



# **RADIO TEST REPORT**

## **ETSI EN 301 511 V12.5.1 (2017-03)**

**Product :** Smart phone

**Trade Mark :** Blackview

**Model Name :** A52

**Family Model :** N/A

**Report No. :** STR220826001004E

### **Prepared for**

DOKE COMMUNICATION (HK) LIMITED

RM 1902 EASEY COMM BLDG 253-261 HENNESSY ROAD WANCHAI HK, CHINA

### **Prepared by**

Shenzhen NTEK Testing Technology Co., Ltd.

1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street  
Bao'an District, Shenzhen 518126 P.R. China

Tel. 400-800-6106, 0755-2320 0050, 0755-2320 0090

Website: <http://www.ntek.org.cn>

TEST RESULT CERTIFICATION

Applicant's name ..... : DOKE COMMUNICATION (HK) LIMITED
Address ..... : RM 1902 EASEY COMM BLDG 253-261 HENNESSY ROAD
WANCHAI HK, CHINA
Manufacturer's Name ..... : Shenzhen DOKE Electronic Co.,Ltd
Address ..... : 801, Building3, 7th Industrial Zone, Yulv Community, Yutang Road,
Guangming District, Shenzhen, China

Product description

Product name ..... : Smart phone
Trademark ..... : Blackview
Model Name ..... : A52
Family Model ..... : N/A

Standards ..... : ETSI EN 301 511 V12.5.1 (2017-03)

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 article 3.2 of the Directive 2014/53/EU requirements.

And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of Shenzhen NTEK, this document may be altered or revised by Shenzhen NTEK, personnel only, and shall be noted in the revision of the document.

Test Sample Number ..... T220826001R003

Date of Test.....

Date (s) of performance of tests ..... Aug 26, 2022 ~ Sep 14, 2022

Date of Issue..... Sep 14, 2022

Test Result..... Pass

Testing Engineer : Mukzi Lee
(Mukzi Lee)

Authorized Signatory : Alex
(Alex Li)

**Table of Contents**

**Page**

|                                                                              |           |
|------------------------------------------------------------------------------|-----------|
| <b>1. SUMMARY OF TEST RESULTS</b>                                            | <b>4</b>  |
| 1.1 TEST FACILITY                                                            | 4         |
| 1.2 MEASUREMENT UNCERTAINTY                                                  | 4         |
| <b>2. GENERAL INFORMATION</b>                                                | <b>6</b>  |
| 2.1 GENERAL DESCRIPTION OF EUT                                               | 6         |
| 2.2 LIST OF TEST EQUIPMENTS                                                  | 7         |
| 2.3 TYPE OF MOBILE STATION AND ADDITIONAL INFORMATION                        | 8         |
| 2.4 TEST ENVIRONMENT/CONDITIONS                                              | 8         |
| <b>3. SUMMARY OF TEST REPORT</b>                                             | <b>10</b> |
| 3.1 TERMS IN THE COLUMN “VERDICT” FOR THE TEST RESULTS LIST OF THIS SECTION: | 10        |
| 3.2 TABLE 1 EN REQUIREMENTS TABLE                                            | 10        |
| <b>4. RADIATED SPURIOUS EMISSIONS</b>                                        | <b>14</b> |
| 4.1 RADIATED SPURIOUS EMISSIONS – MS ALLOCATED A CHANNEL                     | 14        |
| 4.2 RADIATED SPURIOUS EMISSIONS – MS IN IDLE MODE                            | 16        |
| <b>5. PHOTOGRAPHS OF THE TEST SETUP</b>                                      | <b>18</b> |

**1. SUMMARY OF TEST RESULTS**

Leading Reference Documents For Testing:

| No. | Identity                             | Document Title                                                                                                                                                                         |
|-----|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | ETSI EN 301 511<br>V12.5.1 (2017-03) | Global System for Mobile communications (GSM);<br>Mobile Stations (MS) equipment;<br>Harmonised Standard covering the essential requirements<br>of article 3.2 of Directive 2014/53/EU |

Specific Reference Documents For Testing:

| No. | Identity                               | Document Title                                                                                                                                                                                |
|-----|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2   | ETSI TS 151 010-1<br>V12.8.0 (2016-05) | Digital cellular telecommunications system (Phase 2+);<br>Mobile Station (MS) conformance specification;<br>Part 1: Conformance specification<br>(3GPP TS 51.010-1 version 12.8.0 Release 12) |

**1.1 TEST FACILITY**

Shenzhen NTEK Testing Technology Co., Ltd.

Add. : 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen 518126 P.R. China

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 expanded 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      | $\pm 3.6$ dB  |
| 2   | RF power,conducted           | $\pm 0.16$ dB |
| 3   | Spurious emissions,conducted | $\pm 0.21$ dB |
| 4   | All emissions,radiated(<1G)  | $\pm 4.8$ dB  |
| 5   | All emissions,radiated(>1G)  | $\pm 5.0$ dB  |
| 6   | Temperature                  | $\pm 0.5$ °C  |
| 7   | Humidity                     | $\pm 2$ %     |



## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

|                      |                                                                                                                                                                                                           |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment :          | Smart phone                                                                                                                                                                                               |
| Trade Mark:          | Blackview                                                                                                                                                                                                 |
| Model Name:          | A52                                                                                                                                                                                                       |
| Family Model:        | N/A                                                                                                                                                                                                       |
| Model Difference:    | N/A                                                                                                                                                                                                       |
| Support Band:        | <input checked="" type="checkbox"/> GSM 900 (EU-Band) <input checked="" type="checkbox"/> DCS 1800 (EU-Band)<br><input type="checkbox"/> GSM 850 (U.S.-Band) <input type="checkbox"/> PCS 1900(U.S.-Band) |
| Release Version:     | R99                                                                                                                                                                                                       |
| GPRS Class:          | 12                                                                                                                                                                                                        |
| Frequency Bands:     | Uplink:GSM/GPRS/ EGPRS 900:880~915MHz<br>GSM/GPRS /EGPRS 1800:1710~1785 MHz                                                                                                                               |
|                      | Downlink:GSM/GPRS/EGPRS 900:925~960MHz<br>GSM/GPRS/EGPRS 1800:1805~1880MHz                                                                                                                                |
| Modulation Mode:     | GMSK/8-PSK                                                                                                                                                                                                |
| Power Class:         | GPRS 900: 4,GPRS 1800: 1,                                                                                                                                                                                 |
| SIM CARD :           | SIM 1 and SIM 2 is a chipset unit and tested as a single chipset. The SIM 1 is chosen for test.                                                                                                           |
| Antenna Description: | PIFA antenna (GSM900: -1.08 dBi)/(DCS1800: 1.18 dBi)                                                                                                                                                      |
| Adapter              | Model: QZ-01000EA00<br>Input: 100-240V~50/60Hz 0.15A<br>Output: 5.0V $\overline{\text{---}}$ 2.0A (10.0W)                                                                                                 |
| Battery              | DC 3.85V, 5180mAh, 19.943Wh                                                                                                                                                                               |
| Rating               | DC 3.85V from battery or DC 5V from Adapter.                                                                                                                                                              |
| Hard Ware Version    | L617_V1                                                                                                                                                                                                   |
| Soft Ware Version    | S6317A_Duokoo_A52_EEA_V1.01                                                                                                                                                                               |

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

## 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        | 2022.04.01       | 2023.03.31       | 1 year             |
| 2    | Test Receiver                        | R&S           | ESPI7           | 101318            | 2022.04.06       | 2023.04.05       | 1 year             |
| 3    | Bilog Antenna                        | TESEQ         | CBL6111D        | 31216             | 2022.03.30       | 2023.03.29       | 1 year             |
| 4    | 50Ω Coaxial Switch                   | Anritsu       | MP59B           | 6200983705        | 2020.05.11       | 2023.05.10       | 3 year             |
| 5    | Spectrum Analyzer                    | Agilent       | N9020A          | MY46471732        | 2022.04.01       | 2023.03.31       | 1 year             |
| 6    | Horn Antenna                         | EM            | EM-AH-20180     | 2011071402        | 2022.03.31       | 2023.03.30       | 1 year             |
| 7    | Horn Ant                             | Schwarzbeck   | BBHA 9170       | 9170-181          | 2021.11.07       | 2022.11.06       | 1 year             |
| 8    | Amplifier                            | EMC           | EMC051835S<br>E | 980246            | 2022.06.17       | 2023.06.16       | 1 year             |
| 9    | Loop Antenna                         | ARA           | PLA-2030/B      | 1029              | 2022.03.31       | 2023.03.30       | 1 year             |
| 10   | Temperature & Humidity Chamber       | GIANT FORCE   | GTH-056P        | GF-94454-1        | 2022.06.17       | 2023.06.16       | 1 year             |
| 11   | LTE Wireless Communications Test Set | R&S           | CMW500          | 1100.008.02       | 2022.06.16       | 2023.06.15       | 1 year             |
| 12   | Power Splitter                       | Mini-Circuits | ZN2PD-63-S+     | SF025101428       | 2020.04..07      | 2023.04.06       | 3 year             |
| 13   | Wireless Communication Test          | Anritsu       | MT8821C         | 6262192315        | 2021.11.07       | 2022.11.06       | 1 year             |
| 14   | Power Meter                          | DARE          | RPR3006W        | 15I00041SNO8<br>4 | 2022.06.16       | 2023.06.15       | 1 year             |
| 15   | ESG VETCTOR SIGNAL GENERAROR         | Agilent       | E4438C          | MY45093347        | 2022.04.01       | 2023.03.31       | 1 year             |
| 16   | Spectrum Analyzer                    | R&S           | FSV40           | 101417            | 2022.06.16       | 2023.06.15       | 1 year             |

**2.3 TYPE OF MOBILE STATION AND ADDITIONAL INFORMATION**

Table A.2: Type of Mobile Station (Re. ETSI EN 301 511 Annex A)

| Item | Type of Mobile Station                                    | Support | Mnemonic                   |
|------|-----------------------------------------------------------|---------|----------------------------|
| 1    | HSCSD Multislot MS                                        | NO      | Type_HSCSD_Multislot       |
| 2    | R-GSM MS                                                  | NO      | Type_R-GSM                 |
| 3    | Support of GPRS Multislot class on the uplink             | YES     | Type_GPRS_Multislot_uplink |
| 4    | EGPRS                                                     | YES     | Type_EGPRS                 |
| 5    | EGPRS capable of 8PSK in Uplink, of all Multislot classes | YES     | Type_EGPRS_8PSK_uplink     |

Type A.3: Additional information (Re. ETSI EN 301 511 Annex A)

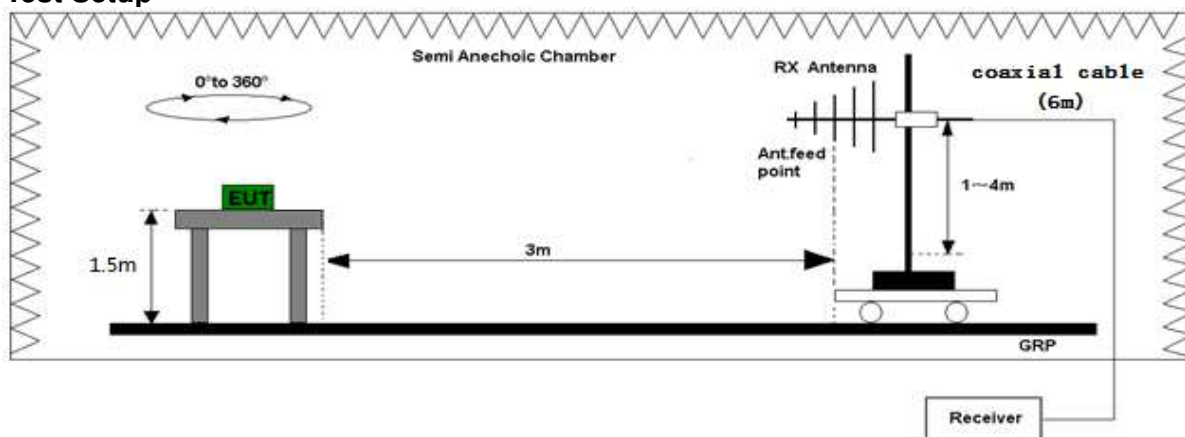
| Item | Additional Information      | Support | Mnemonic                 |
|------|-----------------------------|---------|--------------------------|
| 1    | Telephony.                  | YES     | TSPC_Serv_TS11           |
| 2    | Permanent Antenna Connector | YES     | TSPC_AddInfo_PermAntenna |

**2.4 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<br>High Temperature (HT) = 40°C                                |
| Extreme Voltage of the EUT (Declared by manufacturer): | Normal Voltage (NV) = DC 3.85V<br>Low Voltage (LV) = DC 3.4V<br>High Voltage (HV) = DC 4.2V |

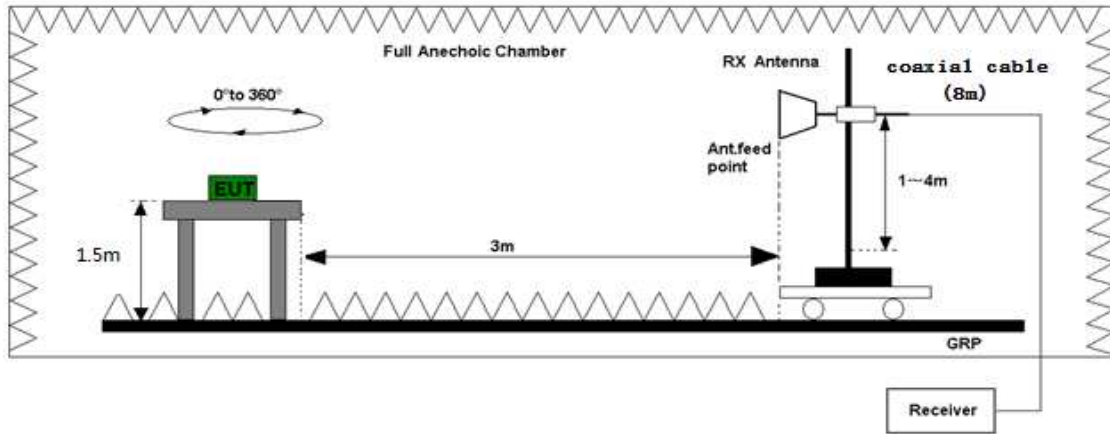
Note: The High Voltage DC 4.2V and Low Voltage DC 3.4V was declared by manufacturer, The EUT couldn't be operate normally with higher or lower voltage. The High temperature and Low temperature was declared by manufacturer

**2.5 Test Setup**

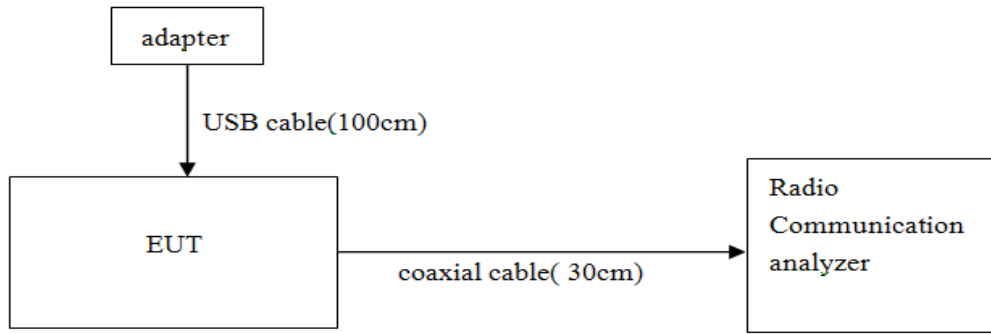


Radiated spurious emissions(30MHz-1GHz)

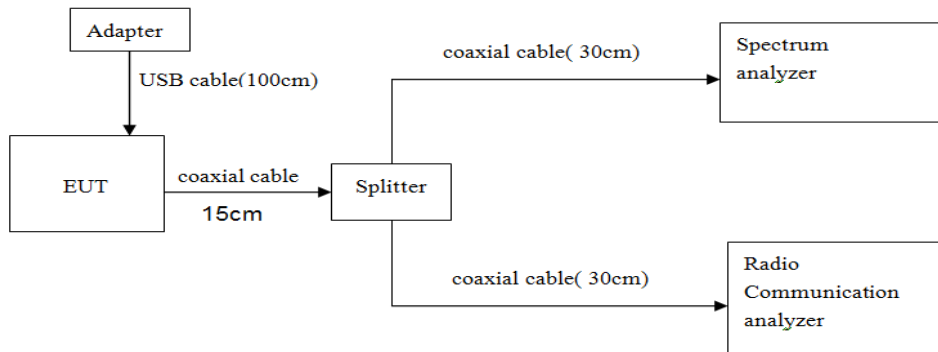




Radiated spurious emissions(Above 1G)



Conducted Test



Conducted spurious emissions

### 3. SUMMARY OF TEST REPORT

#### 3.1 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                                                                      |

#### 3.2 TABLE 1 EN REQUIREMENTS TABLE

| Testcase in ETSI EN 301511 V12.5.1 | Testcase in 3GPP TS 51.010-1 | Description                                                               | Condition    | GSM/GPRS/EGPRS 900 |        | GSM/GPRS/EGPRS 1800 |        | Test Data                 |
|------------------------------------|------------------------------|---------------------------------------------------------------------------|--------------|--------------------|--------|---------------------|--------|---------------------------|
|                                    |                              |                                                                           |              | Sample             | Result | Sample              | Result |                           |
| Section 4.2.1                      | 13.1.5                       | Transmitter - Frequency error and phase error                             | NT / NV      | A01                | PASS   | A01                 | PASS   | Appendix A - GSM - Normal |
|                                    |                              |                                                                           | LT / LV      | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | LT / HV      | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | HT / LV      | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | HT / HV      | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | Vibration(X) | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | Vibration(Y) | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | Vibration(Z) | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
| Section 4.2.2                      | 13.2.5                       | Transmitter - Frequency error under multipath and interference conditions | NT / NV      | A01                | PASS   | A01                 | PASS   | Appendix A - GSM - Normal |
|                                    |                              |                                                                           | LT / LV      | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | LT / HV      | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | HT / LV      | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | HT / HV      | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
| Section 4.2.4                      | 13.16.1.5                    | Frequency error and phase error in GPRS multislot configuration           | NT / NV      | A01                | PASS   | A01                 | PASS   | Appendix A - GSM - Normal |
|                                    |                              |                                                                           | LT / LV      | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | LT / HV      | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | HT / LV      | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | HT / HV      | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | Vibration(X) | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | Vibration(Y) | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |
|                                    |                              |                                                                           | Vibration(Z) | A01                | PASS   | A01                 | PASS   | Appendix B - GSM -Extreme |

| Testcase in ETSI EN 301511 V12.5.1 | Testcase in 3GPP TS 51.010-1 | Description                                               | Condition | GSM/GPRS/EGPRS 900 |        | GSM/GPRS/EGPRS 1800 |        | Test Data                                                |
|------------------------------------|------------------------------|-----------------------------------------------------------|-----------|--------------------|--------|---------------------|--------|----------------------------------------------------------|
|                                    |                              |                                                           |           | Sample             | Result | Sample              | Result |                                                          |
| Section 4.2.5                      | 13.3.5                       | Transmitter output power and burst timing                 | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal                                   |
|                                    |                              |                                                           | LT / LV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
|                                    |                              |                                                           | LT / HV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
|                                    |                              |                                                           | HT / LV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
|                                    |                              |                                                           | HT / HV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
| Section 4.2.6                      | 13.4.5                       | Transmitter - Output RF spectrum                          | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal                                   |
|                                    |                              |                                                           | LT / LV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
|                                    |                              |                                                           | LT / HV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
|                                    |                              |                                                           | HT / LV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
|                                    |                              |                                                           | HT / HV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
| Section 4.2.10                     | 13.16.2.5                    | Transmitter output power in GPRS multislots configuration | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal                                   |
|                                    |                              |                                                           | LT / LV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
|                                    |                              |                                                           | LT / HV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
|                                    |                              |                                                           | HT / LV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
|                                    |                              |                                                           | HT / HV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
| Section 4.2.11                     | 13.16.3.5                    | Output RF spectrum in GPRS multislots configuration       | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal                                   |
|                                    |                              |                                                           | LT / LV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
|                                    |                              |                                                           | LT / HV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
|                                    |                              |                                                           | HT / LV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
|                                    |                              |                                                           | HT / HV   | A01                | PASS   | A01                 | PASS   | Appendix B -GSM-Extreme                                  |
| Section 4.2.12                     | 12.1.1.5                     | Conducted spurious emissions - MS allocated a channel     | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal (Only record the worst test data) |
|                                    |                              |                                                           | NT / LV   | A01                | PASS   | A01                 | PASS   |                                                          |
|                                    |                              |                                                           | NT / HV   | A01                | PASS   | A01                 | PASS   |                                                          |
| Section 4.2.13                     | 12.1.2.5                     | Conducted spurious emissions - MS in idle mode            | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal (Only record the worst test data) |
|                                    |                              |                                                           | NT / LV   | A01                | PASS   | A01                 | PASS   |                                                          |
|                                    |                              |                                                           | NT / HV   | A01                | PASS   | A01                 | PASS   |                                                          |
| Section 4.2.16                     | 12.2.1.5                     | Radiated spurious emissions - MS allocated a channel      | NT / NV   | A01                | PASS   | A01                 | PASS   | Refer to the report                                      |
|                                    |                              |                                                           | NT / LV   | A01                | PASS   | A01                 | PASS   |                                                          |
|                                    |                              |                                                           | NT / HV   | A01                | PASS   | A01                 | PASS   |                                                          |
| Section 4.2.17                     | 12.2.2.5                     | Radiated spurious emissions - MS in idle mode             | NT / NV   | A01                | PASS   | A01                 | PASS   | Refer to the report                                      |
|                                    |                              |                                                           | NT / LV   | A01                | PASS   | A01                 | PASS   |                                                          |
|                                    |                              |                                                           | NT / HV   | A01                | PASS   | A01                 | PASS   |                                                          |
| Section 4.2.20                     | 14.7.1.5                     | Receiver Blocking and spurious response - speech channels | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix C -GSM-Blocking                                 |

| Testcase in ETSI EN 301511 V12.5.1 | Testcase in 3GPP TS 51.010-1 | Description                                                                        | Condition    | GSM/GPRS/EGPRS 900 |                         | GSM/GPRS/EGPRS 1800 |        | Test Data                |
|------------------------------------|------------------------------|------------------------------------------------------------------------------------|--------------|--------------------|-------------------------|---------------------|--------|--------------------------|
|                                    |                              |                                                                                    |              | Sample             | Result                  | Sample              | Result |                          |
| Section 4.2.26                     | 13.17.1.5                    | Frequency error and Modulation accuracy in EGPRS Configuration                     | NT / NV      | A01                | PASS                    | A01                 | PASS   | Appendix A -GSM-Normal   |
|                                    |                              |                                                                                    | LT / LV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | LT / HV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | HT / LV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | HT / HV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | Vibration(X) | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | Vibration(Y) | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
| Vibration(Z)                       | A01                          | PASS                                                                               | A01          | PASS               | Appendix B -GSM-Extreme |                     |        |                          |
| Section 4.2.27                     | 13.17.2.5                    | Frequency error under multipath and interference conditions in EGPRS Configuration | NT / NV      | A01                | PASS                    | A01                 | PASS   | Appendix A -GSM-Normal   |
|                                    |                              |                                                                                    | LT / LV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | LT / HV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | HT / LV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | HT / HV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
| Section 4.2.28                     | 13.17.3.5                    | EGPRS Transmitter output power                                                     | NT / NV      | A01                | PASS                    | A01                 | PASS   | Appendix A -GSM-Normal   |
|                                    |                              |                                                                                    | LT / LV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | LT / HV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | HT / LV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | HT / HV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
| Section 4.2.29                     | 13.17.4.5                    | Output RF spectrum in EGPRS configuration                                          | NT / NV      | A01                | PASS                    | A01                 | PASS   | Appendix A -GSM-Normal   |
|                                    |                              |                                                                                    | LT / LV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | LT / HV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | HT / LV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
|                                    |                              |                                                                                    | HT / HV      | A01                | PASS                    | A01                 | PASS   | Appendix B -GSM-Extreme  |
| Section 4.2.30                     | 14.18.5.5                    | Blocking and spurious response in EGPRS configuration                              | NT / NV      | A01                | PASS                    | A01                 | PASS   | Appendix C -GSM-Blocking |
| Section 4.2.31                     | 14.18.5b.5                   | Blocking and spurious response in DLMC configuration                               | NT / NV      | A01                | N/A                     | A01                 | N/A    | N/A                      |
| Section 4.2.32                     | 14.6.1.5                     | Intermodulation rejection - speech channels                                        | NT / NV      | A01                | PASS                    | A01                 | PASS   | Appendix A -GSM-Normal   |
| Section 4.2.33                     | 14.6.2.5                     | Intermodulation rejection - control channels                                       | NT / NV      | A01                | PASS                    | A01                 | PASS   | Appendix A -GSM-Normal   |
| Section 4.2.34                     | 14.18.4.5                    | Intermodulation rejection - EGPRS                                                  | NT / NV      | A01                | PASS                    | A01                 | PASS   | Appendix A -GSM-Normal   |

| Testcase in ETSI EN 301511 V12.5.1 | Testcase in 3GPP TS 51.010-1 | Description                                           | Condition | GSM/GPRS/EGPRS 900 |        | GSM/GPRS/EGPRS 1800 |        | Test Data              |
|------------------------------------|------------------------------|-------------------------------------------------------|-----------|--------------------|--------|---------------------|--------|------------------------|
|                                    |                              |                                                       |           | Sample             | Result | Sample              | Result |                        |
| Section 4.2.35                     | 14.8.1.5                     | AM suppression - speech channels                      | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal |
| Section 4.2.36                     | 14.8.2.5                     | AM suppression - control channels                     | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal |
| Section 4.2.37                     | 14.8.3.5                     | AM suppression - packet channels                      | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal |
| Section 4.2.38                     | 14.5.1.1.5                   | Adjacent channel rejection - speech channels (TCH/FS) | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal |
| Section 4.2.39                     | 14.5.2.5                     | Adjacent channel rejection - control channels         | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal |
| Section 4.2.40                     | 14.18.3.5                    | Adjacent channel rejection - EGPRS                    | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal |
| Section 4.2.41                     | 14.18.3d.5                   | Adjacent channel rejection in DLMC configuration      | NT / NV   | A01                | N/A    | A01                 | N/A    | N/A                    |
| Section 4.2.42                     | 14.2.1.5                     | Reference sensitivity - TCH/FS                        | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal |
| Section 4.2.43                     | 14.2.3.5                     | Reference sensitivity - FACCH/F                       | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal |
| Section 4.2.44                     | 14.16.1.5                    | Minimum Input level for Reference Performance - GPRS  | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal |
| Section 4.2.45                     | 14.18.1.5                    | Minimum Input level for Reference Performance - EGPRS | NT / NV   | A01                | PASS   | A01                 | PASS   | Appendix A -GSM-Normal |

#### 4. RADIATED SPURIOUS EMISSIONS

##### 4.1 RADIATED SPURIOUS EMISSIONS – MS ALLOCATED A CHANNEL

###### Environmental Conditions

|                   |          |
|-------------------|----------|
| Temperature       | 25°C     |
| Relative Humidity | 56%      |
| ATM Pressure      | 100.2kPa |

###### Test Requirements:

| Frequency range |           | Power level in dBm                                       |           |           |
|-----------------|-----------|----------------------------------------------------------|-----------|-----------|
|                 |           | GSM 400,<br>GSM 700,<br>T-GSM810,<br>GSM 850,<br>GSM 900 | DCS 1 800 | PCS 1 900 |
| 30 MHz to       | 1 GHz     | -36                                                      | -36       | -36       |
| 1 GHz to        | 4 GHz     | -30                                                      |           | -30       |
| 1 GHz to        | 1 710 MHz |                                                          | -30       |           |
| 1 710 MHz to    | 1 785 MHz |                                                          | -36       |           |
| 1 785 MHz to    | 4 GHz     |                                                          | -30       |           |

#### TEST RESULT

##### GSM 900

Normal Voltage,Middle Channel

| Frequency (MHz)                           | Polar (H/V) | ReadingLevel (dBm) | Factor | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|-------------------------------------------|-------------|--------------------|--------|----------------------|-------------|-------------|
| <b>operation frequency:Middle channel</b> |             |                    |        |                      |             |             |
| 83.292                                    | V           | -74.32             | 12.14  | -62.18               | -36.00      | -26.18      |
| 152.909                                   | V           | -72.97             | 13.56  | -59.41               | -36.00      | -23.41      |
| 818.370                                   | V           | -62.02             | 13.32  | -48.70               | -36.00      | -12.70      |
| 1651.536                                  | V           | -55.88             | 13.20  | -42.68               | -30.00      | -12.68      |
| 2278.843                                  | V           | -61.60             | 9.40   | -52.20               | -30.00      | -22.20      |
| 3519.227                                  | V           | -59.15             | 12.51  | -46.64               | -30.00      | -16.64      |
| 92.249                                    | H           | -74.25             | 12.73  | -61.52               | -36.00      | -25.52      |
| 237.972                                   | H           | -61.90             | 15.17  | -46.73               | -36.00      | -10.73      |
| 805.413                                   | H           | -66.71             | 12.38  | -54.33               | -36.00      | -18.33      |
| 1186.078                                  | H           | -57.43             | 10.89  | -46.54               | -30.00      | -16.54      |
| 2770.084                                  | H           | -63.30             | 10.59  | -52.71               | -30.00      | -22.71      |
| 3726.752                                  | H           | -63.26             | 13.25  | -50.01               | -30.00      | -20.01      |

**GSM 1800**

Normal Voltage, Middle Channel

| Frequency (MHz)                            | Polar (H/V) | ReadingLevel (dBm) | Factor | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|--------------------------------------------|-------------|--------------------|--------|----------------------|-------------|-------------|
| <b>operation frequency: Middle channel</b> |             |                    |        |                      |             |             |
| 73.411                                     | V           | -74.70             | 13.14  | -61.56               | -36.00      | -25.56      |
| 388.953                                    | V           | -60.37             | 9.33   | -51.04               | -36.00      | -15.04      |
| 679.151                                    | V           | -68.23             | 16.09  | -52.14               | -36.00      | -16.14      |
| 1133.834                                   | V           | -53.32             | 14.36  | -38.96               | -30.00      | -8.96       |
| 2993.378                                   | V           | -66.75             | 16.94  | -49.81               | -30.00      | -19.81      |
| 3472.610                                   | V           | -63.40             | 14.54  | -48.86               | -30.00      | -18.86      |
| 42.546                                     | H           | -61.75             | 10.77  | -50.98               | -36.00      | -14.98      |
| 155.614                                    | H           | -67.34             | 16.50  | -50.84               | -36.00      | -14.84      |
| 631.368                                    | H           | -72.14             | 12.17  | -59.97               | -36.00      | -23.97      |
| 1579.337                                   | H           | -63.07             | 10.62  | -52.45               | -30.00      | -22.45      |
| 2982.078                                   | H           | -56.29             | 16.10  | -40.19               | -30.00      | -10.19      |
| 3172.296                                   | H           | -56.17             | 9.11   | -47.06               | -30.00      | -17.06      |

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

The laboratory has completed all tests for normal and extreme voltage conditions and GSM+WIFI mode. This report shows only the worst test data.

**4.2 RADIATED SPURIOUS EMISSIONS – MS IN IDLE MODE**

**Environmental Conditions**

|                   |          |
|-------------------|----------|
| Temperature       | 25°C     |
| Relative Humidity | 56%      |
| ATM Pressure      | 100.2kPa |

**Test Requirements:**

| Frequency range |           | Power level in dBm                              |                                   |
|-----------------|-----------|-------------------------------------------------|-----------------------------------|
|                 |           | GSM 400,<br>T-GSM 810,<br>GSM 900,<br>DCS 1 800 | GSM 700,<br>GSM 850,<br>PCS 1 900 |
| 30 MHz to       | 880 MHz   | -57                                             | -57                               |
| 880 MHz to      | 915 MHz   | -59                                             | -57                               |
| 915 MHz to      | 1 000 MHz | -57                                             | -57                               |
| 1 GHz to        | 1 710 MHz | -47                                             |                                   |
| 1 710 MHz to    | 1 785 MHz | -53                                             |                                   |
| 1 785 MHz to    | 4GHz      | -47                                             |                                   |
| 1 GHz to        | 1 850 MHz |                                                 | -47                               |
| 1 850 MHz to    | 1 910 MHz |                                                 | -53                               |
| 1 910 MHz to    | 4GHz      |                                                 | -47                               |



**TEST RESULT**

**GSM 900**

| Frequency (MHz)                           | Polar (H/V) | ReadingLevel (dBm) | Factor | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|-------------------------------------------|-------------|--------------------|--------|----------------------|-------------|-------------|
| <b>operation frequency:Middle channel</b> |             |                    |        |                      |             |             |
| 69.994                                    | V           | -88.55             | 12.94  | -75.61               | -57.00      | -18.61      |
| 200.685                                   | V           | -81.31             | 10.82  | -70.49               | -57.00      | -13.49      |
| 766.663                                   | V           | -81.93             | 14.61  | -67.32               | -57.00      | -10.32      |
| 1253.108                                  | V           | -77.52             | 10.19  | -67.33               | -47.00      | -20.33      |
| 2523.538                                  | V           | -73.42             | 10.80  | -62.62               | -47.00      | -15.62      |
| 3398.906                                  | V           | -76.35             | 13.54  | -62.81               | -47.00      | -15.81      |
| 79.882                                    | H           | -92.78             | 11.38  | -81.40               | -57.00      | -24.40      |
| 153.809                                   | H           | -91.37             | 11.31  | -80.06               | -57.00      | -23.06      |
| 792.705                                   | H           | -84.60             | 15.07  | -69.53               | -57.00      | -12.53      |
| 1138.598                                  | H           | -77.61             | 15.64  | -61.97               | -47.00      | -14.97      |
| 2704.621                                  | H           | -72.43             | 16.38  | -56.05               | -47.00      | -9.05       |
| 3735.357                                  | H           | -81.13             | 12.55  | -68.58               | -47.00      | -21.58      |

**GSM 1800**

| Frequency (MHz)                           | Polar (H/V) | ReadingLevel (dBm) | Factor | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|-------------------------------------------|-------------|--------------------|--------|----------------------|-------------|-------------|
| <b>operation frequency:Middle channel</b> |             |                    |        |                      |             |             |
| 51.376                                    | V           | -88.93             | 14.21  | -74.72               | -57.00      | -17.72      |
| 354.026                                   | V           | -83.13             | 14.60  | -68.53               | -57.00      | -11.53      |
| 486.572                                   | V           | -82.28             | 15.65  | -66.63               | -57.00      | -9.63       |
| 1178.317                                  | V           | -78.16             | 10.79  | -67.37               | -47.00      | -20.37      |
| 3014.130                                  | V           | -84.56             | 14.69  | -69.87               | -47.00      | -22.87      |
| 3813.892                                  | V           | -70.40             | 11.22  | -59.18               | -47.00      | -12.18      |
| 49.603                                    | H           | -93.28             | 10.62  | -82.66               | -57.00      | -25.66      |
| 190.737                                   | H           | -80.01             | 10.96  | -69.05               | -57.00      | -12.05      |
| 454.640                                   | H           | -82.37             | 9.64   | -72.73               | -57.00      | -15.73      |
| 1510.515                                  | H           | -77.86             | 16.92  | -60.94               | -47.00      | -13.94      |
| 2480.992                                  | H           | -70.85             | 13.55  | -57.30               | -47.00      | -10.30      |
| 3308.506                                  | H           | -79.88             | 12.45  | -67.43               | -47.00      | -20.43      |

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

The laboratory has completed all tests for normal and extreme voltage conditions and GSM+WIFI mode. This report shows only the worst test data.

5. PHOTOGRAPHS OF THE TEST SETUP

Radiated Spurious Emission Test



END OF REPORT