



RADIO TEST REPORT

EN 301 908-1 V13.1.1 (2019-11)

EN 301 908-2 V13.1.1 (2020-06)

Product : Smartphone

Trade Mark : CUBOT

Model Name : J10

Family Model : N/A

Report No. : S21080400505004

Prepared for

Shenzhen Huafurui Technology Co., Ltd.

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TEST RESULT CERTIFICATION

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Product description

Product name Smartphone
Trademark CUBOT
Model Name J10

Family Model N/A

Standards EN 301 908-1 V13.1.1 (2019-11)
EN 301 908-2 V13.1.1 (2020-06)

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the of Radio Equipment Regulations (SI 2017/1206) requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test

Date (s) of performance of tests Aug 05, 2021 ~Sep 07, 2021

Date of Issue Sep 08, 2021

Test Result **Pass**

Testing Engineer :



(Allen Liu)

Authorized Signatory :



(Alex Li)

Table of Contents

Page

| | |
|---|----|
| 1 . SUMMARY OF TEST RESULTS | 5 |
| 1.1 TEST FACILITY | 6 |
| 1.2 MEASUREMENT UNCERTAINTY | 6 |
| 2 . GENERAL INFORMATION | 7 |
| 2.1 GENERAL DESCRIPTION OF EUT | 7 |
| 2.2 LIST OF TEST EQUIPMENTS | 8 |
| 2.3 TEST ENVIRONMENT/CONDITIONS | 9 |
| 2.4 TEST Mode | 10 |
| 3 . SUMMARY OF TEST REPORT | 11 |
| 4. TEST PROCEDURES AND RESULTLS | 12 |
| 4.1 TERMS IN THE COLUMN “VERDICT” FOR THE TEST RESULTS LIST OF THISSECTION: | 12 |
| 4.2 TABLE 1 EN REQUIREMENTS TABLE | 12 |
| 4.3 EN 301 908-1 | 14 |
| §4.3.1 – RADIATED EMISSIONS (UE) | 14 |
| Applicable Standard & Limits | 14 |
| Test Procedure | 14 |
| Test Data | 14 |
| §4.3.2 –Control and monitoring functions (UE) | 19 |
| Definition & Limits | 19 |
| Test method | 19 |
| Test Data | 19 |
| §4.3.3 —Out-of-synchronization handling of output power | 20 |
| Test Procedure | 21 |
| Test Data | 21 |
| 5. PHOTOGRAPHS OF THE TEST SETUP | 22 |

Revision History

[illegible]

1. SUMMARY OF TEST RESULTS

Leading Reference Documents For Testing:

| No. | Identity | Document Title |
|-----|--------------|---|
| 1 | EN 301 908-1 | IMT cellular networks; Harmonised Standard covering the essential requirements of Radio Equipment Regulations (SI 2017/1206); Part 1: Introduction and common requirements |
| 2 | EN 301 908-2 | IMT cellular networks; Harmonised Standard covering the essential requirements of Radio Equipment Regulations (SI 2017/1206); Part 2: CDMA Direct Spread (UTRA FDD) User Equipment (UE) |

Specific Reference Documents For Testing:

| No. | Identity | Document Title |
|-----|------------------|--|
| 3 | 3GPP TS 34.121-1 | 3 rd Generation Partnership Project; Technical Specification Group Radio Access Network ; Terminal conformance specification; Radio transmission and reception (FDD) |
| 4 | 3GPP TS 34.121-2 | 3 rd Generation Partnership Project; Technical Specification Group Radio Access Network User Equipment (UE) conformance specification; Radio transmission and reception (FDD); Part 2: Implementation Conformance Statement (ICS) |

1.1 TEST FACILITY

Shenzhen NTEK Testing Technology Co., Ltd.

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FCC Registered No.: 463705 IC Registered No.:9270A-1

CNAS Registration No.:L5516

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95 %**.

| No. | Item | Uncertainty |
|-----|------------------------------|---------------------------|
| 1 | Conducted Emission Test | $\pm 0.21\text{dB}$ |
| 2 | RF power,conducted | $\pm 0.16\text{dB}$ |
| 3 | Spurious emissions,conducted | $\pm 0.21\text{dB}$ |
| 4 | All emissions,radiated(<1G) | $\pm 4.68\text{dB}$ |
| 5 | All emissions,radiated(>1G) | $\pm 4.89\text{dB}$ |
| 6 | Temperature | $\pm 0.5^{\circ}\text{C}$ |
| 7 | Humidity | $\pm 2\%$ |

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

| | |
|----------------------|---|
| Equipment : | Smartphone |
| Trade Mark: | CUBOT |
| Model Name: | J10 |
| Family Model: | N/A |
| Model Difference: | N/A |
| Support Band: | <input checked="" type="checkbox"/> WCDMA Band I (2100MHz) <input type="checkbox"/> WCDMA Band II (1900MHz) <input type="checkbox"/> WCDMA Band V (850MHz) <input checked="" type="checkbox"/> WCDMA Band VIII(900MHz) |
| Release Version: | R99 |
| Frequency Bands: | Uplink: WCDMA Band I :1920~1980MHz WCDMA Band VIII:880~915MHz |
| | Downlink: WCDMA Band I :2110~2170MHz WCDMA Band VIII:925~960MHz |
| Modulation Mode: | WCDMA(HSDPA/HSUPA):QPSK |
| Power Class: | 3 |
| Antenna Description: | PIFA antenna (WCDMA 900: 2.36 dBi; WCDMA 2100: 1.08dBi) |
| Battery | DC 3.8V, 2350mAh |
| Adapter | Model:HJ-0501000-UK Input: 100-240V~50/60Hz 0.15A Output: 5.0V---1.0A 5.0W |
| Power Supply | DC 3.8V from battery or DC 5V from Adapter. |
| Hardware Version | B92A_V1.1 |
| Software Version | CUBOT_J10_B081C_V01_20210907 |

2.2 LIST OF TEST EQUIPMENTS

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last calibration | Calibrated until | Calibration period |
|------|--------------------------------------|--------------|-------------|--------------|------------------|------------------|--------------------|
| 1 | Spectrum Analyzer | Agilent | E4407B | MY45108040 | 2021.04.27 | 2022.04.26 | 1 year |
| 2 | Test Receiver | R&S | ESPI7 | 101318 | 2021.04.27 | 2022.04.26 | 1 year |
| 3 | Bilog Antenna | TESEQ | CBL6111D | 31216 | 2021.03.29 | 2022.03.28 | 1 year |
| 4 | 50Ω Coaxial Switch | Anritsu | MP59B | 6200983705 | 2020.05.11 | 2023.05.10 | 3 year |
| 5 | Spectrum Analyzer | Agilent | E4440A | 150900201 | 2021.04.27 | 2022.04.26 | 1 year |
| 6 | Horn Antenna | EM | EM-AH-20180 | 2011071402 | 2021.03.29 | 2022.03.28 | 1 year |
| 7 | Horn Ant | Schwarzbeck | BBHA 9170 | 9170-181 | 2021.04.27 | 2022.04.26 | 1 year |
| 8 | Amplifier | EMC | EMC051835SE | 980246 | 2021.07.01 | 2022.06.30 | 1 year |
| 9 | Loop Antenna | ARA | PLA-2030/B | 1029 | 2021.04.27 | 2022.04.26 | 1 year |
| 10 | Power Meter | R&S | Agilent | E4419B | 2021.07.01 | 2022.06.30 | 1 year |
| 11 | Signal Generator | R&S | SMT 06 | 832080/007 | 2021.07.01 | 2022.06.30 | 1 year |
| 12 | Temperature & Humidity Chamber | GIANT FORCE | GTH-056P | GF-94454-1 | 2021.07.01 | 2022.06.30 | 1 year |
| 13 | Power Sensor (AV) | R&S | URV5-Z4 | 0395.1619.05 | 2021.07.01 | 2022.06.30 | 1 year |
| 14 | Universal radio communication tester | R&S | CMU200 | 1100.008.02 | 2021.04.27 | 2022.04.26 | 1 year |
| 15 | Power Splitter | HP | 11636A | 05914 | 2021.07.01 | 2022.06.30 | 1 year |
| 16 | LTE Wireless Communications Test Set | R&S | CMW500 | 1100.008.02 | 2021.07.01 | 2022.06.30 | 1 year |

2.3 TEST ENVIRONMENT/CONDITIONS

| | |
|---|---|
| Normal Temperature (NT): | 20 ... 25 °C |
| Relative Humidity: | 30 ... 75 % |
| Air Pressure: | 980 ... 1020 hPa |
| Extreme Temperature: | Low Temperature (LT) = -10°C High Temperature (HT) = 40°C |
| Extreme Voltage of the EUT (Declared by manufacturer): | Normal Voltage (NV) = 3.8V Low Voltage (LV) = 3.4V High Voltage (HV) = 4.2V |

Note:

The High Voltage 4.2V and Low Voltage 3.4V was declared by manufacturer, The EUT couldn't be operate normally with higher or lower voltage. The High temperature and Low temperature was declared by manufacturer.

2.4 TEST Mode

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The EUT supports power Class 3, which has a nominal maximum output power of 24 dBm (1.7/-3.7) 12.2kps RMC is used for this testing. Power control set to All bits up. A summary of these settings are illustrated below:

| Test Mode | Test Channel |
|-------------------|--------------|
| WCDMA Band I mode | Low:Ch 9612 |
| | Mid:Ch 9750 |
| | High:Ch 9888 |

| Test Mode | Test Channel |
|----------------------|--------------|
| WCDMA Band VIII mode | Low:Ch 2712 |
| | Mid:Ch 2788 |
| | High:Ch 2863 |

3. SUMMARY OF TEST REPORT

| EN 301 908-1 | Description of Test | Test Result |
|--------------|---------------------------------------|-------------|
| §4.2.2 | Radiated emissions (UE) | Pass |
| §4.2.3 | Radiated emissions (BS and repeater) | N/A |
| §4.2.4 | Control and monitoring functions (UE) | Pass |

| EN 301 908-2 | Description of Test | Test Result |
|--------------|---|-------------|
| §4.2.2 | Transmitter maximum output power | Pass |
| §4.2.3 | Transmitter spectrum emission mask | Pass |
| §4.2.4 | Transmitter spurious emissions | Pass |
| §4.2.5 | Transmitter minimum output power | Pass |
| §4.2.6 | Receiver Adjacent Channel Selectivity (ACS) | Pass |
| §4.2.7 | Receiver blocking characteristics | Pass |
| §4.2.8 | Receiver spurious response | Pass |
| §4.2.9 | Receiver intermodulation characteristics | Pass |
| §4.2.10 | Receiver spurious emissions | Pass |
| §4.2.11 | Out-of-synchronization handling of output power | Pass |
| §4.2.12 | Transmitter Adjacent Channel Leakage power Ratio (ACLR) | Pass |
| §4.2.13 | Receiver Reference Sensitivity level | Pass |

Note:

- (1) N/A: Test not applicable
- (2) PASS: EUT Pass this test case

4. TEST PROCEDURES AND RESULTS

4.1 TERMS IN THE COLUMN "VERDICT" FOR THE TEST RESULTS LIST OF THIS SECTION:

| Verdict | Description |
|---------|--|
| PASS | EUT passed this test case |
| FAIL | EUT failed this test case |
| Decl. | "Declaration": NTEK has received documents from the applicant and/or manufacturer which show conformity to the applied standards for this test case. |
| N/A | Test case not applicable for the EUT, please see the column "Note" for detailed |

4.2 TABLE 1 EN REQUIREMENTS TABLE

| Testcase in ETSI EN 301 908-2 | Description | Condition | Band I | | Band VIII | | Test Data |
|-------------------------------------|---|-----------|--------|--------|-----------|--------|------------------------------|
| | | | Sample | Result | Sample | Result | |
| Section 4.2.2 | Transmitter maximum output power | NT / NV | A01 | PASS | A01 | PASS | Appendix A - WCDMA -Normal |
| | | LT / LV | A01 | PASS | A01 | PASS | Appendix B - WCDMA -Extreme |
| | | LT / HV | A01 | PASS | A01 | PASS | Appendix B - WCDMA -Extreme |
| | | HT / LV | A01 | PASS | A01 | PASS | Appendix B - WCDMA -Extreme |
| | | HT / HV | A01 | PASS | A01 | PASS | Appendix B - WCDMA -Extreme |
| Section 4.2.3 | Transmitter spectrum emission mask | NT / NV | A01 | PASS | A01 | PASS | Appendix A - WCDMA -Normal |
| Section 4.2.4 | Transmitter spurious emissions | NT / NV | A01 | PASS | A01 | PASS | Appendix A - WCDMA -Normal |
| Section 4.2.5 | Transmitter minimum output power | NT / NV | A01 | PASS | A01 | PASS | Appendix A - WCDMA -Normal |
| | | LT / LV | A01 | PASS | A01 | PASS | Appendix B - WCDMA -Extreme |
| | | LT / HV | A01 | PASS | A01 | PASS | Appendix B - WCDMA -Extreme |
| | | HT / LV | A01 | PASS | A01 | PASS | Appendix B - WCDMA -Extreme |
| | | HT / HV | A01 | PASS | A01 | PASS | Appendix B - WCDMA -Extreme |
| Section 4.2.6 | Receiver Adjacent Channel Selectivity (ACS) | NT / NV | A01 | PASS | A01 | PASS | Appendix A - WCDMA -Normal |
| Section 4.2.7 | Receiver blocking characteristics | NT / NV | A01 | PASS | A01 | PASS | Appendix C - WCDMA -blocking |

| Testcase in ETSI EN 301 908-2 | Description | Condition | Band I | | Band VIII | | Test Data |
|-------------------------------------|---|-----------|--------|--------|-----------|--------|----------------------------------|
| | | | Sample | Result | Sample | Result | |
| Section 4.2.8 | Receiver spurious response | NT / NV | A01 | PASS | A01 | PASS | Appendix A - WCDMA -Normal |
| Section 4.2.9 | Receiver intermodulation characteristics | NT / NV | A01 | PASS | A01 | PASS | Appendix A - WCDMA -Normal |
| Section 4.2.10 | Receiver spurious emissions | NT / NV | A01 | PASS | A01 | PASS | Appendix A - WCDMA -Normal |
| Section 4.2.11 | Out-of-synchronization handling of output power | NT / NV | A01 | PASS | A01 | PASS | See section 4.3.3 of this report |
| Section 4.2.12 | Transmitter Adjacent Channel Leakage power Ratio (ACLR) | NT / NV | A01 | PASS | A01 | PASS | Appendix A - WCDMA -Normal |
| | | LT / LV | A01 | PASS | A01 | PASS | Appendix B - WCDMA -Extreme |
| | | LT / HV | A01 | PASS | A01 | PASS | Appendix B - WCDMA -Extreme |
| | | HT / LV | A01 | PASS | A01 | PASS | Appendix B - WCDMA -Extreme |
| | | HT / HV | A01 | PASS | A01 | PASS | Appendix B - WCDMA -Extreme |
| Section 4.2.13 | Receiver Reference Sensitivity level | NT / NV | A01 | PASS | A01 | PASS | Appendix A - WCDMA -Normal |

4.3 EN 301 908-1

§4.3.1 – RADIATED EMISSIONS (UE)

Applicable Standard & Limits

The frequency boundary and reference bandwidths for the detailed transitions of the limits between the requirements for out-of-band emissions and spurious emissions are based on ITU-R

Recommendations SM.329-10 [3] and SM.1539-1 [4].

The requirements shown in table 4.2.2.2-1 are only applicable for frequencies in the spurious domain.

Table 4.2.2.2-1: Radiated spurious emissions requirements (UE)

| Frequency | Minimum requirement (e.r.p.)/ reference bandwidth idle mode | Minimum requirement (e.r.p.)/ reference bandwidth traffic mode | Applicability |
|---|---|--|--|
| $30 \text{ MHz} \leq f < 1\,000 \text{ MHz}$ | -57 dBm/100 kHz | -36 dBm/100 kHz | All |
| $1 \text{ GHz} \leq f < 12,75 \text{ GHz}$ | -47 dBm/1 MHz | -30 dBm/1 MHz | All |
| $f_c - 2,5 \times 5 \text{ MHz} < f < f_c + 2,5 \times 5 \text{ MHz}$ | | Not defined | UTRA FDD, UTRA TDD, 3,84 Mcps option, cdma2000, spreading rate 3 |
| $f_c - 2,5 \times BW_{\text{Channel}} \text{ MHz} < f < f_c + 2,5 \times BW_{\text{Channel}} \text{ MHz}$ | | Not defined | E-UTRA FDD, E-UTRA TDD, Mobile WiMAX, UMB |
| $f_c - 2,5 \times 10 \text{ MHz} < f < f_c + 2,5 \times 10 \text{ MHz}$ | | Not defined | UTRA TDD, 7,68 Mcps option |
| $f_c - 4 \text{ MHz} < f < f_c + 4 \text{ MHz}$ | | Not defined | UTRA TDD, 1,28 Mcps option cdma2000, spreading rate 1 |
| $f_c - 500 \text{ kHz} < f < f_c + 500 \text{ kHz}$ | | Not defined | UWC 136, 200 kHz option |
| $f_c - 250 \text{ kHz} < f < f_c + 250 \text{ kHz}$ | | Not defined | UWC 136, 30 kHz option |

NOTE: f_c is the UE transmit centre frequency.

Test Procedure

Test Data

Environmental Conditions

| | |
|-------------------|----------------|
| Temperature | 18~22° C |
| Relative Humidity | 45~66% |
| ATM Pressure | 101.1~101.7kPa |

Test Result: Pass.

Please refer to following data table.

Idle Mode

WCDMA2100

| Frequency (MHz) | Polar (H/V) | Level (dBm) | Factor | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|------------------------------------|-------------|-------------|--------|----------------------|-------------|-------------|
| operation frequency:Low channel | | | | | | |
| 2364.857 | H | -79.22 | 12.49 | -66.73 | -47.00 | -19.73 |
| 4247.49 | H | -88.97 | 12.98 | -75.99 | -47.00 | -28.99 |
| 2659.873 | V | -76.55 | 9.90 | -66.65 | -47.00 | -19.65 |
| 5116.829 | V | -77.55 | 21.59 | -55.96 | -47.00 | -8.96 |
| operation frequency:Middle channel | | | | | | |
| 2403.625 | H | -70.02 | 5.40 | -64.62 | -47.00 | -17.62 |
| 4456.014 | H | -92.4 | 13.15 | -79.25 | -47.00 | -32.25 |
| 2262.91 | V | -69.52 | 11.30 | -58.22 | -47.00 | -11.22 |
| 4183.327 | V | -95.26 | 14.74 | -80.52 | -47.00 | -33.52 |
| operation frequency: High channel | | | | | | |
| 2969.831 | H | -95.15 | 8.14 | -87.01 | -47.00 | -40.01 |
| 5072.944 | H | -89.52 | 17.08 | -72.44 | -47.00 | -25.44 |
| 2269.252 | V | -91.84 | 6.29 | -85.55 | -47.00 | -38.55 |
| 5535.356 | V | -93.13 | 18.85 | -74.28 | -47.00 | -27.28 |

| Polar (H/V) | Frequency (MHz) | Meter Reading (dBm) | Factor (dB) | Emission Level (dBm) | Limits (dBm) | Margin (dB) | Detector Type |
|-------------|-----------------|---------------------|-------------|----------------------|--------------|-------------|---------------|
| V | 61.295 | -79.45 | 4.33 | -75.12 | -57 | -18.12 | peak |
| V | 243.821 | -98.54 | 2.83 | -95.71 | -57 | -38.71 | peak |
| V | 432.954 | -82.32 | 20.49 | -61.83 | -57 | -4.83 | peak |
| V | 636.855 | -99.63 | 14.18 | -85.45 | -57 | -28.45 | peak |
| V | 728.718 | -91.8 | 3.13 | -88.67 | -57 | -31.67 | peak |
| H | 71.197 | -82.09 | 1.34 | -80.75 | -57 | -23.75 | peak |
| H | 129.949 | -84.78 | 11.44 | -73.34 | -57 | -16.34 | peak |
| H | 323.673 | -92.88 | 10.68 | -82.20 | -57 | -25.20 | peak |
| H | 678.939 | -79.5 | 6.94 | -72.56 | -57 | -15.56 | peak |
| H | 779.34 | -94.36 | 8.42 | -85.94 | -57 | -28.94 | peak |

Remark:

Emission Level= Meter Reading+ Factor, Margin= Limit- Emission Level.

WCDMA900

| Frequency (MHz) | Polar (H/V) | Level (dBm) | Factor | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|------------------------------------|-------------|-------------|--------|----------------------|-------------|-------------|
| operation frequency:Low channel | | | | | | |
| 2689.183 | H | -75.89 | 14.81 | -61.08 | -47.00 | -14.08 |
| 5662.956 | H | -77.49 | 19.18 | -58.31 | -47.00 | -11.31 |
| 2220.435 | V | -69.6 | 14.96 | -54.64 | -47.00 | -7.64 |
| 5048.586 | V | -77.41 | 17.37 | -60.04 | -47.00 | -13.04 |
| operation frequency:Middle channel | | | | | | |
| 2329.675 | H | -92.5 | 13.20 | -79.30 | -47.00 | -32.30 |
| 5312.767 | H | -90.05 | 12.58 | -77.47 | -47.00 | -30.47 |
| 2638.498 | V | -87.21 | 5.34 | -81.87 | -47.00 | -34.87 |
| 3715.864 | V | -96.4 | 15.26 | -81.14 | -47.00 | -34.14 |
| operation frequency: High channel | | | | | | |
| 2555.858 | H | -92.48 | 9.04 | -83.44 | -47.00 | -36.44 |
| 5317.287 | H | -89.73 | 21.90 | -67.83 | -47.00 | -20.83 |
| 2226.607 | V | -83.19 | 7.97 | -75.22 | -47.00 | -28.22 |
| 4720.646 | V | -80.35 | 13.52 | -66.83 | -47.00 | -19.83 |

| Polar (H/V) | Frequency (MHz) | Meter Reading (dBm) | Factor (dB) | Emission Level (dBm) | Limits (dBm) | Margin (dB) | Detector Type |
|-------------|-----------------|---------------------|-------------|----------------------|--------------|-------------|---------------|
| V | 53.061 | -99.21 | 20.09 | -79.12 | -57 | -22.12 | peak |
| V | 199.747 | -92.98 | 17.20 | -75.78 | -57 | -18.78 | peak |
| V | 335.629 | -78.03 | 15.59 | -62.44 | -57 | -5.44 | peak |
| V | 616.613 | -94.11 | 16.50 | -77.61 | -57 | -20.61 | peak |
| V | 710.957 | -79.31 | 15.18 | -64.13 | -57 | -7.13 | peak |
| H | 94.86 | -91.07 | 1.67 | -89.40 | -57 | -32.40 | peak |
| H | 294.126 | -83.05 | 3.74 | -79.31 | -57 | -22.31 | peak |
| H | 320.02 | -79.35 | 18.60 | -60.75 | -57 | -3.75 | peak |
| H | 529.237 | -97.94 | 20.83 | -77.11 | -57 | -20.11 | peak |
| H | 746.588 | -81.94 | 2.19 | -79.75 | -57 | -22.75 | peak |

Remark:

Emission Level= Meter Reading+ Factor, Margin= Limit- Emission Level.

Traffic Mode
WCDMA2100

| Frequency (MHz) | Polar (H/V) | Level (dBm) | Factor | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|------------------------------------|-------------|-------------|--------|----------------------|-------------|-------------|
| operation frequency:Low channel | | | | | | |
| 2562.348 | H | -65.69 | 5.94 | -59.75 | -30.00 | -29.75 |
| 5088.189 | H | -64.41 | 18.26 | -46.15 | -30.00 | -16.15 |
| 2273.291 | V | -73.01 | 11.62 | -61.39 | -30.00 | -31.39 |
| 4870.511 | V | -74.26 | 13.37 | -60.89 | -30.00 | -30.89 |
| operation frequency:Middle channel | | | | | | |
| 2908.903 | H | -77.71 | 7.86 | -69.85 | -30.00 | -39.85 |
| 3196.585 | H | -61.85 | 16.50 | -45.35 | -30.00 | -15.35 |
| 2242.004 | V | -62.05 | 6.74 | -55.31 | -30.00 | -25.31 |
| 5392.134 | V | -68.08 | 16.02 | -52.06 | -30.00 | -22.06 |
| operation frequency: High channel | | | | | | |
| 2277.183 | H | -65 | 9.66 | -55.34 | -30.00 | -25.34 |
| 5392.494 | H | -71.99 | 18.03 | -53.96 | -30.00 | -23.96 |
| 2365.789 | V | -65.42 | 8.05 | -57.37 | -30.00 | -27.37 |
| 3780.979 | V | -68.13 | 16.37 | -51.76 | -30.00 | -21.76 |

| Polar (H/V) | Frequency (MHz) | Meter Reading (dBm) | Factor (dB) | Emission Level (dBm) | Limits (dBm) | Margin (dB) | Detector Type |
|-------------|-----------------|---------------------|-------------|----------------------|--------------|-------------|---------------|
| V | 39.317 | -61.72 | 7.32 | -54.40 | -36 | -18.40 | peak |
| V | 117.311 | -69.03 | 19.36 | -49.67 | -36 | -13.67 | peak |
| V | 444.507 | -64.27 | 11.06 | -53.21 | -36 | -17.21 | peak |
| V | 576.963 | -68.41 | 12.00 | -56.41 | -36 | -20.41 | peak |
| H | 53.234 | -61.55 | 11.62 | -49.93 | -36 | -13.93 | peak |
| H | 282.742 | -59.4 | 19.83 | -39.57 | -36 | -3.57 | peak |
| H | 900.06 | -65.64 | 15.69 | -49.95 | -36 | -13.95 | peak |
| H | 515.272 | -63.02 | 9.90 | -53.12 | -36 | -17.12 | peak |

Remark:

Emission Level = Meter Reading + Factor, Margin= Emission Level - Limit

WCDMA900

| Frequency (MHz) | Polar (H/V) | Level (dBm) | Factor | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|------------------------------------|-------------|-------------|--------|----------------------|-------------|-------------|
| operation frequency:Low channel | | | | | | |
| 2219.742 | H | -62.77 | 9.99 | -52.78 | -30.00 | -22.78 |
| 3210.77 | H | -73.65 | 19.73 | -53.92 | -30.00 | -23.92 |
| 2234.565 | V | -68.28 | 9.73 | -58.55 | -30.00 | -28.55 |
| 3392.217 | V | -64.84 | 19.54 | -45.30 | -30.00 | -15.30 |
| operation frequency:Middle channel | | | | | | |
| 2347.05 | H | -71.74 | 8.68 | -63.06 | -30.00 | -33.06 |
| 4727.183 | H | -68.02 | 15.57 | -52.45 | -30.00 | -22.45 |
| 2727.764 | V | -62.3 | 13.10 | -49.20 | -30.00 | -19.20 |
| 5568.847 | V | -59.5 | 14.21 | -45.29 | -30.00 | -15.29 |
| operation frequency: High channel | | | | | | |
| 2288.382 | H | -60.89 | 9.92 | -50.97 | -30.00 | -20.97 |
| 3669.627 | H | -65.17 | 12.12 | -53.05 | -30.00 | -23.05 |
| 2943.46 | V | -77.81 | 5.84 | -71.97 | -30.00 | -41.97 |
| 4628.751 | V | -64.86 | 21.52 | -43.34 | -30.00 | -13.34 |

| Polar (H/V) | Frequency (MHz) | Meter Reading (dBm) | Factor (dB) | Emission Level (dBm) | Limits (dBm) | Margin (dB) | Detector Type |
|-------------|-----------------|---------------------|-------------|----------------------|--------------|-------------|---------------|
| V | 96.639 | -67.61 | 2.47 | -65.14 | -36 | -29.14 | peak |
| V | 226.052 | -59.59 | 0.43 | -59.16 | -36 | -23.16 | peak |
| V | 670.931 | -61.95 | 16.71 | -45.24 | -36 | -9.24 | peak |
| V | 756.186 | -68.76 | 3.73 | -65.03 | -36 | -29.03 | peak |
| H | 84.001 | -60.03 | 7.55 | -52.48 | -36 | -16.48 | peak |
| H | 253.64 | -60.16 | 3.80 | -56.36 | -36 | -20.36 | peak |
| H | 816.562 | -61.32 | 13.14 | -48.18 | -36 | -12.18 | peak |
| H | 496.899 | -62.97 | 8.44 | -54.53 | -36 | -18.53 | peak |

Remark:

Emission Level = Meter Reading + Factor, Margin= Emission Level - Limit

§4.3.2 –Control and monitoring functions (UE)

Definition & Limits

This requirement, together with other control and monitoring technical requirements identified in the table of cross references in the applicable part, verifies that the control and monitoring functions of the UE prevent it from transmitting in the absence of a valid network.

This test is applicable to radio communications equipment and ancillary equipment in the operating band defined in the applicable part of this multi-part harmonised standard.

This test shall be performed on the radio communications equipment and/or a representative configuration of the ancillary equipment.

Limits:

The maximum measured power during the duration of the test shall not exceed -30 dBm.

Test method

a) At the start of the test, the UE shall be switched off. The UE antenna connector shall be connected to a power measuring equipment, with the following characteristics:

- the RF bandwidth shall exceed the total operating transmit frequency range of the UE for operation with an applicable part;
- the response time of the power measuring equipment shall be such that the measured power has reached within 1 dB of its steady state value within 100 μ s of a CW signal being applied;
- it shall record the maximum power measured.

NOTE: The equipment may include a video low pass filter to minimize its response to transients or Gaussian noise peaks.

b) The UE shall be switched on for a period of approximately fifteen minutes, and then switched off.

c) The EUT shall remain switched off for a period of at least thirty seconds, and shall then be switched on for a period of approximately one minute.

d) The maximum power emitted from the UE throughout the duration of the test shall be recorded. The results obtained shall be compared to the limits in clause 4.2.4.2 in order to prove compliance.

Test Data

| Test Condition | Monitoring band | Max Measured Power(dBm) | Limit(dBm) | Result |
|----------------|----------------------|-------------------------|------------|--------|
| Normal | The whole band range | -41.25 | -30 | Pass |

§4.3.3 —Out-of-synchronization handling of output power

Definition

The UE shall monitor the DPCCH quality in order to detect a loss of the signal on Layer 1.

The threshold Q_{out} specifies at what DPCCH quality levels the UE shall shut its power off.

The threshold is not defined explicitly, but is defined by the conditions under which the UE shall shut its transmitter off, as stated in this clause.

The DPCCH quality shall be monitored in the UE and compared to the threshold Q_{out} for the purpose of monitoring synchronization. The threshold Q_{out} should correspond to a level of DPCCH quality where no reliable detection of the TPC commands transmitted on the downlink DPCCH can be made. This can be at a TPC command error ratio level of e.g. 20 %.

Limits

When the UE estimates the DPCCH quality over the last 160 ms period to be worse than a threshold Q_{out} , the UE shall shut its transmitter off within 40 ms.

The quality level at the thresholds Q_{out} correspond to different signal levels depending on the downlink conditions DCH parameters. For the conditions in table 4.2.11.2-1, a signal with the quality at the level Q_{out} can be generated by a $DPCCH_E_c/I_{or}$ ratio of -25 dB. The DL reference measurement channel 12,2 kbit/s is specified in ETSI TS 134 121-1 [1], clause C.3.1 and with static propagation conditions. The downlink physical channels, other than those specified in table 4.2.11.2-1, are as specified in table E.3.3 of annex E in ETSI TS 134 121-1 [1].

| Parameter | Value | Unit |
|-----------------------------|---|--------------|
| I_{or}/I_{oc} | -1 | dB |
| I_{oc} | -60 | dBm/3,84 MHz |
| $\frac{DPCCH_E_c}{I_{or}}$ | See figure 4.2.11.2-1: Before point A: <ul style="list-style-type: none"> -16,6 for UEs not supporting enhanced receiver performance type 1 for DCH -19,6 for UEs supporting enhanced receiver performance type 1 for DCH After point A not defined | dB |
| $\frac{DPCCH_E_c}{I_{or}}$ | See figure 4.2.11.2-1 | dB |
| Information Data Rate | 12,2 | kbit/s |

Figure 4.2.11.2-1 and table 4.2.11.2-2 show an example scenario where the $DPCCH_E_c/I_{or}$ ratio varies from a level where the DPCH is demodulated under normal conditions, down to a level below Q_{out} where the UE shall shut its power off.

Test Procedure

Initial conditions

Test environment: normal (see annex B).

The frequencies to be tested are mid range as defined in ETSI TS 134 108 [2], clause 5.1:

- 1) Connect the SS to the UE antenna connector.
- 2) A call is set up according to the Generic call setup procedure, with the following exception according to table 5.3.10.1.1-1 for information elements in System Information Block type 1 found in ETSI TS 134 108 [2].

Table 5.3.10.1.1-1: System Information Block type 1 message

| Information Element | Value |
|---|-------|
| UE Timers and constants in connected mode | |
| - T313 | 15 s |
| - N313 | 200 |

- 3) RF parameters are set up according to table 4.2.11.2-1 with DPCCH_Ec/Ior ratio level according To table 4.2.11.2-2, 'before A'.
- 4) Enter the UE into loopback test mode and start the loopback test using the procedure defined in ETSI TS 134 109 [3], clause 5.3.

Test Data

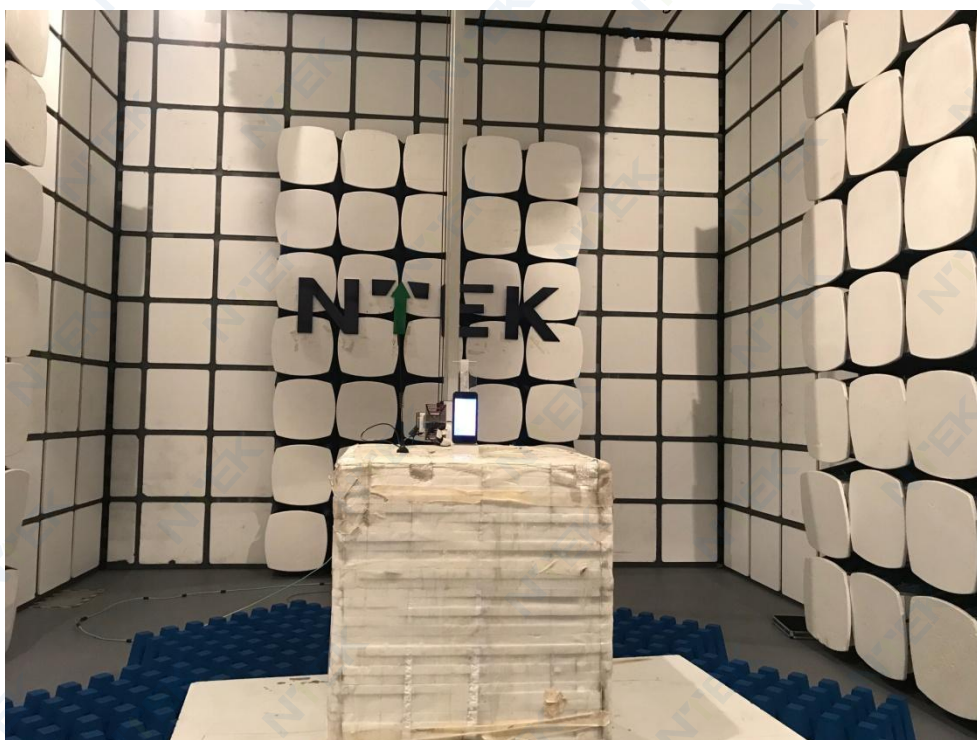
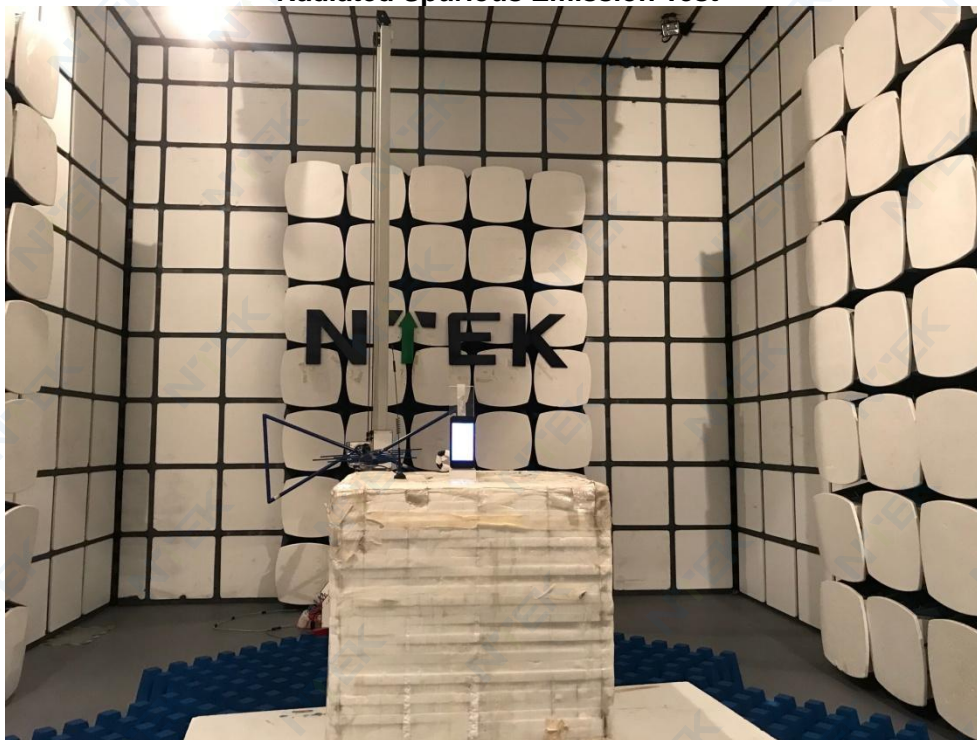
Environmental Conditions

| | |
|-------------------|----------------|
| Temperature | 18~22° C |
| Relative Humidity | 45~66% |
| ATM Pressure | 101.1~101.7kPa |

Test Result: Pass.

5. PHOTOGRAPHS OF THE TEST SETUP

Radiated Spurious Emission Test



END OF REPORT