Section 5.8.4.
   b) E(dBµV/m) = Measured amplitude level (dBm) + 107 + Cable Loss (dB) + Antenna Factor (dB/m)
   d) EIRP (dBm) = E(dBµV/m) + 20logD – 104.8; where D is the measurement distance in meters.

2) This device employs GSM, GPRS, and EDGE capabilities. The EUT was tested under all configurations and the highest powers is reported in GPRS mode while transmitting with one slot active.

3) This device employs UMTS technology with WCDMA (AMR/RMC) and HSDPA capabilities. The EUT was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to “1”.

4) For CDMA, this device was tested under all RC and SO combinations and the worst case is reported with RC3/SO55 with "All Up" power control bits.

5) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.

6) This unit was tested with its standard battery.

7) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case setup is reported in the tables below.

8) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.

9) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.

10) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

11) ULCA spurious emissions measurements were evaluated for the two contiguous channels using various combinations of RB size, RB offset, modulation, and channel bandwidth. Channel bandwidth data is shown in the tables below based only on the channel bandwidths that were supported in this device.

12) For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and 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.

13) Spurious emissions shown in this section are measured while operating in EN-DC mode with Sub 6GHz NR carrier as well as an LTE carrier (anchor). Spurious emissions from the NR carrier device, is subject to the rules under which the NR carrier operates. Spurious emission caused by the LTE carrier must meet the requirements of the rules under which the LTE carrier operates.

## LTE Band 5

| | |
|---|---|
| **Bandwidth (MHz):** | 10 |
| **Frequency (MHz):** | 829.0 |
| **RB / Offset:** | 1 / 0 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1658.0 | V | - | - | -78.27 | 2.93 | 31.66 | -63.59 | -13.00 | -50.59 |
| 2487.0 | V | - | - | -79.06 | 6.27 | 34.21 | -61.05 | -13.00 | -48.05 |
| 3316.0 | V | - | - | -79.93 | 7.77 | 34.84 | -60.42 | -13.00 | -47.42 |
| 4145.0 | V | - | - | -80.33 | 9.63 | 36.30 | -58.96 | -13.00 | -45.96 |

**Table 7-2. Radiated Spurious Data (LTE Band 5 – Low Channel)**

| | |
|---|---|
| **Bandwidth (MHz):** | 10 |
| **Frequency (MHz):** | 836.5 |
| **RB / Offset:** | 1 / 0 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1673.0 | V | 171 | 255 | -78.19 | 2.84 | 31.65 | -63.61 | -13.00 | -50.61 |
| 2509.5 | V | - | - | -78.98 | 6.13 | 34.15 | -61.11 | -13.00 | -48.11 |
| 3346.0 | V | - | - | -79.50 | 7.91 | 35.41 | -59.85 | -13.00 | -46.85 |
| 4182.5 | V | - | - | -80.74 | 9.74 | 36.00 | -59.26 | -13.00 | -46.26 |

**Table 7-3. Radiated Spurious Data (LTE Band 5 – Mid Channel)**

| | |
|---|---|
| **Bandwidth (MHz):** | 10 |
| **Frequency (MHz):** | 844.0 |
| **RB / Offset:** | 1 / 0 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1688.00 | V | - | - | -78.29 | 2.73 | 31.44 | -63.82 | -13.00 | -50.82 |
| 2532.00 | V | - | - | -79.32 | 6.09 | 33.77 | -61.48 | -13.00 | -48.48 |
| 3376.00 | V | - | - | -79.86 | 8.01 | 35.15 | -60.11 | -13.00 | -47.11 |
| 4220.00 | V | - | - | -80.35 | 9.41 | 36.06 | -59.20 | -13.00 | -46.20 |

**Table 7-4. Radiated Spurious Data (LTE Band 5 – High Channel)**

## ULCA LTE Band 5

| | |
|---|---|
| **PCC Bandwidth (MHz):** | 10 |
| **PCC Frequency (MHz):** | 829.0 |
| **PCC RB / Offset:** | 1 / 49 |
| **SCC Bandwidth (MHz):** | 10 |
| **SCC Frequency (MHz):** | 838.9 |
| **SCC RB / Offset:** | 1 / 0 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1668.0 | V | - | - | -78.31 | 2.93 | 31.62 | -63.63 | -13.00 | -50.63 |
| 2502.0 | V | - | - | -79.06 | 6.27 | 34.21 | -61.05 | -13.00 | -48.05 |
| 3336.0 | V | - | - | -79.57 | 7.77 | 35.20 | -60.06 | -13.00 | -47.06 |
| 4170.0 | V | - | - | -80.59 | 9.63 | 36.04 | -59.22 | -13.00 | -46.22 |

**Table 7-5. Radiated Spurious Data (ULCA LTE Band 5 – Low Channel)**

| | |
|---|---|
| **PCC Bandwidth (MHz):** | 10 |
| **PCC Frequency (MHz):** | 831.5 |
| **PCC RB / Offset:** | 1 / 0 |
| **SCC Bandwidth (MHz):** | 5 |
| **SCC Frequency (MHz):** | 829.3 |
| **SCC RB / Offset:** | 1 / 24 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1673.0 | V | 140 | 260 | -77.93 | 2.84 | 31.91 | -63.35 | -13.00 | -50.35 |
| 2509.5 | V | 379 | 53 | -79.16 | 6.13 | 33.97 | -61.29 | -13.00 | -48.29 |
| 3346.0 | V | - | - | -79.63 | 7.91 | 35.28 | -59.98 | -13.00 | -46.98 |
| 4182.5 | V | - | - | -80.66 | 9.74 | 36.08 | -59.18 | -13.00 | -46.18 |

**Table 7-6. Radiated Spurious Data (ULCA LTE Band 5 – Mid Channel)**

| | |
|---|---|
| **PCC Bandwidth (MHz):** | 10 |
| **PCC Frequency (MHz):** | 844.0 |
| **PCC RB / Offset:** | 1 / 0 |
| **SCC Bandwidth (MHz):** | 10 |
| **SCC Frequency (MHz):** | 834.1 |
| **SCC RB / Offset:** | 1 / 49 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1678.0 | V | - | - | -78.05 | 2.73 | 31.68 | -63.58 | -13.00 | -50.58 |
| 2517.0 | V | - | - | -79.06 | 6.09 | 34.03 | -61.22 | -13.00 | -48.22 |
| 3356.0 | V | - | - | -79.79 | 8.01 | 35.22 | -60.04 | -13.00 | -47.04 |
| 4195.0 | V | - | - | -80.65 | 9.41 | 35.76 | -59.50 | -13.00 | -46.50 |

**Table 7-7. Radiated Spurious Data (ULCA LTE Band 5 – High Channel)**

## NR Band n5

| | |
|---|---|
| **Bandwidth (MHz):** | 20 |
| **Frequency (MHz):** | 834.0 |
| **RB / Offset:** | 1 / 50 |
| **Mode:** | Stand Alone |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1668.0 | H | 267 | 110 | -57.23 | -3.89 | 45.88 | -49.38 | -13.00 | -36.38 |
| 2502.0 | H | 148 | 66 | -63.49 | -1.83 | 41.68 | -53.58 | -13.00 | -40.58 |
| 3336.0 | H | - | - | -70.29 | 1.97 | 38.68 | -56.58 | -13.00 | -43.58 |

**Table 7-8. Radiated Spurious Data (NR Band n5 – Low Channel)**

| | |
|---|---|
| **Bandwidth (MHz):** | 20 |
| **Frequency (MHz):** | 836.5 |
| **RB / Offset:** | 1 / 50 |
| **Mode:** | Stand Alone |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1673.0 | H | 288 | 97 | -56.74 | -3.56 | 46.70 | -48.55 | -13.00 | -35.55 |
| 2509.5 | H | 122 | 89 | -61.36 | -1.74 | 43.90 | -51.35 | -13.00 | -38.35 |
| 3346.0 | H | - | - | -71.06 | 1.99 | 37.93 | -57.33 | -13.00 | -44.33 |

**Table 7-9. Radiated Spurious Data (NR Band n5 – Mid Channel)**

| | |
|---|---|
| **Bandwidth (MHz):** | 20 |
| **Frequency (MHz):** | 839.0 |
| **RB / Offset:** | 1 / 50 |
| **Mode:** | Stand Alone |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1678.0 | H | 295 | 63 | -56.38 | -3.22 | 47.40 | -47.86 | -13.00 | -34.86 |
| 2517.0 | H | 130 | 91 | -64.88 | -1.59 | 40.53 | -54.73 | -13.00 | -41.73 |
| 3356.0 | H | - | - | -71.42 | 2.13 | 37.71 | -57.55 | -13.00 | -44.55 |

**Table 7-10. Radiated Spurious Data (NR Band n5 – High Channel)**

| | |
|---|---|
| **Bandwidth (MHz):** | 20 |
| **Frequency (MHz):** | 839.0 |
| **RB / Offset:** | 1 / 50 |
| **Mode:** | EN-DC |
| **Anchor Band:** | LTE Band 66 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 2607.0 | H | 277 | 143 | -71.22 | 8.05 | 43.83 | -51.42 | -13.00 | -38.42 |
| 2660.0 | H | 263 | 120 | -72.93 | 8.29 | 42.36 | -52.90 | -13.00 | -39.90 |

**Table 7-11. Radiated Spurious Data (ENDC n5-LB66)**

| | |
|---|---|
| **Case:** | w/ Dual Display |
| **Bandwidth (MHz):** | 20 |
| **Frequency (MHz):** | 839.0 |
| **RB / Offset:** | 1 / 50 |
| **Mode:** | Stand Alone |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1678.0 | H | 325 | 142 | -58.91 | -3.22 | 44.87 | -50.39 | -13.00 | -37.39 |
| 2517.0 | H | 178 | 80 | -63.44 | -1.59 | 41.97 | -53.29 | -13.00 | -40.29 |
| 3356.0 | H | - | - | -70.87 | 2.13 | 38.26 | -57.00 | -13.00 | -44.00 |

**Table 7-12. Radiated Spurious Data (NR Band n5 – w/ Dual Display)**

## GSM/GPRS Cell

| | |
|---|---|
| **Mode:** | GPRS 1 Tx Slot |
| **Channel:** | 128 |
| **Frequency (MHz):** | 824.2 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1648.4 | H | 211 | 56 | -68.94 | -3.22 | 34.84 | -60.41 | -13.00 | -47.41 |
| 2472.6 | H | 141 | 120 | -48.17 | -1.81 | 57.02 | -38.23 | -13.00 | -25.23 |
| 3296.8 | H | - | - | -69.29 | 2.16 | 39.87 | -55.39 | -13.00 | -42.39 |

**Table 7-13. Radiated Spurious Data (GPRS Cell – Low Channel)**

| | |
|---|---|
| **Mode:** | GPRS 1 Tx Slot |
| **Channel:** | 190 |
| **Frequency (MHz):** | 836.6 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1673.2 | H | 186 | 82 | -67.49 | -3.54 | 35.97 | -59.29 | -13.00 | -46.29 |
| 2509.8 | H | 127 | 149 | -47.88 | -1.73 | 57.39 | -37.87 | -13.00 | -24.87 |
| 3346.4 | H | - | - | -70.13 | 2.00 | 38.87 | -56.39 | -13.00 | -43.39 |

**Table 7-14. Radiated Spurious Data (GPRS Cell – Mid Channel)**

| | |
|---|---|
| **Mode:** | GPRS 1 Tx Slot |
| **Channel:** | 251 |
| **Frequency (MHz):** | 848.8 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1697.6 | H | 195 | 71 | -67.59 | -2.91 | 36.50 | -58.76 | -13.00 | -45.76 |
| 2546.4 | H | 149 | 134 | -47.67 | -0.99 | 58.34 | -36.92 | -13.00 | -23.92 |
| 3395.2 | H | - | - | -70.21 | 2.02 | 38.81 | -56.45 | -13.00 | -43.45 |

**Table 7-15. Radiated Spurious Data (GPRS Cell – High Channel)**

## WCDMA Cell

| | |
|---|---|
| **Mode:** | WCDMA RMC |
| **Channel:** | 4132 |
| **Frequency (MHz):** | 826.4 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1652.8 | H | 227 | 52 | -70.39 | -3.37 | 33.24 | -62.02 | -13.00 | -49.02 |
| 2479.2 | H | 167 | 241 | -62.75 | -1.85 | 42.40 | -52.85 | -13.00 | -39.85 |
| 3305.6 | H | - | - | -70.18 | 1.93 | 38.75 | -56.51 | -13.00 | -43.51 |

**Table 7-16. Radiated Spurious Data (WCDMA Cell – Low Channel)**

| | |
|---|---|
| **Mode:** | WCDMA RMC |
| **Channel:** | 4183 |
| **Frequency (MHz):** | 836.6 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1673.2 | H | 230 | 63 | -69.84 | -3.54 | 33.62 | -61.64 | -13.00 | -48.64 |
| 2509.8 | H | 158 | 218 | -63.28 | -1.73 | 41.99 | -53.27 | -13.00 | -40.27 |
| 3346.4 | H | - | - | -70.44 | 2.00 | 38.56 | -56.70 | -13.00 | -43.70 |

**Table 7-17. Radiated Spurious Data (WCDMA Cell – Mid Channel)**

| | |
|---|---|
| **Mode:** | WCDMA RMC |
| **Channel:** | 4233 |
| **Frequency (MHz):** | 846.6 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1693.2 | H | 202 | 75 | -68.97 | -2.86 | 35.17 | -60.08 | -13.00 | -47.08 |
| 2539.8 | H | 140 | 162 | -63.79 | -1.10 | 42.11 | -53.15 | -13.00 | -40.15 |
| 3386.4 | H | - | - | -70.54 | 1.87 | 38.33 | -56.93 | -13.00 | -43.93 |

**Table 7-18. Radiated Spurious Data (WCDMA Cell – High Channel)**

## CDMA Cell

| | |
|---|---|
| **Mode:** | CDMA |
| **Channel:** | 1013 |
| **Frequency (MHz):** | 824.7 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1649.40 | H | 164 | 51 | -70.48 | -3.22 | 33.30 | -61.96 | -13.00 | -48.96 |
| 2474.10 | H | 132 | 127 | -66.37 | -1.82 | 38.81 | -56.45 | -13.00 | -43.45 |
| 3298.80 | H | - | - | -70.22 | 2.08 | 38.86 | -56.40 | -13.00 | -43.40 |

**Table 7-19. Radiated Spurious Data (CDMA Cell – Low Channel)**

| | |
|---|---|
| **Mode:** | CDMA |
| **Channel:** | 384 |
| **Frequency (MHz):** | 836.52 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1673.04 | H | 161 | 89 | -70.58 | -3.55 | 32.87 | -62.39 | -13.00 | -49.39 |
| 2509.56 | H | 144 | 122 | -67.46 | -1.74 | 37.80 | -57.45 | -13.00 | -44.45 |
| 3346.08 | H | - | - | -69.87 | 1.99 | 39.12 | -56.14 | -13.00 | -43.14 |

**Table 7-20. Radiated Spurious Data (CDMA Cell – Mid Channel)**

| | |
|---|---|
| **Mode:** | CDMA |
| **Channel:** | 777 |
| **Frequency (MHz):** | 848.31 |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | EIRP Spurious Emission Level [dBm] | Limit [dBm] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 1696.62 | H | 154 | 64 | -69.89 | -2.90 | 34.21 | -61.04 | -13.00 | -48.04 |
| 2544.93 | H | 132 | 125 | -66.87 | -1.01 | 39.12 | -56.14 | -13.00 | -43.14 |
| 3393.24 | H | - | - | -70.37 | 2.03 | 38.66 | -56.59 | -13.00 | -43.59 |

**Table 7-21. Radiated Spurious Data (CDMA Cell – High Channel)**

# 8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the LG **Portable Handset FCC ID: ZNFG900VM** complies with all the requirements of Part 22 of the FCC rules.