

Report No.: SZCR210402047303

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# TEST REPORT

**Application No.:** SZCR2104020473AT(ZR/2021/30022)

Applicant: HMD Global Oy

Address of Applicant: Bertel Jungin aukio 9, 02600 Espoo, Finland

Manufacturer: Development Zone, Qingdao, China

Address of Manufacturer: Bertel Jungin aukio 9, 02600 Espoo, Finland

**Equipment Under Test (EUT):** 

EUT Name: Smart Phone
Model No.: TA-1371
Trade Mark: NOKIA

 FCC ID:
 2AJOTTA-1371

 Standard(s):
 47 CFR Part 90

 Date of Receipt:
 2021-04-12

**Date of Test:** 2021-04-14 to 2021-04-28

**Date of Issue:** 2021-04-29

Test Result: Pass\*

Keny Xu EMC Laboratory Manager



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<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.



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|         | Revision Record                     |            |  |          |  |  |  |  |
|---------|-------------------------------------|------------|--|----------|--|--|--|--|
| Version | Version Chapter Date Modifier Remai |            |  |          |  |  |  |  |
| 01      |                                     | 2021-04-29 |  | Original |  |  |  |  |
|         |                                     |            |  |          |  |  |  |  |
|         |                                     |            |  |          |  |  |  |  |

| Authorized for issue by: |                          |  |
|--------------------------|--------------------------|--|
|                          | Leslai                   |  |
|                          | Leo Lai/Project Engineer |  |
|                          | Exic Fu                  |  |
|                          | Eric Fu/Reviewer         |  |



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## **Test Summary**

| Radio Spectrum Matter Part              |                |                                    |          |      |  |  |
|-----------------------------------------|----------------|------------------------------------|----------|------|--|--|
| Item Standard Method Requirement Result |                |                                    |          |      |  |  |
| Field strength of spurious radiation    | 47 CFR Part 90 | ANSI C63.26, KDB<br>971168 D01 v03 | § 90.691 | Pass |  |  |



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## **General Information**

#### 4.1 Details of E.U.T.

| Power supply: | DC 3.87V by internal rechargeable battery which can be charged by AC/DC |
|---------------|-------------------------------------------------------------------------|
|               | adapter                                                                 |

## 4.2 General Description of EUT

| Product Name:               | Smart Phone                                 |                                       |                |  |  |
|-----------------------------|---------------------------------------------|---------------------------------------|----------------|--|--|
| Model No.:                  | TA-1371                                     |                                       |                |  |  |
| Sample Type:                | Portable Device                             |                                       |                |  |  |
| Antenna Type:               | PIFA                                        |                                       |                |  |  |
| Antenna Gain:               | CDMA BC10: -2.80dBi(ANT0); -2.65dBi(ANT1);  |                                       |                |  |  |
| Antenna Gam.                | LTE BAND26: -2.80dBi(ANT0); -2.65dBi(ANT1); |                                       |                |  |  |
| Hardware Version:           | V1.00                                       |                                       |                |  |  |
| Software Version:           | 00WW_1_01A                                  |                                       |                |  |  |
| LTE BAND 26                 | 814 to 824 MHz                              |                                       | 859 to 869 MHz |  |  |
| CDMA BC10                   | 817 to 824 MHz 862 to 869 MHz               |                                       |                |  |  |
| Cupported Channel           | LTE BAND 26                                 | MA A MULTING MULTING MULTING MALINING |                |  |  |
| Supported Channel Bandwidth | (814-824)                                   | ⊠1.4 MHz;⊠3 MHz; ⊠5 MHz; ⊠10 MHz;     |                |  |  |
| Danawatii                   | CDMA BC10                                   | ⊠1.23 MHz                             |                |  |  |

| T. A.M. J. | TV / DV                    | RF Channel  |             |             |  |
|------------|----------------------------|-------------|-------------|-------------|--|
| Test Mode  | TX / RX                    | Low (L)     | Middle (M)  | High (H)    |  |
| CDMA BC10  | Reverse  OMA BC10  Forward | Channel 476 | Channel 580 | Channel 684 |  |
|            |                            | 817.9MHz    | 820.5 MHz   | 823.1 MHz   |  |
|            |                            | Channel 476 | Channel 580 | Channel 684 |  |
|            |                            | 862.9MHz    | 865.5 MHz   | 868.1 MHz   |  |



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| Test Mode      | Bandwidth  | TX / RX  |                  | RF Channel       |                  |
|----------------|------------|----------|------------------|------------------|------------------|
| rest Mode      | Danuwidin  | IA/KA    | Low (L)          | Middle (M)       | High (H)         |
|                |            | TX       | Channel<br>26697 | Channel<br>26740 | Channel<br>26783 |
|                | 1.4MHz     |          | 814.7 MHz        | 819 MHz          | 823.3 MHz        |
|                | 1.41/11 12 | RX       | Channel<br>8697  | Channel<br>8740  | Channel<br>8783  |
|                |            |          | 859.7 MHz        | 864MHz           | 868.3 MHz        |
|                |            | TX       | Channel<br>26705 | Channel<br>26740 | Channel<br>26775 |
|                | 3MHz       |          | 815.5 MHz        | 819 MHz          | 822.5 MHz        |
|                |            | RX       | Channel<br>8705  | Channel<br>8740  | Channel<br>8775  |
| LTE Band<br>26 |            |          | 860.5 MHz        | 864MHz           | 867.5 MHz        |
| (814-824)      | 5MHz       | TX<br>RX | Channel<br>26715 | Channel<br>26740 | Channel<br>26765 |
|                |            |          | 816.5 MHz        | 819 MHz          | 821.5 MHz        |
|                |            |          | Channel<br>8715  | Channel<br>8740  | Channel<br>8755  |
|                |            |          | 861.5 MHz        | 864MHz           | 866.5 MHz        |
|                | TX         | TX       | Channel<br>26740 | Channel<br>26740 | Channel<br>26740 |
|                | 10MHz      |          | 819 MHz          | 819 MHz          | 819 MHz          |
|                | IUIVIEZ    | RX       | Channel<br>8740  | Channel<br>8740  | Channel<br>8740  |
|                |            |          | 864MHz           | 864MHz           | 864MHz           |

4.3 Description of Support Units

| Description                                     | Manufacturer | Model No. | Serial No. |  |  |  |
|-------------------------------------------------|--------------|-----------|------------|--|--|--|
|                                                 |              |           |            |  |  |  |
| The EUT has been tested as an independent unit. |              |           |            |  |  |  |



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### 4.4 Measurement Uncertainty

| Test Item                            | Measurement Uncertainty               |  |
|--------------------------------------|---------------------------------------|--|
| Field strength of spurious radiation | 4.5dB below 1GHz; 4.8dB above<br>1GHz |  |

#### Remark:

The Ulab (lab Uncertainty) is less than Ucispr (CISPR Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

### 4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

### 4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

### A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

#### VCCI

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

#### FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

### • Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

### 4.7 Deviation from Standards

None

### 4.8 Abnormalities from Standard Conditions

None



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# 5 Equipment List

| Field strength of spurious radiation |                                          |                     |              |            |              |  |
|--------------------------------------|------------------------------------------|---------------------|--------------|------------|--------------|--|
| Equipment                            | Manufacturer                             | Model No            | Inventory No | Cal Date   | Cal Due Date |  |
| 3m Semi-Anechoic<br>Chamber          | AUDIX                                    | N/A                 | SEM001-02    | 2021-03-26 | 2024-03-25   |  |
| EXA Signal Analyzer<br>(10Hz-44GHz)  | Agilent Technologies<br>Inc              | N9010A              | SEM004-12    | 2021-02-01 | 2022-01-31   |  |
| Horn Antenna<br>(800MHz-18GHz)       | Rohde & Schwarz                          | HF907               | SEM003-07    | 2021-04-14 | 2024-04-13   |  |
| Horn Antenna<br>(15-40GHz)           | Schwarzbeck                              | BBHA 9170           | SEM003-15    | 2020-11-14 | 2023-11-13   |  |
| Pre-Amplifier<br>(0.1-26.5GHz)       | Compliance<br>Directions Systems<br>Inc. | PAP-0126            | SEM004-11    | 2020-09-23 | 2021-09-22   |  |
| Pre-amplifier (26-<br>40GHz)         | Compliance<br>Directions Systems<br>Inc. | PAP-2640-50         | SEM005-08    | 2021-03-24 | 2022-03-23   |  |
| Measurement Software                 | AUDIX                                    | e3 V8.2014-6-<br>27 | N/A          | N/A        | N/A          |  |
| Coaxial Cable                        | SGS                                      | N/A                 | SEM026-01    | 2020-07-10 | 2021-07-09   |  |
| 3m Semi-Anechoic<br>Chamber          | ETS-LINDGREN                             | N/A                 | SEM001-01    | 2020-07-19 | 2023-07-18   |  |
| MXE EMI Receiver                     | Agilent Technologies                     | N9038A              | SEM004-15    | 2020-11-02 | 2021-11-01   |  |
| BiConiLog Antenna                    | ETS-LINDGREN                             | 3142C               | SEM003-02    | 2019-05-24 | 2022-05-23   |  |
| Pre-Amplifier                        | Agilent Technologies                     | 8447D               | SEM005-01    | 2021-03-24 | 2022-03-23   |  |
| Measurement Software                 | AUDIX                                    | e3 V8.2014-6-<br>27 | N/A          | N/A        | N/A          |  |
| Coaxial Cable                        | SGS                                      | N/A                 | SEM025-01    | 2020-07-10 | 2021-07-09   |  |

| General used equipment             |                                                 |          |              |            |              |  |  |
|------------------------------------|-------------------------------------------------|----------|--------------|------------|--------------|--|--|
| Equipment                          | Manufacturer                                    | Model No | Inventory No | Cal Date   | Cal Due Date |  |  |
| Humidity/ Temperature<br>Indicator | Shanghai<br>Meteorological<br>Industry Factory  | ZJ1-2B   | SEM002-04    | 2020-09-15 | 2021-09-14   |  |  |
| Humidity/ Temperature Indicator    | Mingle                                          | N/A      | SEM002-08    | 2020-09-15 | 2021-09-14   |  |  |
| Barometer                          | Changchun<br>Meteorological<br>Industry Factory | DYM3     | SEM002-01    | 2021-03-30 | 2022-03-29   |  |  |



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#### **Radio Spectrum Matter Test Results** 6

### 6.1 Field strength of spurious radiation

Test Requirement

Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit:

For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation; frequency greater than 37.5KHz, ≤ -13dBm(LTE band 26a)

### 6.1.1 E.U.T. Operation

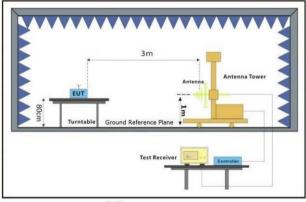
Operating Environment:

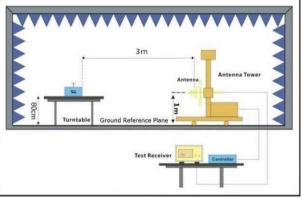
Temperature: 23.6 °C Humidity: 49.3 % RH Atmospheric Pressure: 1050 mbar

6.1.2 Test Mode Description

| Pre-scan /<br>Final test | Mode<br>Code | Description                                           |
|--------------------------|--------------|-------------------------------------------------------|
| Final test               | 00           | CDMA BC10_TX mode_Keep the EUT in transmitting mode   |
| Final test               | 01           | LTE Band 26_TX mode_Keep the EUT in transmitting mode |

### 6.1.3 Test Setup Diagram





EUT

Substiute Antenna+Signal Generator



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#### 6.1.4 Measurement Procedure and Data

Measurement Procedure: FCC KDB 971168 D01 V03r01

### Below 1GHz test procedure as below:

- 1). The EUT was powered ON and placed on a 80cm high table in the chamber. The antenna of the transmitter was extended to its maximum length.
- 2). The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.
- 3). Steps 1) and 2) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.
- 4). The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter.
- 5). A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 2) is obtained for this set of conditions.
- 6). The output power into the substitution antenna was then measured.
- 7). Steps 5) and 6) were repeated with both antennas polarized.
- 8) Calculate power in dBm by the following formula:

ERP(dBm) = Pg(dBm) - cable loss (dB) + antenna gain (dBd)

#### Where:

Pd is the dipole equivalent power, Pg 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 Pg [dBm] – cable loss [dB]. The calculated Pd 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]).

### Above 1GHz test procedure as below:

- Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber
- 2) Calculate power in dBm by the following formula:

EIRP(dBm) = Pg(dBm) - cable loss (dB) + antenna gain (dBi)

EIRP=ERP+2.15dB

### Where:

Pg is the generator output power into the substitution antenna.

- 3. Test the EUT in the lowest channel, the middle channel the Highest channel
- 4. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.
- 5. Repeat above procedures until all frequencies measured was complete

The emission below 1GHz is very low, so only record the worst case in the report



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### CDMA BC10 (817 to 824MHz)

#### Low

| Frequency<br>(MHz) | ERP<br>(dBm) | Limit<br>(dBm) | Over Limit<br>(dB) | S.G. Power<br>(dBm) | Cable loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|--------------------|--------------|----------------|--------------------|---------------------|--------------------|--------------------------|-----------------------|--------|
| 1725.8             | -56.99       | -13            | -43.99             | -60.32              | 0.52               | 6                        | Horizontal            | Pass   |
| 2588.7             | -53.31       | -13            | -40.31             | -55.87              | 0.59               | 5.3                      | Horizontal            | Pass   |
| 3451.6             | -49.53       | -13            | -36.53             | -52.93              | 0.65               | 6.2                      | Horizontal            | Pass   |
| 1725.8             | -57.48       | -13            | -44.48             | -60.81              | 0.52               | 6                        | Vertical              | Pass   |
| 2588.7             | -54.04       | -13            | -41.04             | -56.6               | 0.59               | 5.3                      | Vertical              | Pass   |
| 3451.6             | -49.14       | -13            | -36.14             | -52.54              | 0.65               | 6.2                      | Vertical              | Pass   |

| Frequency<br>(MHz) | ERP(d<br>Bm) | Limit(d<br>Bm) | Over Limit<br>(dB) | S.G. Power<br>(dBm) | Cable loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|--------------------|--------------|----------------|--------------------|---------------------|--------------------|--------------------------|-----------------------|--------|
| 1731               | -55.85       | -13            | -42.85             | -59.18              | 0.52               | 6                        | Horizontal            | Pass   |
| 2596.5             | -52.82       | -13            | -39.82             | -55.38              | 0.59               | 5.3                      | Horizontal            | Pass   |
| 3462               | -48.99       | -13            | -35.99             | -52.39              | 0.65               | 6.2                      | Horizontal            | Pass   |
| 1731               | -54.1        | -13            | -41.1              | -57.43              | 0.52               | 6                        | Vertical              | Pass   |
| 2596.5             | -52.44       | -13            | -39.44             | -55                 | 0.59               | 5.3                      | Vertical              | Pass   |
| 3462               | -47.85       | -13            | -34.85             | -51.25              | 0.65               | 6.2                      | Vertical              | Pass   |

| Frequency<br>(MHz) | ERP(d<br>Bm) | Limit(d<br>Bm) | Over Limit<br>(dB) | S.G. Power<br>(dBm) | Cable loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|--------------------|--------------|----------------|--------------------|---------------------|--------------------|--------------------------|-----------------------|--------|
| 1736.2             | -56.81       | -13            | -43.81             | -60.14              | 0.52               | 6                        | Horizontal            | Pass   |
| 2604.3             | -52.81       | -13            | -39.81             | -55.37              | 0.59               | 5.3                      | Horizontal            | Pass   |
| 3472.4             | -49.25       | -13            | -36.25             | -52.65              | 0.65               | 6.2                      | Horizontal            | Pass   |
| 1736.2             | -56.45       | -13            | -43.45             | -59.78              | 0.52               | 6                        | Vertical              | Pass   |
| 2604.3             | -53.36       | -13            | -40.36             | -55.92              | 0.59               | 5.3                      | Vertical              | Pass   |
| 3472.4             | -49.34       | -13            | -36.34             | -52.74              | 0.65               | 6.2                      | Vertical              | Pass   |



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### LTE Band 26 (814 to 824MHz), 1.4M

Low

| Frequency<br>(MHz) | ERP<br>(dBm) | Limit<br>(dBm) | Over Limit<br>(dB) | S.G. Power<br>(dBm) | Cable loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|--------------------|--------------|----------------|--------------------|---------------------|--------------------|--------------------------|-----------------------|--------|
| 1628.3             | -46.61       | -13            | -33.61             | -49.94              | 0.52               | 6                        | Horizontal            | Pass   |
| 2442.45            | -59.27       | -13            | -46.27             | -62.39              | 0.53               | 5.8                      | Horizontal            | Pass   |
| 3256.6             | -53.49       | -13            | -40.49             | -56.89              | 0.65               | 6.2                      | Horizontal            | Pass   |
| 1628.3             | -54.22       | -13            | -41.22             | -57.55              | 0.52               | 6                        | Vertical              | Pass   |
| 2442.45            | -58.31       | -13            | -45.31             | -61.43              | 0.53               | 5.8                      | Vertical              | Pass   |
| 3256.6             | -53.33       | -13            | -40.33             | -56.73              | 0.65               | 6.2                      | Vertical              | Pass   |

| Frequency<br>(MHz) | ERP(d<br>Bm) | Limit(d<br>Bm) | Over Limit<br>(dB) | S.G. Power<br>(dBm) | Cable loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|--------------------|--------------|----------------|--------------------|---------------------|--------------------|--------------------------|-----------------------|--------|
| 1628.3             | -48.26       | -13            | -35.26             | -51.59              | 0.52               | 6                        | Horizontal            | Pass   |
| 2442.45            | -58.01       | -13            | -45.01             | -61.13              | 0.53               | 5.8                      | Horizontal            | Pass   |
| 3256.6             | -53.51       | -13            | -40.51             | -56.91              | 0.65               | 6.2                      | Horizontal            | Pass   |
| 1628.3             | -52.5        | -13            | -39.5              | -55.83              | 0.52               | 6                        | Vertical              | Pass   |
| 2442.45            | -58.69       | -13            | -45.69             | -61.81              | 0.53               | 5.8                      | Vertical              | Pass   |
| 3256.6             | -52.74       | -13            | -39.74             | -56.14              | 0.65               | 6.2                      | Vertical              | Pass   |

| Frequency<br>(MHz) | ERP(d<br>Bm) | Limit(d<br>Bm) | Over Limit<br>(dB) | S.G. Power<br>(dBm) | Cable loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|--------------------|--------------|----------------|--------------------|---------------------|--------------------|--------------------------|-----------------------|--------|
| 1642.3             | -48.76       | -13            | -35.76             | -52.09              | 0.52               | 6                        | Horizontal            | Pass   |
| 2463.45            | -57.32       | -13            | -44.32             | -60.44              | 0.53               | 5.8                      | Horizontal            | Pass   |
| 3284.6             | -53.26       | -13            | -40.26             | -56.66              | 0.65               | 6.2                      | Horizontal            | Pass   |
| 1642.3             | -52.75       | -13            | -39.75             | -56.08              | 0.52               | 6                        | Vertical              | Pass   |
| 2463.45            | -58.25       | -13            | -45.25             | -61.37              | 0.53               | 5.8                      | Vertical              | Pass   |
| 3284.6             | -52.97       | -13            | -39.97             | -56.37              | 0.65               | 6.2                      | Vertical              | Pass   |



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### LTE Band 26 (814 to 824MHz), 3M

| Frequency<br>(MHz) | ERP<br>(dBm) | Limit<br>(dBm) | Over Limit<br>(dB) | S.G.<br>Power<br>(dBm) | Cable<br>loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|--------------------|--------------|----------------|--------------------|------------------------|-----------------------|--------------------------|-----------------------|--------|
| 1628.3             | -46.61       | -13            | -33.61             | -49.94                 | 0.52                  | 6                        | Horizontal            | Pass   |
| 2442.45            | -59.27       | -13            | -46.27             | -62.39                 | 0.53                  | 5.8                      | Horizontal            | Pass   |
| 3256.6             | -53.49       | -13            | -40.49             | -56.89                 | 0.65                  | 6.2                      | Horizontal            | Pass   |
| 1628.3             | -54.22       | -13            | -41.22             | -57.55                 | 0.52                  | 6                        | Vertical              | Pass   |
| 2442.45            | -58.31       | -13            | -45.31             | -61.43                 | 0.53                  | 5.8                      | Vertical              | Pass   |
| 3256.6             | -53.33       | -13            | -40.33             | -56.73                 | 0.65                  | 6.2                      | Vertical              | Pass   |

| Frequency<br>(MHz) | ERP(d<br>Bm) | Limit(dBm | Over Limit<br>(dB) | S.G.<br>Power<br>(dBm) | Cable<br>loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|--------------------|--------------|-----------|--------------------|------------------------|-----------------------|--------------------------|-----------------------|--------|
| 1628.3             | -48.26       | -13       | -35.26             | -51.59                 | 0.52                  | 6                        | Horizontal            | Pass   |
| 2442.45            | -58.01       | -13       | -45.01             | -61.13                 | 0.53                  | 5.8                      | Horizontal            | Pass   |
| 3256.6             | -53.51       | -13       | -40.51             | -56.91                 | 0.65                  | 6.2                      | Horizontal            | Pass   |
| 1628.3             | -52.5        | -13       | -39.5              | -55.83                 | 0.52                  | 6                        | Vertical              | Pass   |
| 2442.45            | -58.69       | -13       | -45.69             | -61.81                 | 0.53                  | 5.8                      | Vertical              | Pass   |
| 3256.6             | -52.74       | -13       | -39.74             | -56.14                 | 0.65                  | 6.2                      | Vertical              | Pass   |

| Frequency<br>(MHz) | ERP(d<br>Bm) | Limit(dBm | Over Limit<br>(dB) | S.G.<br>Power<br>(dBm) | Cable<br>loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|--------------------|--------------|-----------|--------------------|------------------------|-----------------------|--------------------------|-----------------------|--------|
| 1642.3             | -48.76       | -13       | -35.76             | -52.09                 | 0.52                  | 6                        | Horizontal            | Pass   |
| 2463.45            | -57.32       | -13       | -44.32             | -60.44                 | 0.53                  | 5.8                      | Horizontal            | Pass   |
| 3284.6             | -53.26       | -13       | -40.26             | -56.66                 | 0.65                  | 6.2                      | Horizontal            | Pass   |
| 1642.3             | -52.75       | -13       | -39.75             | -56.08                 | 0.52                  | 6                        | Vertical              | Pass   |
| 2463.45            | -58.25       | -13       | -45.25             | -61.37                 | 0.53                  | 5.8                      | Vertical              | Pass   |
| 3284.6             | -52.97       | -13       | -39.97             | -56.37                 | 0.65                  | 6.2                      | Vertical              | Pass   |



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### LTE Band 26 (814 to 824MHz), 5M

Low

| Frequency<br>(MHz) | ERP<br>(dBm) | Limit<br>(dBm) | Over Limit<br>(dB) | S.G.<br>Power<br>(dBm) | Cable<br>loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|--------------------|--------------|----------------|--------------------|------------------------|-----------------------|--------------------------|-----------------------|--------|
| 1628.5             | -49.35       | -13            | -36.35             | -52.68                 | 0.52                  | 6                        | Horizontal            | Pass   |
| 2442.75            | -59.26       | -13            | -46.26             | -62.38                 | 0.53                  | 5.8                      | Horizontal            | Pass   |
| 3257               | -53.64       | -13            | -40.64             | -57.04                 | 0.65                  | 6.2                      | Horizontal            | Pass   |
| 1628.5             | -49.56       | -13            | -36.56             | -52.89                 | 0.52                  | 6                        | Vertical              | Pass   |
| 2442.75            | -59.07       | -13            | -46.07             | -62.19                 | 0.53                  | 5.8                      | Vertical              | Pass   |
| 3257               | -53.4        | -13            | -40.4              | -56.8                  | 0.65                  | 6.2                      | Vertical              | Pass   |

| Frequency<br>(MHz) | ERP(d<br>Bm) | Limit(dBm | Over Limit<br>(dB) | S.G.<br>Power<br>(dBm) | Cable<br>loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|--------------------|--------------|-----------|--------------------|------------------------|-----------------------|--------------------------|-----------------------|--------|
| 1633.5             | -50.92       | -13       | -37.92             | -54.25                 | 0.52                  | 6                        | Horizontal            | Pass   |
| 2450.25            | -58.41       | -13       | -45.41             | -61.53                 | 0.53                  | 5.8                      | Horizontal            | Pass   |
| 3267               | -53.54       | -13       | -40.54             | -56.94                 | 0.65                  | 6.2                      | Horizontal            | Pass   |
| 1633.5             | -55.64       | -13       | -42.64             | -58.97                 | 0.52                  | 6                        | Vertical              | Pass   |
| 2450.25            | -58.27       | -13       | -45.27             | -61.39                 | 0.53                  | 5.8                      | Vertical              | Pass   |
| 3267               | -52.47       | -13       | -39.47             | -55.87                 | 0.65                  | 6.2                      | Vertical              | Pass   |

| Frequency<br>(MHz) | ERP(d<br>Bm) | Limit(dBm | Over Limit<br>(dB) | S.G.<br>Power<br>(dBm) | Cable<br>loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|--------------------|--------------|-----------|--------------------|------------------------|-----------------------|--------------------------|-----------------------|--------|
| 1638.5             | -52.68       | -13       | -39.68             | -56.01                 | 0.52                  | 6                        | Horizontal            | Pass   |
| 2457.75            | -57.36       | -13       | -44.36             | -60.48                 | 0.53                  | 5.8                      | Horizontal            | Pass   |
| 3277               | -53.97       | -13       | -40.97             | -57.37                 | 0.65                  | 6.2                      | Horizontal            | Pass   |
| 1638.5             | -52.4        | -13       | -39.4              | -55.73                 | 0.52                  | 6                        | Vertical              | Pass   |
| 2457.75            | -57.22       | -13       | -44.22             | -60.34                 | 0.53                  | 5.8                      | Vertical              | Pass   |
| 3277               | -53.69       | -13       | -40.69             | -57.09                 | 0.65                  | 6.2                      | Vertical              | Pass   |



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LTE Band 26 (814 to 824MHz), 10M

| Frequency<br>(MHz) | ERP<br>(dBm) | Limit<br>(dBm) | Over Limit<br>(dB) | S.G.<br>Power<br>(dBm) | Cable<br>loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|--------------------|--------------|----------------|--------------------|------------------------|-----------------------|--------------------------|-----------------------|--------|
| 407.09             | -48.97       | -13            | -38.27             | -54.6                  | 0.37                  | 4.6                      | Horizontal            | Pass   |
| 1629               | -51.27       | -13            | -38.27             | -54.6                  | 0.52                  | 6                        | Horizontal            | Pass   |
| 2443.5             | -58.08       | -13            | -45.08             | -61.2                  | 0.53                  | 5.8                      | Horizontal            | Pass   |
| 3258               | -54.05       | -13            | -41.05             | -57.45                 | 0.65                  | 6.2                      | Horizontal            | Pass   |
| 1629               | -46.58       | -13            | -33.58             | -49.91                 | 0.52                  | 6                        | Vertical              | Pass   |
| 2443.5             | -57.66       | -13            | -44.66             | -60.78                 | 0.53                  | 5.8                      | Vertical              | Pass   |
| 3258               | -53.1        | -13            | -40.1              | -56.5                  | 0.65                  | 6.2                      | Vertical              | Pass   |





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## 7 Test Setup Photo

Please refer to setup photos.

# 8 EUT Constructional Details (EUT Photos)

Refer to external and internal photos.

- End of the Report -



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