# RADIO TEST REPORT

For

Shenzhen KVD Communication Equipment Limited

LTE GSM/WCDMA Smartphone

Test Model: S60 Lite

| | | |
|---|---|---|
| Prepared for | : | Shenzhen KVD Communication Equipment Limited |
| Address | : | Lenovo R&D Center 2F-B, South First Road, High-tech Park, Nanshan District, Shenzhen, Guangdong, China |
| Prepared by | : | Shenzhen LCS Compliance Testing Laboratory Ltd. |
| Address | : | 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China |
| Tel | : | (+86)755-82591330 |
| Fax | : | (+86)755-82591332 |
| Web | : | www.LCS-cert.com |
| Mail | : | webmaster@LCS-cert.com |
| Date of receipt of test sample | : | Dec 21, 2017 |
| Number of tested samples | : | 1 |
| Serial number | : | Prototype |
| Date of Test | : | Dec 21, 2017~Jan 03, 2018 |
| Date of Report | : | Jan 03, 2018 |

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**RADIO TEST REPORT**

**ETSI EN 301 908-13 V11.1.1 (2016-07)**

IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 13: Evolved Universal Terrestrial Radio Access (E-UTRA) User Equipment (UE)

| | | |
|---|---|---|
| **Report Reference No. .....** | : | **LCS171221034AEH** |
| Date of Issue ..... | : | Jan 03, 2018 |
| **Testing Laboratory Name .....** | : | **Shenzhen LCS Compliance Testing Laboratory Ltd.** |
| Address ..... | : | 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China |
| Testing Location/ Procedure ..... | : | Full application of Harmonised standards ■<br>Partial application of Harmonised standards □<br>Other standard testing method □ |
| **Applicant's Name.....** | : | **Shenzhen KVD Communication Equipment Limited** |
| Address ..... | : | Lenovo R&D Center 2F-B, South First Road, High-tech Park, Nanshan District, Shenzhen, Guangdong, China |
| **Test Specification** | | |
| Standard ..... | : | ETSI EN 301 908-1 V11.1.1 (2016-07)<br>ETSI EN 301 908-13 V11.1.1 (2016-07) |
| Test Report Form No. ..... | : | LCSEMC-1.0 |
| TRF Originator..... | : | Shenzhen LCS Compliance Testing Laboratory Ltd. |
| Master TRF ..... | : | Dated 2017-06 |

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| | | |
|---|---|---|
| **Test Item Description. .....** | : | **LTE GSM/WCDMA Smartphone** |
| Trade Mark..... | : | DOOGEE |
| Test Model ..... | : | S60 Lite |
| Ratings ..... | : | DC 3.8V by Li-ion Battery(5580mAh)<br>Recharged by DC 5V/7V/3A,9V/2.7A,12V/2A Adapter |
| **Result .....** | : | **Positive** |

| **Compiled by:** | **Supervised by:** | **Approved by:** |
|---|---|---|
| Calvin Weng | Dick Su | |
| Calvin Weng/ Administrators | Dick Su/ Technique principal | Gavin Liang/ Manager |

# RADIO -- TEST REPORT

| Test Report No. : LCS171221034AEH | Jan 03, 2018<br>Date of issue |
|---|---|

| | | |
|---|---|---|
| Test Model..... | : | S60 Lite |
| EUT..... | : | LTE GSM/WCDMA Smartphone |
| **Applicant.....** | **:** | **Shenzhen KVD Communication Equipment Limited** |
| Address..... | : | Lenovo R&D Center 2F-B, South First Road, High-tech Park, Nanshan District, Shenzhen, Guangdong, China |
| Telephone..... | : | |
| Fax..... | : | |
| **Manufacturer.....** | **:** | **Shenzhen KVD Communication Equipment Limited** |
| Address..... | : | A,3rd floor, Building A2, Silicon valley Digital Industrial Park,22nd of Dafu industrial area,Aobei Community,Guanlan town,Longhua District,shenzhen 518000, China |
| Telephone..... | : | |
| Fax..... | : | |
| **Factory.....** | **:** | **Shenzhen KVD Communication Equipment Limited** |
| Address..... | : | A,3rd floor, Building A2, Silicon valley Digital Industrial Park,22nd of Dafu industrial area,Aobei Community,Guanlan town,Longhua District,shenzhen 518000, China |
| Telephone..... | : | |
| Fax..... | : | |

| Test Result | Positive |
|---|---|

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

# Revision History

| Revision | Issue Date | Revisions | Revised By |
|---|---|---|---|
| 000 | Jan 03, 2018 | Initial Issue | Gavin Liang |
| | | | |
| | | | |

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# TABLE OF CONTENTS

Test Report Description Page

**1. GENERAL INFORMATION ..... 6**
1.1. PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) ..... 6
1.2. SUPPORT EQUIPMENT LIST ..... 9
1.3. EXTERNAL I/O ..... 9
1.4. OBJECTIVE ..... 9
1.5. TEST CONDITIONS ..... 10
1.6. DESCRIPTION OF TEST MODE ..... 10
1.7. LIST OF MEASURING EQUIPMENT ..... 11
1.8. MEASUREMENT UNCERTAINTY (95% CONFIDENCE LEVELS, K=2) ..... 12
1.9. DESCRIPTION OF TEST FACILITY ..... 12
**2. SYSTEM TEST CONFIGURATION ..... 13**
2.1. JUSTIFICATION ..... 13
2.2. EUT EXERCISE SOFTWARE ..... 13
2.3. SPECIAL ACCESSORIES ..... 13
2.4. BLOCK DIAGRAM/SCHEMATICS ..... 13
2.5. EQUIPMENT MODIFICATIONS ..... 13
2.6. TEST SETUP ..... 13
**3. TEST RESULTS ..... 14**
**4. PHOTOGRAPHS OF TEST SETUP ..... 16**

# 1. GENERAL INFORMATION

## 1.1. Product Description for Equipment Under Test (EUT)

| | | |
|---|---|---|
| EUT | : | LTE GSM/WCDMA Smartphone |
| Test Model | : | S60 Lite |
| Power Supply | : | DC 3.8V by Li-ion Battery(5580mAh)<br>Recharged by DC 5V/7V/3A,9V/2.7A,12V/2A Adapter |
| Hardware Version | : | T777_MAIN_PCB_V1.1 |
| Software Version | : | DOOGEE-S60 Lite-Android7.0-20171227 |
| 2G | : | |
| Support Band | : | ☒GSM 900 (EU-Band) ☒DCS 1800 (EU-Band)<br>☒GSM 850 (U.S.-Band) ☒PCS 1900 (U.S.-Band) |
| Release Version | : | R99 |
| GPRS Class | : | Class 12 |
| EGPRS Class | : | Class 12 |
| Uplink | : | GSM 900: 880MHz ~ 915MHz<br>DCS 1800: 1710MHz ~ 1785MHz |
| Downlink | : | GSM 900: 925MHz ~ 960MHz<br>DCS 1800: 1805MHz ~ 1880MHz |
| Type Of Modulation | : | GMSK for GSM/GPRS; GMSK/8PSK for EGPRS |
| Antenna Description | : | PIFA Antenna, 0dBi(Max.) |
| Power Class | : | GSM 900: Class 4, DCS 1800: Class 1 |
| 3G | : | |
| Support Band | : | ☐WCDMA Band II (U.S.-Band)<br>☐WCDMA Band V (U.S.-Band)<br>☒WCDMA Band I (EU-Band)<br>☒WCDMA Band VIII (EU-Band) |
| Release Version | : | R99 |
| Uplink | : | WCDMA Band I: 1920MHz ~ 1980MHz<br>WCDMA Band VIII: 880MHz~915MHz |
| Downlink | : | WCDMA Band I: 2110MHz ~ 2170MHz<br>WCDMA Band VIII: 925MHz~960MHz |
| Type Of Modulation | : | WCDMA: QPSK; HSDPA/HSUPA: QPSK |
| Antenna Description | : | PIFA Antenna, 0dBi(Max.) |
| Power Class | : | Class 3 |

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| | | |
|---|---|---|
| LTE | : | |
| Support Band | : | ☒E-UTRA Band 1(EU-Band)<br>☒E-UTRA Band 3(EU-Band)<br>☒E-UTRA Band 7(EU-Band)<br>☒E-UTRA Band 8(EU-Band)<br>☒E-UTRA Band 20(EU-Band) |
| LTE Release Version | : | R9 |
| Uplink | : | E-UTRA Band 1: 1920MHz ~ 1980MHz<br>E-UTRA Band 3: 1710MHz~1785MHz<br>E-UTRA Band 7: 2500MHz ~ 2570MHz<br>E-UTRA Band 8: 880MHz ~ 915MHz<br>E-UTRA Band 20: 832MHz ~ 862MHz |
| Downlink | : | E-UTRA Band 1: 2110MHz ~ 2170MHz<br>E-UTRA Band 3: 1805MHz~1880MHz<br>E-UTRA Band 7: 2620MHz ~ 2690MHz<br>E-UTRA Band 8: 925MHz ~ 960MHz<br>E-UTRA Band 20: 791MHz ~ 821MHz |
| Type Of Modulation | : | QPSK/16-QAM |
| Antenna Description | : | PIFA Antenna; 0dBi(Max.) for Band 1,3,7,8,20 |
| Power Class | : | Class 3 |
| Bluetooth | : | |
| Frequency Range | : | 2.402-2.480GHz |
| Channel Number | : | 79 channels for Bluetooth V4.0 (DSS)<br>40 channels for Bluetooth V4.0 (DTS) |
| Channel Spacing | : | 1MHz for Bluetooth V4.0 (DSS)<br>2MHz for Bluetooth V4.0 (DTS) |
| Modulation Type | : | GFSK, π/4-DQPSK, 8-DPSK for Bluetooth V4.0 (DSS)<br>GFSK for Bluetooth V4.0 (DTS) |
| Bluetooth Version | : | V4.0 |
| Antenna Description | : | PIFA Antenna, -1dBi(Max.) |
| WIFI(2.4G Band) | : | |
| Frequency Range | : | 2412-2472MHz |
| Channel Spacing | : | 5MHz |
| Channel Number | : | 13 Channel for 20MHz bandwidth(2412~2472MHz)<br>9 channels for 40MHz bandwidth(2422~2462MHz) |
| Modulation Type | : | 802.11b: DSSS; 802.11g/n: OFDM |
| Antenna Description | : | PIFA Antenna, -1dBi(Max.) |
| GPS Receiver | : | |
| Receive Frequency | : | 1575.42MHz |

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| | | |
|---|---|---|
| Channel Number | : | 1 |
| Antenna Description | : | PIFA Antenna |
| FM Receiver | : | |
| Frequency Range | : | 87.5MHz ~ 108MHz |
| Modulation Type | : | FM |
| Antenna Description | : | External Antenna(earphone) |

### 1.2. Support equipment List

| Manufacturer | Description | Model | Serial Number | Certificate |
|---|---|---|---|---|
| -- | -- | -- | -- | -- |

### 1.3. External I/O

| I/O Port Description | Quantity | Cable |
|---|---|---|
| USB Port | 1 | 1 m, unshielded |
| Earphone | 1 | N/A |

### 1.4. Objective

| Standard Referenced | Standard Title | Standard Version |
|---|---|---|
| ETSI EN 301 908-1 | IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 1: Introduction and common requirements | V11.1.1 (2016-07) |
| ETSI EN 301 908-13 | IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 13: Evolved Universal Terrestrial Radio Access (E-UTRA) User Equipment (UE) | V11.1.1 (2016-07) |
| ETSI TS 136 521-1 | LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Conformance testing (3GPP TS 36.521-1 version 12.7.0 Release 12) | V12.7.0 (2015-05) |

The objective is to determine compliance with ETSI EN 301 908-1 V11.1.1 (2016-07) & ETSI EN 301 908-13 V11.1.1 (2016-07).

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## 1.5. Test Conditions

| Conditions | Temperature | Voltage |
|---|---|---|
| Normal | 21-25℃ | DC 3.8V |
| Low extreme temperature/low extreme voltage (LT/LV); | -10℃ | DC 3.4V |
| Low extreme temperature/high extreme voltage (LT/HV); | -10℃ | DC 4.35V |
| High extreme temperature/low extreme voltage (HT/LV); | +55℃ | DC 3.4V |
| High extreme temperature/high extreme voltage (HT/HV). | +55℃ | DC 4.35V |
| Note1: For all conditions, the humidity range is:40-75%, the pressure range is 86-106kPa. The High Voltage DC 4.35V and Low Voltage DC 3.4V was declared by manufacturer | | |

## 1.6. Description Of Test Mode

The following operating modes were applied for the related test items. For radiated measurement, the test was performed with EUT in X, Y, Z position and the worse case was found when EUT in X position. All test modes were tested, only the result of the worst case was recorded in the report.

| Band | Bandwidth (MHz) | | | | | | Modulation | | RB # | | | Test Channel | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.4 | 3 | 5 | 10 | 15 | 20 | QPSK | 16-QAM | 1 | Part | Full | L | M | H |
| 1 | N/A | N/A | Y | / | / | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 3 | Y | / | Y | / | / | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 7 | N/A | N/A | Y | / | / | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 8 | Y | / | Y | Y | N/A | N/A | Y | Y | Y | Y | Y | Y | Y | Y |
| 20 | N/A | N/A | Y | / | / | Y | Y | Y | Y | Y | Y | Y | Y | Y |

Note:
1)The mark "**Y**" means that this configuration is chosen for testing.
2)The mark "/" means that this bandwidth is supported but is not chosen for testing.
3)The mark "**N/A**" means that this bandwidth is not supported.
4)The EUT has one LTE/GSM/WCDMA card slot(SIM1) and one GSM card slot(SIM2). The result for LTE /GSM/WCDMA card slot(SIM1) is the worst case which was only recorded.

## 1.7. List Of Measuring Equipment

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|---|
| 1 | X-series USB Peak and Average Power Sensor Aglient | Agilent | U2021XA | MY54080022 | 2017-10-27 | 2018-10-26 |
| 2 | 4 CH. Simultaneous Sampling 14 Bits 2MS/s | Agilent | U2531A | MY54080016 | 2017-10-27 | 2018-10-26 |
| 3 | Test Software | Ascentest | AT890-SW | 20160630 | N/A | N/A |
| 4 | RF Control Unit | Ascentest | AT890-RFB | N/A | 2017-06-17 | 2018-06-16 |
| 5 | ESA-E SERIES SPECTRUM ANALYZER | Agilent | E4407B | MY41440754 | 2017-11-18 | 2018-11-17 |
| 6 | MXA Signal Analyzer | Agilent | N9020A | MY49100040 | 2017-06-17 | 2018-06-16 |
| 7 | SPECTRUM ANALYZER | R&S | FSP | 100503 | 2017-06-17 | 2018-06-16 |
| 8 | MXG Vector Signal Generator | Agilent | N5182A | MY47071151 | 2017-11-18 | 2018-11-17 |
| 9 | ESG VECTOR SIGNAL GENERATOR | Agilent | E4438C | MY42081396 | 2017-11-18 | 2018-11-17 |
| 10 | PSG Analog Signal Generator | Agilent | E8257D | MY4520521 | 2017-11-18 | 2018-11-17 |
| 11 | Universal Radio Communication Tester | R&S | CMU 200 | 105788 | 2017-06-17 | 2018-06-16 |
| 12 | WIDEBAND RADIO COMMUNICATION TESTER | R&S | CMW 500 | 103818 | 2017-06-17 | 2018-06-16 |
| 13 | RF Control Unit | Tonscend | JS0806-1 | N/A | 2017-06-17 | 2018-06-16 |
| 14 | DC Power Supply | Agilent | E3642A | N/A | 2017-11-18 | 2018-11-17 |
| 15 | LTE Test Software | Tonscend | JS1120-1 | N/A | N/A | N/A |
| 16 | Temperature & Humidity Chamber | GUANGZHOU GOGNWEN | GDS-100 | 70932 | 2017-10-11 | 2018-10-10 |
| 17 | DC Source | CHROMA | 62012P-80-60 | 34782951 | 2017-10-11 | 2018-10-10 |
| 18 | RF Filter | Micro-Tronics | BRC50718 | S/N-017 | 2017-06-17 | 2018-06-16 |
| 19 | RF Filter | Micro-Tronics | BRC50719 | S/N-011 | 2017-06-17 | 2018-06-16 |
| 20 | RF Filter | Micro-Tronics | BRC50720 | S/N-011 | 2017-06-17 | 2018-06-16 |
| 21 | RF Filter | Micro-Tronics | BRC50721 | S/N-013 | 2017-06-17 | 2018-06-16 |
| 22 | RF Filter | Micro-Tronics | BRM50702 | S/N-195 | 2017-06-17 | 2018-06-16 |
| 23 | Splitter/Combiner | Micro-Tronics | PS2-15 | CB11-20 | 2017-06-17 | 2018-06-16 |
| 24 | Splitter/Combiner | Micro-Tronics | CB11-20 | N/A | 2017-06-17 | 2018-06-16 |
| 25 | Attenuator | Micro-Tronics | PAS-8-10 | S/N23466 | 2017-06-17 | 2018-06-16 |
| 26 | 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M | 03CH03-HY | 2017-06-17 | 2018-06-16 |
| 27 | Positioning Controller | MF | MF-7082 | / | 2017-06-17 | 2018-06-16 |
| 28 | EMI Test Software | AUDIX | E3 | N/A | 2017-06-17 | 2018-06-16 |
| 29 | EMI Test Receiver | R&S | ESR 7 | 101181 | 2017-06-17 | 2018-06-16 |
| 30 | AMPLIFIER | QuieTek | QTK-A2525G | CHM10809065 | 2017-11-18 | 2018-11-17 |
| 31 | Active Loop Antenna | SCHWARZBECK | FMZB 1519B | 00005 | 2017-06-23 | 2018-06-22 |
| 32 | By-log Antenna | SCHWARZBECK | VULB9163 | 9163-470 | 2017-05-02 | 2018-05-01 |
| 33 | Horn Antenna | EMCO | 3115 | 6741 | 2017-06-23 | 2018-06-22 |
| 34 | RF Cable-R03m | Jye Bao | RG142 | CB021 | 2017-06-17 | 2018-06-16 |
| 35 | RF Cable-HIGH | SUHNER | SUCOFLEX 106 | 03CH03-HY | 2017-06-17 | 2018-06-16 |
| 36 | TEST RECEIVER | R&S | ESCI | 101142 | 2017-06-17 | 2018-06-16 |
| 37 | RF Cable-CON | UTIFLEX | 3102-26886-4 | CB049 | 2017-06-17 | 2018-06-16 |
| 38 | 10dB Attenuator | SCHWARZBECK | MTS-IMP136 | 261115-001-00 | 2017-06-17 | 2018-06-16 |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | 32 | | |
| 39 | Artificial Mains | R&S | ENV216 | 101288 | 2017-06-17 | 2018-06-16 |
| 40 | Power Analyzer Test System | Voltech | PM6000 | 20000670053 | 2017-06-17 | 2018-06-16 |
| 41 | ESD Simulator | SCHLODER | SESD 230 | 604035 | 2017-06-17 | 2018-06-16 |
| 42 | RF POWER AMPLIFIER | OPHIR | 5225R | 1052 | 2017-03-22 | 2018-03-21 |
| 43 | RF POWER AMPLIFIER | OPHIR | 5273F | 1019 | 2017-03-24 | 2018-03-23 |
| 44 | Stacked Broadband Log Periodic Antenna | SCHWARZBECK | STLP 9128 | 9128ES-145 | 2017-04-28 | 2018-04-27 |
| 45 | Stacked Mikrowellen Log.-Per Antenna | SCHWARZBECK | STLP 9149 | 9149-482 | 2017-04-28 | 2018-04-27 |
| 46 | Electric field probe | Narda S.TS./PMM | EP601 | 611WX70332 | 2017-02-05 | 2018-02-04 |
| 47 | Power Meter | Agilent | E4419B | MY45104493 | 2017-06-17 | 2018-06-16 |
| 48 | Power Sensor | Agilent | E9301H | MY41495234 | 2017-06-17 | 2018-06-16 |
| 49 | Power Sensor | Agilent | E4412A | MY41500229 | 2017-06-17 | 2018-06-16 |
| 50 | Immunity Simulative Generator | EM TEST | UCS500-M4 | 0101-34 | 2017-11-18 | 2018-11-17 |
| 51 | Simulator | FRANKONIA | CIT-10 | A126A1195 | 2017-06-17 | 2018-06-16 |
| 52 | CDN | FRANKONIA | CDN-M2 | 5100100100 | 2017-06-17 | 2018-06-16 |
| 53 | CDN | FRANKONIA | CDN-M3 | 0900-11 | 2017-06-17 | 2018-06-16 |
| 54 | Attenuator | FRANKONIA | ATT6 | 0010222A | 2017-06-17 | 2018-06-16 |
| 55 | Infuse tongs | EM TEST | EM-Clamp | 0513A031201 | 2017-06-17 | 2018-06-16 |
| 56 | Voltage dips and up generator | 3CTEST | VDG-1105G | EC0171014 | 2017-06-17 | 2018-06-16 |
| Note: All equipment is calibrated through GUANGZHOU LISAI CALIBRATION AND TEST CO.,LTD. | | | | | | |

**1.8. Measurement Uncertainty (95% confidence levels, k=2)**

| Test Item | | Uncertainty |
|---|---|---|
| Radio Frequency | : | $0.9 \times 10^{-4}$ |
| Total RF Power, Conducted | : | 1.0 dB |
| RF Power Density, Conducted | : | 1.8 dB |
| Spurious Emissions, Conducted | : | 1.8 dB |
| All Emissions, Radiated | : | 3.1 dB |
| Temperature | : | 0.5°C |
| Humidity | : | 1 % |
| DC And Low Frequency Voltages | : | 1 % |

**1.9. Description of Test Facility**

FCC Registration Number. is 254912.

Industry Canada Registration Number. is 9642A-1.

ESMD Registration Number. is ARCB0108.

UL Registration Number. is 100571-492.

TUV SUD Registration Number. is SCN1081.

TUV RH Registration Number. is UA 50296516-001

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# 2. SYSTEM TEST CONFIGURATION

## 2.1. Justification

N/A

## 2.2. EUT Exercise Software

N/A

## 2.3. Special Accessories

The special accessories were supplied by Shenzhen LCS Compliance Testing Laboratory Ltd.

## 2.4. Block Diagram/Schematics

Please refer to the related document.

## 2.5. Equipment Modifications

Shenzhen LCS Compliance Testing Laboratory Ltd. has not done any modification on the EUT.

## 2.6. Test Setup

Please refer to the test setup photo.

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# 3. TEST RESULTS

| Reference Clause No. (ETSI EN 301 908-13) | Description of Test Items | Result | | | | |
|---|---|---|---|---|---|---|
| | | E-UTRA Band | | | | |
| | | Band 1 | Band 3 | Band 7 | Band 8 | Band 20 |
| 4.2.2 | Transmitter Maximum Output Power | | | | | |
| | NT / NV | Pass | Pass | Pass | Pass | Pass |
| | LT / LV | Pass | Pass | Pass | Pass | Pass |
| | LT / HV | Pass | Pass | Pass | Pass | Pass |
| | HT / LV | Pass | Pass | Pass | Pass | Pass |
| | HT / HV | Pass | Pass | Pass | Pass | Pass |
| 4.2.5 | Transmitter Minimum Output Power | | | | | |
| | NT / NV | Pass | Pass | Pass | Pass | Pass |
| | LT / LV | Pass | Pass | Pass | Pass | Pass |
| | LT / HV | Pass | Pass | Pass | Pass | Pass |
| | HT / LV | Pass | Pass | Pass | Pass | Pass |
| | HT / HV | Pass | Pass | Pass | Pass | Pass |
| 4.2.3 | Transmitter Spectrum Emission Mask | | | | | |
| | NT / NV | Pass | Pass | Pass | Pass | Pass |
| 4.2.11 | Transmitter Adjacent Channel Leakage Power Ratio | | | | | |
| | NT / NV | Pass | Pass | Pass | Pass | Pass |
| | LT / LV | Pass | Pass | Pass | Pass | Pass |
| | LT / HV | Pass | Pass | Pass | Pass | Pass |
| | HT / LV | Pass | Pass | Pass | Pass | Pass |
| | HT / HV | Pass | Pass | Pass | Pass | Pass |
| 4.2.4 | Transmitter Spurious Emissions | | | | | |
| | NT / NV | Pass | Pass | Pass | Pass | Pass |
| 4.2.10 | Receiver Spurious Emissions | | | | | |
| | NT / NV | Pass | Pass | Pass | Pass | Pass |
| 4.2.6 | Receiver Adjacent Channel Selectivity (ACS) | | | | | |
| | NT / NV | Pass | Pass | Pass | Pass | Pass |
| 4.2.7 | Receiver Blocking Characteristics | | | | | |
| | NT / NV | Pass | Pass | Pass | Pass | Pass |
| 4.2.8 | Receiver Spurious Response | | | | | |
| | NT / NV | Pass | Pass | Pass | Pass | Pass |
| 4.2.9 | Receiver Intermodulation Characteristics | | | | | |
| | NT / NV | Pass | Pass | Pass | Pass | Pass |

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| Reference Clause No. (ETSI EN 301 908-1) | Description of Test Items | Result | | | | |
|---|---|---|---|---|---|---|
| | | E-UTRA Band | | | | |
| | | Band 1 | Band 3 | Band 7 | Band 8 | Band 20 |
| 4.2.2 | Radiated emissions (UE) | | | | | |
| | NT / NV | Pass | Pass | Pass | Pass | Pass |
| 4.2.4 | Control and monitoring functions (UE) | | | | | |
| | NT / NV | Pass | Pass | Pass | Pass | Pass |

***Note:

**Result**: Describes test result of Test Case.

**Pass**: Test Case passed on specified conformance test platform.

**NT**: Normal temperature – 25℃

**NV**: Normal voltage. – DC 3.8V

**HT**: High temperature – +55℃

**HV**: High voltage – DC 4.35V

**LT**: Low temperature – -10℃

**LV**: Low voltage – DC 3.4V

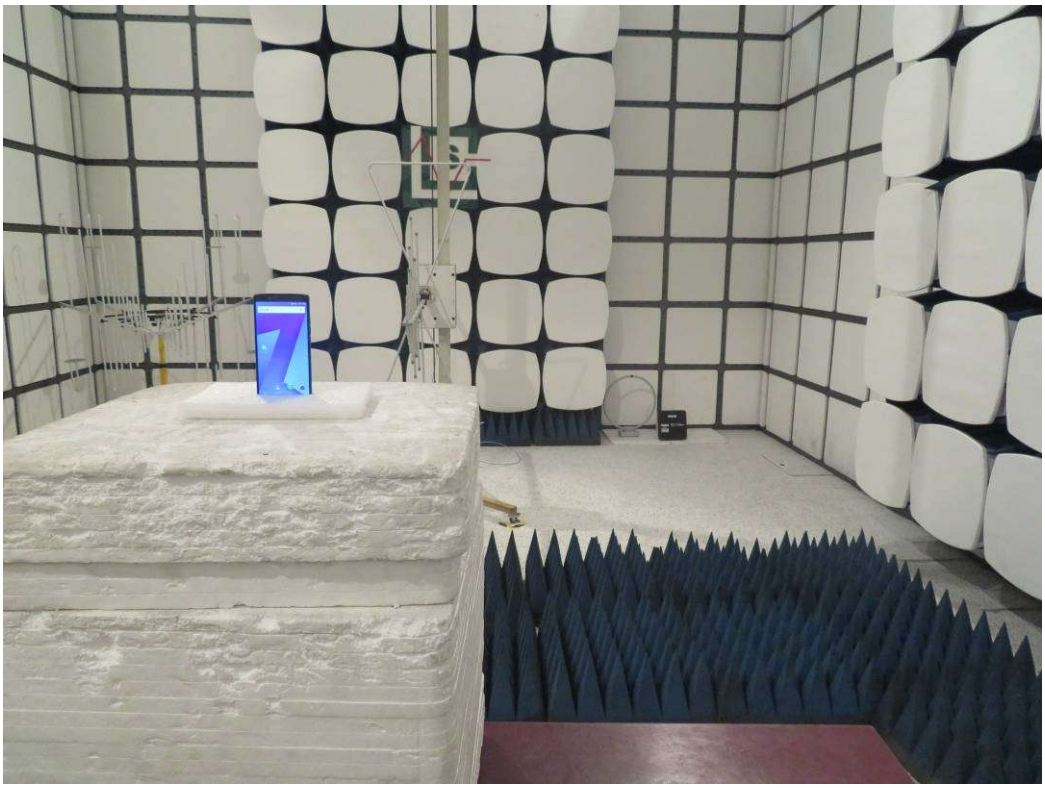
**Vibration X-axis/ Y-axis/ Z-axis**: Vibration test condition for X/Y/Z axis.

**N/A**: Not applicable.

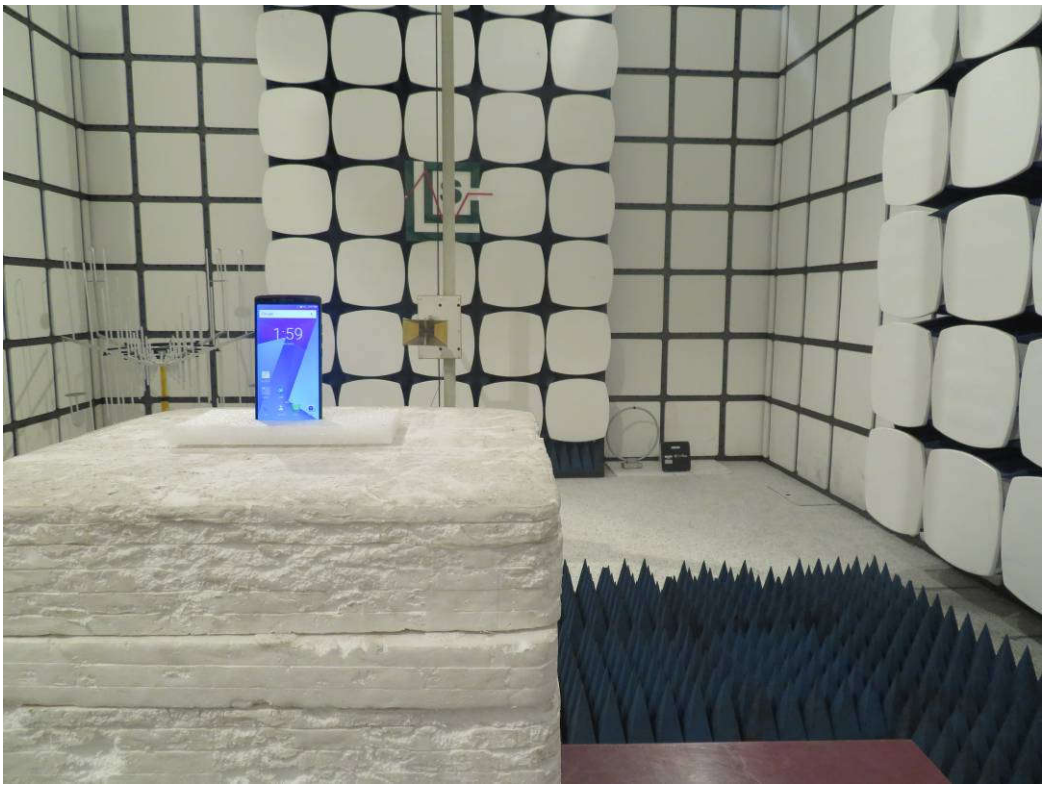
—: Not test.

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# 4. PHOTOGRAPHS OF TEST SETUP



Blow 1GHz



Above 1GHz

***The conducted power measurement results for LTE***

***LTE-BAND1***

| Channel Bandwidth | Channel | RB allocation | | Average Power (dBm) QPSK | Average Power (dBm) 16-QAM |
|---|---|---|---|---|---|
| | | RB Size | RB Offset | | |
| 5 MHz | Low range | 1 | 0 | 22.65 | 21.65 |
| | | | max | 22.67 | 21.76 |
| | | Partial | 0 | 22.69 | 21.70 |
| | | | max | 22.71 | 21.84 |
| | Mid range | 1 | 0 | 22.72 | 21.78 |
| | | | max | 22.73 | 21.85 |
| | | Partial | 0 | **22.78** | 21.91 |
| | | | max | 22.69 | 21.74 |
| | High range | 1 | 0 | 22.68 | 21.71 |
| | | | max | 22.57 | 21.60 |
| | | Partial | 0 | 22.54 | 21.71 |
| | | | max | 22.58 | 21.77 |
| 20MHz | Low range | 1 | 0 | 22.56 | 21.73 |
| | | | max | 22.56 | 21.76 |
| | | Partial | 0 | 22.55 | 21.68 |
| | | | max | 22.62 | 21.74 |
| | Mid range | 1 | 0 | 22.60 | 21.60 |
| | | | max | 22.56 | 21.48 |
| | | Partial | 0 | 22.50 | 21.41 |
| | | | max | 22.41 | 21.33 |
| | High range | 1 | 0 | 22.43 | 21.42 |
| | | | max | 22.50 | 21.50 |
| | | Partial | 0 | 22.59 | 21.59 |
| | | | max | 22.54 | 21.58 |

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***LTE-BAND3***

| Channel Bandwidth | Channel | RB allocation | | Average Power (dBm) QPSK | Average Power (dBm) 16-QAM |
|---|---|---|---|---|---|
| | | RB Size | RB Offset | | |
| 1.4MHz | Low range | 1 | 0 | 22.60 | 21.68 |
| | | | max | **22.69** | 21.86 |
| | | Partial | 0 | 22.57 | 21.58 |
| | | | max | 22.66 | 21.66 |
| | Mid range | 1 | 0 | 22.61 | 21.63 |
| | | | max | 22.58 | 21.77 |
| | | Partial | 0 | 22.55 | 21.60 |
| | | | max | 22.51 | 21.63 |
| | High range | 1 | 0 | 22.52 | 21.55 |
| | | | max | 22.49 | 21.57 |
| | | Partial | 0 | 22.44 | 21.59 |
| | | | max | 22.50 | 21.62 |
| 5 MHz | Low range | 1 | 0 | 22.58 | 21.62 |
| | | | max | 22.52 | 21.71 |
| | | Partial | 0 | 22.48 | 21.66 |
| | | | max | 22.49 | 21.58 |
| | Mid range | 1 | 0 | 22.49 | 21.47 |
| | | | max | 22.45 | 21.38 |
| | | Partial | 0 | 22.37 | 21.32 |
| | | | max | 22.35 | 21.29 |
| | High range | 1 | 0 | 22.41 | 21.45 |
| | | | max | 22.32 | 21.32 |
| | | Partial | 0 | 22.43 | 21.33 |
| | | | max | 22.42 | 21.39 |
| 20MHz | Low range | 1 | 0 | 22.61 | 21.67 |
| | | | max | 22.58 | 21.64 |
| | | Partial | 0 | 22.60 | 21.72 |
| | | | max | 22.53 | 21.60 |
| | Mid range | 1 | 0 | 22.61 | 21.62 |
| | | | max | 22.65 | 21.78 |
| | | Partial | 0 | 22.51 | 21.56 |
| | | | max | 22.65 | 21.66 |
| | High range | 1 | 0 | 22.40 | 21.48 |
| | | | max | 22.50 | 21.65 |
| | | Partial | 0 | 22.57 | 21.73 |
| | | | max | 22.54 | 21.55 |

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***LTE-BAND7***

| Channel Bandwidth | Channel | RB allocation | | Average Power (dBm) QPSK | Average Power (dBm) 16-QAM |
|---|---|---|---|---|---|
| | | RB Size | RB Offset | | |
| 5 MHz | Low range | 1 | 0 | **22.98** | 22.06 |
| | | | max | 22.86 | 21.87 |
| | | Partial | 0 | 22.88 | 22.06 |
| | | | max | 22.80 | 21.91 |
| | Mid range | 1 | 0 | 22.81 | 21.82 |
| | | | max | 22.92 | 21.98 |
| | | Partial | 0 | 22.82 | 21.94 |
| | | | max | 22.98 | 22.17 |
| | High range | 1 | 0 | 22.83 | 21.95 |
| | | | max | 22.88 | 22.00 |
| | | Partial | 0 | 22.88 | 21.96 |
| | | | max | 22.72 | 21.85 |
| 20MHz | Low range | 1 | 0 | 22.81 | 21.85 |
| | | | max | 22.81 | 22.00 |
| | | Partial | 0 | 22.72 | 21.80 |
| | | | max | 22.80 | 21.96 |
| | Mid range | 1 | 0 | 22.70 | 21.61 |
| | | | max | 22.61 | 21.68 |
| | | Partial | 0 | 22.60 | 21.53 |
| | | | max | 22.68 | 21.59 |
| | High range | 1 | 0 | 22.60 | 21.61 |
| | | | max | 22.74 | 21.65 |
| | | Partial | 0 | 22.68 | 21.61 |
| | | | max | 22.70 | 21.76 |

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***LTE-BAND8***

| Channel Bandwidth | Channel | RB allocation | | Average Power (dBm) QPSK | Average Power (dBm) 16-QAM |
|---|---|---|---|---|---|
| | | RB Size | RB Offset | | |
| 1.4 MHz | Low range | 1 | 0 | 23.38 | 22.49 |
| | | | max | 23.46 | 22.55 |
| | | Partial | 0 | 23.44 | 22.48 |
| | | | max | **23.47** | 22.58 |
| | Mid range | 1 | 0 | 23.32 | 22.45 |
| | | | max | 23.37 | 22.44 |
| | | Partial | 0 | 23.39 | 22.40 |
| | | | max | 23.37 | 22.50 |
| | High range | 1 | 0 | 23.28 | 22.44 |
| | | | max | 23.29 | 22.31 |
| | | Partial | 0 | 23.26 | 22.40 |
| | | | max | 23.24 | 22.43 |
| 5 MHz | Low range | 1 | 0 | 23.29 | 22.39 |
| | | | max | 23.39 | 22.44 |
| | | Partial | 0 | 23.27 | 22.33 |
| | | | max | 23.30 | 22.30 |
| | Mid range | 1 | 0 | 23.27 | 22.24 |
| | | | max | 23.19 | 22.11 |
| | | Partial | 0 | 23.25 | 22.34 |
| | | | max | 23.22 | 22.13 |
| | High range | 1 | 0 | 23.18 | 22.14 |
| | | | max | 23.14 | 22.22 |
| | | Partial | 0 | 23.12 | 22.12 |
| | | | max | 23.21 | 22.23 |
| 10MHz | Low range | 1 | 0 | 23.38 | 22.49 |
| | | | max | 23.46 | 22.55 |
| | | Partial | 0 | 23.44 | 22.48 |
| | | | max | 23.43 | 22.58 |
| | Mid range | 1 | 0 | 23.32 | 22.45 |
| | | | max | 23.37 | 22.44 |
| | | Partial | 0 | 23.39 | 22.40 |
| | | | max | 23.37 | 22.50 |
| | High range | 1 | 0 | 23.28 | 22.44 |
| | | | max | 23.29 | 22.31 |
| | | Partial | 0 | 23.26 | 22.40 |
| | | | max | 23.24 | 22.43 |

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***LTE-BAND20***

| Channel Bandwidth | Channel | RB allocation | | Average Power (dBm) QPSK | Average Power (dBm) 16-QAM |
|---|---|---|---|---|---|
| | | RB Size | RB Offset | | |
| 5 MHz | Low range | 1 | 0 | 22.65 | 21.65 |
| | | | max | 22.67 | 21.76 |
| | | Partial | 0 | 22.69 | 21.70 |
| | | | max | 22.71 | 21.84 |
| | Mid range | 1 | 0 | 22.72 | 21.78 |
| | | | max | 22.73 | 21.85 |
| | | Partial | 0 | **22.78** | 21.91 |
| | | | max | 22.69 | 21.74 |
| | High range | 1 | 0 | 22.68 | 21.71 |
| | | | max | 22.57 | 21.60 |
| | | Partial | 0 | 22.54 | 21.71 |
| | | | max | 22.58 | 21.77 |
| 20MHz | Low range | 1 | 0 | 22.56 | 21.73 |
| | | | max | 22.56 | 21.76 |
| | | Partial | 0 | 22.55 | 21.68 |
| | | | max | 22.62 | 21.74 |
| | Mid range | 1 | 0 | 22.60 | 21.60 |
| | | | max | 22.56 | 21.48 |
| | | Partial | 0 | 22.50 | 21.41 |
| | | | max | 22.41 | 21.33 |
| | High range | 1 | 0 | 22.43 | 21.42 |
| | | | max | 22.50 | 21.50 |
| | | Partial | 0 | 22.59 | 21.59 |
| | | | max | 22.54 | 21.58 |

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# Annex of Radiated spurious emission

Radiated spurious emissions - MS allocated a channel(Worst Case)

| LTE Band 1(5MHz, RB allocation=25): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 58.65 | Horizontal | -86.21 | -36.00 | Pass |
| 803.64 | H | -74.72 | -36.00 | |
| 3900.33 | H | -59.13 | -30.00 | |
| 5849.88 | H | -47.79 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 62.83 | Vertical | -73.98 | -36.00 | Pass |
| 923.27 | V | -79.61 | -36.00 | |
| 3901.22 | V | -61.91 | -30.00 | |
| 5853.60 | V | -54.03 | -30.00 | |

| LTE Band 1(5MHz, RB allocation=1): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 55.15 | Horizontal | -82.61 | -36.00 | Pass |
| 808.55 | H | -75.01 | -36.00 | |
| 3900.20 | H | -58.87 | -30.00 | |
| 5855.19 | H | -50.52 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 66.28 | Vertical | -78.05 | -36.00 | Pass |
| 919.28 | V | -79.03 | -36.00 | |
| 3899.70 | V | -64.28 | -30.00 | |
| 5854.21 | V | -58.13 | -30.00 | |

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| LTE Band 1(20MHz, RB allocation=100): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 54.86 | Horizontal | -86.61 | -36.00 | Pass |
| 804.23 | H | -78.29 | -36.00 | |
| 3901.32 | H | -61.23 | -30.00 | |
| 5849.76 | H | -47.47 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 65.61 | Vertical | -79.17 | -36.00 | Pass |
| 923.77 | V | -76.91 | -36.00 | |
| 3905.78 | V | -62.20 | -30.00 | |
| 5852.88 | V | -53.58 | -30.00 | |

| LTE Band 1(20MHz, RB allocation=1): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 55.10 | Horizontal | -84.46 | -36.00 | Pass |
| 809.36 | H | -80.27 | -36.00 | |
| 3901.03 | H | -63.47 | -30.00 | |
| 5850.52 | H | -53.81 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 63.14 | Vertical | -73.09 | -36.00 | Pass |
| 921.79 | V | -78.31 | -36.00 | |
| 3905.05 | V | -58.16 | -30.00 | |
| 5855.18 | V | -55.89 | -30.00 | |

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| LTE Band 3(1.4MHz, RB allocation=6): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 55.06 | Horizontal | -84.83 | -36.00 | Pass |
| 810.13 | H | -80.18 | -36.00 | |
| 3503.83 | H | -62.18 | -30.00 | |
| 5252.93 | H | -50.89 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 66.55 | Vertical | -76.22 | -36.00 | Pass |
| 923.04 | V | -76.01 | -36.00 | |
| 3504.94 | V | -64.60 | -30.00 | |
| 5253.27 | V | -56.16 | -30.00 | |

| LTE Band 3(1.4MHz, RB allocation=1): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 57.67 | Horizontal | -88.10 | -36.00 | Pass |
| 807.93 | H | -78.55 | -36.00 | |
| 3501.52 | H | -63.81 | -30.00 | |
| 5250.01 | H | -51.17 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 65.16 | Vertical | -77.65 | -36.00 | Pass |
| 922.34 | V | -73.47 | -36.00 | |
| 3504.80 | V | -64.58 | -30.00 | |
| 5250.83 | V | -55.76 | -30.00 | |

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| LTE Band 3(5MHz, RB allocation=25): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 54.89 | Horizontal | -85.52 | -36.00 | Pass |
| 810.68 | H | -77.42 | -36.00 | |
| 3500.32 | H | -65.22 | -30.00 | |
| 5255.22 | H | -51.72 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 68.98 | Vertical | -79.35 | -36.00 | Pass |
| 921.05 | V | -77.63 | -36.00 | |
| 3500.51 | V | -60.23 | -30.00 | |
| 5252.67 | V | -56.65 | -30.00 | |

| LTE Band 3(5MHz, RB allocation=1): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 55.49 | Horizontal | -81.70 | -36.00 | Pass |
| 808.79 | H | -75.39 | -36.00 | |
| 3503.22 | H | -59.10 | -30.00 | |
| 5253.87 | H | -47.11 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 68.85 | Vertical | -77.96 | -36.00 | Pass |
| 921.92 | V | -79.03 | -36.00 | |
| 3503.37 | V | -61.28 | -30.00 | |
| 5256.18 | V | -56.97 | -30.00 | |

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| LTE Band 3(20MHz, RB allocation=100): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 56.92 | Horizontal | -85.55 | -36.00 | Pass |
| 809.24 | H | -76.20 | -36.00 | |
| 3501.01 | H | -60.11 | -30.00 | |
| 5251.09 | H | -52.59 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 63.58 | Vertical | -74.77 | -36.00 | Pass |
| 919.89 | V | -79.59 | -36.00 | |
| 3502.17 | V | -59.87 | -30.00 | |
| 5254.25 | V | -57.04 | -30.00 | |

| LTE Band 3(20MHz, RB allocation=1): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 57.61 | Horizontal | -88.14 | -36.00 | Pass |
| 806.14 | H | -79.05 | -36.00 | |
| 3505.60 | H | -64.36 | -30.00 | |
| 5251.16 | H | -51.62 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 65.12 | Vertical | -79.36 | -36.00 | Pass |
| 923.83 | V | -77.30 | -36.00 | |
| 3506.08 | V | -60.30 | -30.00 | |
| 5256.12 | V | -56.01 | -30.00 | |

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| LTE Band 7(5MHz, RB allocation=25): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 57.02 | Horizontal | -88.08 | -36.00 | Pass |
| 810.17 | H | -74.81 | -36.00 | |
| 5075.47 | H | -63.26 | -30.00 | |
| 7608.20 | H | -54.76 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 61.70 | Vertical | -74.02 | -36.00 | Pass |
| 922.12 | V | -79.14 | -36.00 | |
| 5070.06 | V | -60.46 | -30.00 | |
| 7604.50 | V | -51.33 | -30.00 | |

| LTE Band 7(5MHz, RB allocation=1): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 53.17 | Horizontal | -88.29 | -36.00 | Pass |
| 810.55 | H | -79.32 | -36.00 | |
| 5070.22 | H | -60.53 | -30.00 | |
| 7611.11 | H | -54.93 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 61.69 | Vertical | -73.62 | -36.00 | Pass |
| 921.20 | V | -75.34 | -36.00 | |
| 5073.67 | V | -61.52 | -30.00 | |
| 7608.47 | V | -55.06 | -30.00 | |

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| LTE Band 7(20MHz, RB allocation=100): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 55.65 | Horizontal | -87.04 | -36.00 | Pass |
| 807.62 | H | -78.63 | -36.00 | |
| 5072.49 | H | -61.30 | -30.00 | |
| 7606.26 | H | -52.18 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 61.23 | Vertical | -74.07 | -36.00 | Pass |
| 918.94 | V | -76.20 | -36.00 | |
| 5070.71 | V | -62.60 | -30.00 | |
| 7608.62 | V | -52.36 | -30.00 | |

| LTE Band 7(20MHz, RB allocation=1): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 55.43 | Horizontal | -82.80 | -36.00 | Pass |
| 808.94 | H | -79.85 | -36.00 | |
| 5070.23 | H | -63.28 | -30.00 | |
| 7606.18 | H | -52.08 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 64.12 | Vertical | -79.87 | -36.00 | Pass |
| 925.72 | V | -75.59 | -36.00 | |
| 5075.46 | V | -64.49 | -30.00 | |
| 7610.17 | V | -56.59 | -30.00 | |

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| LTE Band 8(1.4MHz, RB allocation=6): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 55.91 | Horizontal | -81.60 | -36.00 | Pass |
| 805.25 | H | -79.05 | -36.00 | |
| 1798.98 | H | -62.00 | -30.00 | |
| 2695.10 | H | -53.43 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 67.26 | Vertical | -74.02 | -36.00 | Pass |
| 921.58 | V | -73.45 | -36.00 | |
| 1797.04 | V | -62.67 | -30.00 | |
| 2692.06 | V | -58.05 | -30.00 | |

| LTE Band 8(1.4MHz, RB allocation=1): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 54.69 | Horizontal | -87.26 | -36.00 | Pass |
| 805.19 | H | -79.93 | -36.00 | |
| 1798.23 | H | -60.66 | -30.00 | |
| 2696.89 | H | -51.28 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 62.89 | Vertical | -76.81 | -36.00 | Pass |
| 920.83 | V | -75.86 | -36.00 | |
| 1797.23 | V | -61.34 | -30.00 | |
| 2694.05 | V | -52.53 | -30.00 | |

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| LTE Band 8(5MHz, RB allocation=25): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 57.97 | Horizontal | -82.62 | -36.00 | Pass |
| 811.08 | H | -75.00 | -36.00 | |
| 1797.24 | H | -64.67 | -30.00 | |
| 2696.00 | H | -52.71 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 63.46 | Vertical | -78.54 | -36.00 | Pass |
| 919.15 | V | -78.97 | -36.00 | |
| 1797.87 | V | -58.52 | -30.00 | |
| 2698.44 | V | -57.47 | -30.00 | |

| LTE Band 8(5MHz, RB allocation=1): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 59.13 | Horizontal | -83.46 | -36.00 | Pass |
| 810.03 | H | -77.63 | -36.00 | |
| 1794.60 | H | -63.20 | -30.00 | |
| 2694.85 | H | -47.60 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 66.51 | Vertical | -75.63 | -36.00 | Pass |
| 918.89 | V | -76.20 | -36.00 | |
| 1796.97 | V | -63.77 | -30.00 | |
| 2697.68 | V | -55.87 | -30.00 | |

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| LTE Band 8(10MHz, RB allocation=50): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 58.72 | Horizontal | -87.14 | -36.00 | Pass |
| 808.07 | H | -76.22 | -36.00 | |
| 1794.52 | H | -59.48 | -30.00 | |
| 2694.04 | H | -47.22 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 68.56 | Vertical | -73.87 | -36.00 | Pass |
| 922.34 | V | -76.68 | -36.00 | |
| 1797.09 | V | -63.75 | -30.00 | |
| 2694.76 | V | -54.23 | -30.00 | |

| LTE Band 8(10MHz, RB allocation=1): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 55.55 | Horizontal | -87.52 | -36.00 | Pass |
| 811.23 | H | -77.42 | -36.00 | |
| 1794.58 | H | -61.36 | -30.00 | |
| 2693.85 | H | -47.06 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 63.20 | Vertical | -75.53 | -36.00 | Pass |
| 917.91 | V | -79.27 | -36.00 | |
| 1797.11 | V | -61.28 | -30.00 | |
| 2696.46 | V | -56.84 | -30.00 | |

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| LTE Band 20(5MHz, RB allocation=25): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 54.20 | Horizontal | -82.45 | -36.00 | Pass |
| 809.12 | H | -73.82 | -36.00 | |
| 1696.92 | H | -63.24 | -30.00 | |
| 2542.20 | H | -52.57 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 64.32 | Vertical | -79.58 | -36.00 | Pass |
| 920.42 | V | -77.21 | -36.00 | |
| 1698.83 | V | -63.47 | -30.00 | |
| 2547.06 | V | -53.54 | -30.00 | |

| LTE Band 20(5MHz, RB allocation=1): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 58.88 | Horizontal | -85.13 | -36.00 | Pass |
| 809.99 | H | -80.62 | -36.00 | |
| 1699.78 | H | -60.12 | -30.00 | |
| 2541.44 | H | -48.20 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 63.62 | Vertical | -77.92 | -36.00 | Pass |
| 921.48 | V | -75.16 | -36.00 | |
| 1693.55 | V | -60.99 | -30.00 | |
| 2546.97 | V | -52.98 | -30.00 | |

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| LTE Band 20(20MHz, RB allocation=100): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 57.16 | Horizontal | -84.92 | -36.00 | Pass |
| 806.85 | H | -79.98 | -36.00 | |
| 1695.23 | H | -61.73 | -30.00 | |
| 2543.72 | H | -52.80 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 67.14 | Vertical | -73.71 | -36.00 | Pass |
| 919.44 | V | -73.47 | -36.00 | |
| 1694.25 | V | -58.44 | -30.00 | |
| 2540.78 | V | -53.87 | -30.00 | |

| LTE Band 20(20MHz, RB allocation=1): Middle Channel, Normal condition | | | | |
|---|---|---|---|---|
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 58.13 | Horizontal | -83.76 | -36.00 | Pass |
| 806.20 | H | -77.06 | -36.00 | |
| 1695.50 | H | -62.24 | -30.00 | |
| 2546.21 | H | -47.16 | -30.00 | |
| Frequency (MHz) | Radiated Spurious Emission | | Limit (dBm) | Test Result |
| | Polarization | Level(dBm) | | |
| 63.09 | Vertical | -74.87 | -36.00 | Pass |
| 918.12 | V | -75.19 | -36.00 | |
| 1698.68 | V | -60.05 | -30.00 | |
| 2543.99 | V | -58.44 | -30.00 | |

----------THE END OF REPORT----------

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