

## FCC Part 22/24 Compliance Test Report

|                                                         |                                                                                                                                                                                                                                                                                                                              |                                   |                                                                                                               |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Test Report no.:</b>                                 | Cph_FCC_0838_02.doc                                                                                                                                                                                                                                                                                                          | <b>Date of Report:</b>            | 23-Sep-2008                                                                                                   |
| <b>Number of pages:</b>                                 | 10                                                                                                                                                                                                                                                                                                                           | <b>Customer's Contact person:</b> | Shao Xu                                                                                                       |
| <b>Testing laboratory:</b>                              | TCC Nokia Copenhagen Laboratory<br>Frederikskaj<br>1790 COPENHAGEN V<br>DENMARK<br>Tel. +45 33 292929<br>Fax. +45 33 292934                                                                                                                                                                                                  | <b>Customer:</b>                  | Nokia Corporation<br>Frederikskaj<br>1790 COPENHAGEN V<br>DENMARK<br>Tel. +45 33 292929<br>Fax. +45 33 292934 |
| <b>FCC listing no.:</b>                                 | 99059                                                                                                                                                                                                                                                                                                                        |                                   |                                                                                                               |
| <b>IC recognition no.:</b>                              | 661AD-1                                                                                                                                                                                                                                                                                                                      |                                   |                                                                                                               |
| <b>Tested devices/ accessories:</b>                     | <b>Phone: RM-415 (hw0420A), Battery BL-4U, Headset HS-83, Audio adapter: AD-83</b>                                                                                                                                                                                                                                           |                                   |                                                                                                               |
| <b>FCC ID:</b>                                          | QTKRM-415                                                                                                                                                                                                                                                                                                                    | <b>IC:</b>                        | 661AD-RM415                                                                                                   |
| <b>Supplement reports:</b>                              | None                                                                                                                                                                                                                                                                                                                         |                                   |                                                                                                               |
| <b>Testing has been carried out in accordance with:</b> | <b>CFR 47, FCC rules Parts 22 and 24, TIA-603-C-2004 and IC standards RSS-GEN (Issue 2, June 2007), RSS-132 (Issue 2, September 2005) and RSS-133 (Issue 4, February 2008). Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit".</b> |                                   |                                                                                                               |
| <b>Documentation:</b>                                   | The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.                                                                         |                                   |                                                                                                               |
| <b>Test Results:</b>                                    | <b>The EUT complies with the requirements in respect of all parameters subject to the test.</b><br>The test results relate only to devices specified in this document.                                                                                                                                                       |                                   |                                                                                                               |
| <b>Date and signature for the contents:</b>             |                                                                                                                                                                                                                                                                                                                              |                                   |                                                                                                               |

Jan Engelbrechtsen, Test System Manager

## 1. Summary for FCC Part 22/24 Compliance Test Report

|                               |                                                                        |
|-------------------------------|------------------------------------------------------------------------|
| Date of receipt               | 11-Sep-2008                                                            |
| Testing completed             | 19-Sep-2008                                                            |
| The customer's contact person | Xu Shao                                                                |
| Test Plan referred to         | T:\Projects\RM-415\TestPlan_RS\RS_Testplan_RM-415_CR_HWID0420A_2nd.xls |
| Notes                         | None                                                                   |
| Document name                 | T:\Projects\RM-415\EMC\Results\FCC\Cph_FCC_0838_02.doc                 |

### 1.1. EUT and Accessory Information

The EUT is a 4-band (GSM850/900/1800/1900) mobile phone with GPRS, EGPRS and Bluetooth. The EUT is tested with maximum rated TX power, modulated with pseudo random bit sequence (PRBS9).

| Product       | Type   | SN                          | HW    | MV | SW      | DUT   |
|---------------|--------|-----------------------------|-------|----|---------|-------|
| Phone         | RM-415 | 004401/10/238079/3          | 0420A | -  | vsg4.8c | 25461 |
| Battery       | BL-4U  | 4620407517J10120942;0670560 | -     | -  | -       | 27474 |
| Headset       | HS-83  | 0694739823518600571         | -     | -  | -       | 27663 |
| Audio adapter | AD-83  | 069430582041A600590         | -     | -  | -       | 27472 |

### 1.2. Summary of Test Results

#### GSM 850:

| Section in CFR 47     | Section in RSS-GEN or RSS-132 | Name of the test                           | Result |
|-----------------------|-------------------------------|--------------------------------------------|--------|
| §2.1046(a), 22.913(a) | 4.4                           | Conducted RF output power                  | NP     |
| §22.913(a)            | 4.4                           | Radiated RF output power                   | Passed |
| §2.1049(h)            | 4.6.1                         | 99 % occupied bandwidth                    | NP     |
| §22.917(a)            | 4.5                           | Band edge compliance                       | NP     |
| §22.917(a), §2.1051   | 4.5                           | Spurious emissions at antenna terminals    | NP     |
| §22.917(a), §2.1053   | 4.5                           | Spurious radiated emissions                | NP     |
| §2.1055(a)            | 4.3                           | Frequency stability, temperature variation | NP     |
| §2.1055(d)            | 4.3                           | Frequency stability, voltage variation     | NP     |

#### GSM 1900:

| Section in CFR 47   | Section in RSS-GEN or RSS-133 | Name of the test                           | Result |
|---------------------|-------------------------------|--------------------------------------------|--------|
| §2.1046(a)          | 6.4                           | Conducted RF output power                  | NP     |
| §24.232(b)          | 6.4                           | Radiated RF output power                   | Passed |
| §2.1049(h)          | 4.6.1                         | 99 % occupied bandwidth                    | NP     |
| §24.238(a)          | 6.5                           | Band edge compliance                       | NP     |
| §24.238(a), §2.1051 | 6.5                           | Spurious emissions at antenna terminals    | NP     |
| §24.238(a), §2.1053 | 6.5                           | Spurious radiated emissions                | NP     |
| §2.1055(a)          | 6.3                           | Frequency stability, temperature variation | NP     |
| §2.1055(d)          | 6.3                           | Frequency stability, voltage variation     | NP     |

PASSED  
FAILED  
NP

The EUT complies with the essential requirements in the standard.  
The EUT does not comply with the essential requirements in the standard.  
The test was not performed by the TCC Nokia Copenhagen Laboratory.

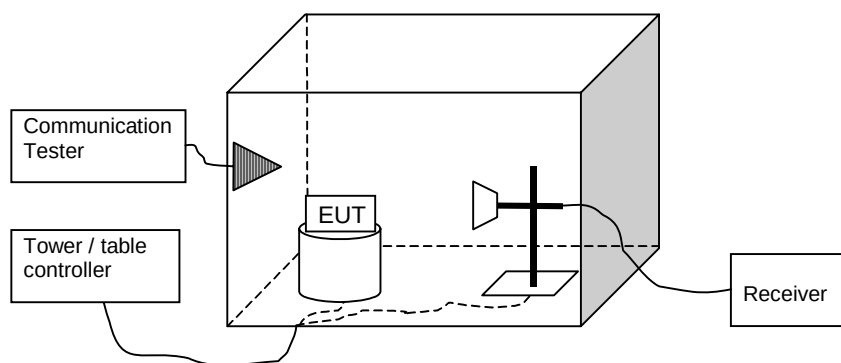
## CONTENTS

|                                                                                                     |          |
|-----------------------------------------------------------------------------------------------------|----------|
| <b>1. Summary for FCC Part 22/24 Compliance Test Report .....</b>                                   | <b>2</b> |
| 1.1. EUT and Accessory Information .....                                                            | 2        |
| 1.2. Summary of Test Results .....                                                                  | 2        |
| <b>2. Radiated RF output power<br/>(FCC §22.913(a), §24.232(b), RSS-132 4.4, RSS-133 6.4) .....</b> | <b>4</b> |
| 2.1. Test setup .....                                                                               | 4        |
| 2.2. Test method and limit .....                                                                    | 4        |
| 2.3. GSM 850 Test results .....                                                                     | 5        |
| 2.4. GSM 1900 Test results .....                                                                    | 7        |
| <b>3. Test Equipment.....</b>                                                                       | <b>9</b> |
| 3.1. Conducted measurements .....                                                                   | 9        |
| 3.2. Radiated measurements .....                                                                    | 9        |

## 2. Radiated RF output power (FCC §22.913(a), §24.232(b), RSS-132 4.4, RSS-133 6.4)

|                                                        |                                   |
|--------------------------------------------------------|-----------------------------------|
| <b>EUT with DUT number</b>                             | RM-415 dut 25461, BL-4U dut 27474 |
| <b>Accessories with DUT numbers</b>                    | HS-83 dut 27663, AD-83 dut 27472  |
| <b>Operation Voltage [V] / [Hz]</b>                    | Nominal                           |
| <b>Result</b>                                          | Passed                            |
| <b>Remarks</b>                                         | None                              |
| <b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b> | 22.2 / 44<br>103.32               |
| <b>Date of measurements</b>                            | 17-Sep-2008                       |
| <b>Measured by</b>                                     | Jan Engelbrechtsen                |

### 2.1. Test setup



### 2.2. Test method and limit

The measurement is made according to TIA-603-C-2004 as follows:

The measurement is performed in the Anechoic Chamber with absorbers on the floor and measuring antenna at fixed height using 2-axis EUT position system. The turntable is rotated 360 degrees and this is repeated for both horizontal and vertical receive antenna polarizations.

The EUT is placed on a nonconductive plate at 170 cm height.

The substitution method is used. Substitution values at each frequencies are measured beforehand and saved to the test software.

The substitution corrections are obtained as described below:

$$A_{SUBST} = P_{SUBST\_TX} - P_{SUBST\_RX} - L_{SUBST\_CABLES} + G_{SUBST\_TX\_ANT}$$

Where  $A_{SUBST}$  is the final substitution correction including receive antenna gain.  $P_{SUBST\_TX}$  is signal generator level,  $P_{SUBST\_RX}$  is receiver level,  $L_{SUBST\_CABLES}$  is cable losses including both TX and RX cables and  $G_{SUBST\_TX\_ANT}$  is substitution antenna gain.

The measurement results are obtained as described below:

$$P [dBm] = P_{MEAS} + A_{TOT}$$

Where  $P_{MEAS}$  is receiver reading in dBm and  $A_{TOT}$  is total correction factor including cable loss and substitution correction ( $A_{TOT} = L_{CABLES} + A_{SUBST}$ ).

Limits for radiated RF output power measurements

| Frequency range [MHz] | Limit [W] | Limit [dBm] |
|-----------------------|-----------|-------------|
| 824 - 849             | 7         | 38.5        |
| 1850 - 1910           | 2         | 33          |

## 2.3. GSM 850 Test results

GSM mode slide closed

| Channel / $f_c$ [MHz] | ERP [dBm] | ERP [W] | $P_{MEAS}$ [dBm] | $A_{TOT}$ [dB] | Polarisation | Result |
|-----------------------|-----------|---------|------------------|----------------|--------------|--------|
| 128 / 824.2           | 25.80     | 0.380   | -8.90            | 34.70          | HORIZONTAL   | Pass   |
| 190 / 836.6           | 26.10     | 0.407   | -8.30            | 34.40          | HORIZONTAL   | Pass   |
| 251 / 848.8           | 26.80     | 0.479   | -7.10            | 33.90          | HORIZONTAL   | Pass   |

GPRS mode, 1 TX Slots slide closed

| Channel / $f_c$ [MHz] | ERP [dBm] | ERP [W] | $P_{MEAS}$ [dBm] | $A_{TOT}$ [dB] | Polarisation | Result |
|-----------------------|-----------|---------|------------------|----------------|--------------|--------|
| 128 / 824.2           | 25.80     | 0.380   | -8.90            | 34.70          | HORIZONTAL   | Pass   |
| 190 / 836.6           | 26.20     | 0.417   | -8.20            | 34.40          | HORIZONTAL   | Pass   |
| 251 / 848.8           | 27.00     | 0.501   | -6.90            | 33.90          | HORIZONTAL   | Pass   |

GPRS mode, 2 TX Slot slide closed

| Channel / $f_c$ [MHz] | ERP [dBm] | ERP [W] | $P_{MEAS}$ [dBm] | $A_{TOT}$ [dB] | Polarisation | Result |
|-----------------------|-----------|---------|------------------|----------------|--------------|--------|
| 128 / 824.2           | 24.40     | 0.275   | -10.30           | 34.70          | HORIZONTAL   | Pass   |
| 190 / 836.6           | 25.00     | 0.316   | -9.40            | 34.40          | HORIZONTAL   | Pass   |
| 251 / 848.8           | 25.20     | 0.331   | -8.70            | 33.90          | HORIZONTAL   | Pass   |

GPRS mode, 3 TX Slot slide closed

| Channel / $f_c$ [MHz] | ERP [dBm] | ERP [W] | $P_{MEAS}$ [dBm] | $A_{TOT}$ [dB] | Polarisation | Result |
|-----------------------|-----------|---------|------------------|----------------|--------------|--------|
| 128 / 824.2           | 23.00     | 0.200   | -11.70           | 34.70          | HORIZONTAL   | Pass   |
| 190 / 836.6           | 23.50     | 0.224   | -10.90           | 34.40          | HORIZONTAL   | Pass   |
| 251 / 848.8           | 23.60     | 0.229   | -10.30           | 33.90          | HORIZONTAL   | Pass   |

EGPRS mode, 1 TX Slot slide closed

| Channel / $f_c$ [MHz] | ERP [dBm] | ERP [W] | $P_{MEAS}$ [dBm] | $A_{TOT}$ [dB] | Polarisation | Result |
|-----------------------|-----------|---------|------------------|----------------|--------------|--------|
| 128 / 824.2           | 18.40     | 0.069   | -16.30           | 34.70          | HORIZONTAL   | Pass   |
| 190 / 836.6           | 16.90     | 0.049   | -17.50           | 34.40          | HORIZONTAL   | Pass   |
| 251 / 848.8           | 16.30     | 0.043   | -17.60           | 33.90          | HORIZONTAL   | Pass   |

EPRS mode, 2 TX Slot slide closed

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 20.90      | 0.123    | -22.90                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 22.40      | 0.174    | -21.70                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 22.00      | 0.158    | -21.80                  | 43.80                 | HORIZONTAL   | Pass   |

EPRS mode, 3 TX Slot slide closed

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 19.80      | 0.095    | -24.00                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 20.10      | 0.102    | -24.00                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 19.70      | 0.093    | -24.10                  | 43.80                 | HORIZONTAL   | Pass   |

GSM mode slide open

| Channel / f <sub>c</sub> [MHz] | ERP [dBm] | ERP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|-----------|---------|-------------------------|-----------------------|--------------|--------|
| 128 / 824.2                    | 27.20     | 0.525   | -6.90                   | 34.10                 | VERTICAL     | Pass   |
| 190 / 836.6                    | 26.70     | 0.468   | -6.90                   | 33.60                 | VERTICAL     | Pass   |
| 251 / 848.8                    | 27.10     | 0.513   | -6.40                   | 33.50                 | VERTICAL     | Pass   |

GPRS mode, 1 TX Slots slide open

| Channel / f <sub>c</sub> [MHz] | ERP [dBm] | ERP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|-----------|---------|-------------------------|-----------------------|--------------|--------|
| 128 / 824.2                    | 27.10     | 0.513   | -7.00                   | 34.10                 | VERTICAL     | Pass   |
| 190 / 836.6                    | 26.70     | 0.468   | -6.90                   | 33.60                 | VERTICAL     | Pass   |
| 251 / 848.8                    | 27.20     | 0.525   | -6.30                   | 33.50                 | VERTICAL     | Pass   |

GPRS mode, 2 TX Slot slide open

| Channel / f <sub>c</sub> [MHz] | ERP [dBm] | ERP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|-----------|---------|-------------------------|-----------------------|--------------|--------|
| 128 / 824.2                    | 25.60     | 0.363   | -8.50                   | 34.10                 | VERTICAL     | Pass   |
| 190 / 836.6                    | 25.40     | 0.347   | -8.20                   | 33.60                 | VERTICAL     | Pass   |
| 251 / 848.8                    | 25.40     | 0.347   | -8.10                   | 33.50                 | VERTICAL     | Pass   |

GPRS mode, 3 TX Slot slide open

| Channel / f <sub>c</sub> [MHz] | ERP [dBm] | ERP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|-----------|---------|-------------------------|-----------------------|--------------|--------|
| 128 / 824.2                    | 24.10     | 0.257   | -10.00                  | 34.10                 | VERTICAL     | Pass   |
| 190 / 836.6                    | 24.00     | 0.251   | -9.60                   | 33.60                 | VERTICAL     | Pass   |
| 251 / 848.8                    | 23.90     | 0.245   | -9.60                   | 33.50                 | VERTICAL     | Pass   |

EGPRS mode, 1 TX Slot slide open

| Channel / f <sub>c</sub> [MHz] | ERP [dBm] | ERP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|-----------|---------|-------------------------|-----------------------|--------------|--------|
| 128 / 824.2                    | 18.90     | 0.078   | -15.80                  | 34.70                 | HORIZONTAL   | Pass   |
| 190 / 836.6                    | 17.20     | 0.052   | -17.20                  | 34.40                 | HORIZONTAL   | Pass   |
| 251 / 848.8                    | 17.70     | 0.059   | -16.20                  | 33.90                 | HORIZONTAL   | Pass   |

EPRS mode, 2 TX Slot slide open

| Channel / f <sub>c</sub> [MHz] | ERP [dBm] | ERP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|-----------|---------|-------------------------|-----------------------|--------------|--------|
| 128 / 824.2                    | 19.80     | 0.095   | -14.30                  | 34.10                 | VERTICAL     | Pass   |
| 190 / 836.6                    | 20.30     | 0.107   | -13.30                  | 33.60                 | VERTICAL     | Pass   |
| 251 / 848.8                    | 19.80     | 0.095   | -13.70                  | 33.50                 | VERTICAL     | Pass   |

EPRS mode, 3 TX Slot slide open

| Channel / f <sub>c</sub> [MHz] | ERP [dBm] | ERP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|-----------|---------|-------------------------|-----------------------|--------------|--------|
| 128 / 824.2                    | 18.70     | 0.074   | -15.40                  | 34.10                 | VERTICAL     | Pass   |
| 190 / 836.6                    | 18.90     | 0.078   | -14.70                  | 33.60                 | VERTICAL     | Pass   |
| 251 / 848.8                    | 19.00     | 0.079   | -14.50                  | 33.50                 | VERTICAL     | Pass   |

## 2.4. GSM 1900 Test results

GSM mode slide closed

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 27.30      | 0.537    | -16.50                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 28.20      | 0.661    | -15.90                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 27.30      | 0.537    | -16.50                  | 43.80                 | HORIZONTAL   | Pass   |

GPRS mode, 1 TX Slot slide closed

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 27.20      | 0.525    | -16.60                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 28.10      | 0.646    | -16.00                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 27.20      | 0.525    | -16.60                  | 43.80                 | HORIZONTAL   | Pass   |

GPRS mode, 2 TX Slots slide closed

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 24.60      | 0.288    | -19.20                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 25.50      | 0.355    | -18.60                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 24.70      | 0.295    | -19.10                  | 43.80                 | HORIZONTAL   | Pass   |

GPRS mode, 3 TX Slot slide closed

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 23.10      | 0.204    | -20.70                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 24.00      | 0.251    | -20.10                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 23.20      | 0.209    | -20.60                  | 43.80                 | HORIZONTAL   | Pass   |

EGPRS mode, 1 TX Slot slide closed

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 23.10      | 0.204    | -20.70                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 23.80      | 0.240    | -20.30                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 23.30      | 0.214    | -20.50                  | 43.80                 | HORIZONTAL   | Pass   |

EGPRS mode, 2 TX Slot slide closed

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 21.70      | 0.148    | -22.10                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 22.90      | 0.195    | -21.20                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 21.70      | 0.148    | -22.10                  | 43.80                 | HORIZONTAL   | Pass   |

EGPRS mode, 3 TX Slot slide closed

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 20.20      | 0.105    | -23.60                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 21.00      | 0.126    | -23.10                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 20.20      | 0.105    | -23.60                  | 43.80                 | HORIZONTAL   | Pass   |

GSM mode slide open

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 29.90      | 0.977    | -13.90                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 29.50      | 0.891    | -14.60                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 29.40      | 0.871    | -14.40                  | 43.80                 | HORIZONTAL   | Pass   |

GPRS mode, 1 TX Slot slide open

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 29.80      | 0.955    | -14.00                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 29.50      | 0.891    | -14.60                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 29.40      | 0.871    | -14.40                  | 43.80                 | HORIZONTAL   | Pass   |

GPRS mode, 2 TX Slots slide open

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 27.30      | 0.537    | -16.50                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 27.00      | 0.501    | -17.10                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 26.90      | 0.490    | -16.90                  | 43.80                 | HORIZONTAL   | Pass   |

GPRS mode, 3 TX Slot slide open

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 25.80      | 0.380    | -18.00                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 25.40      | 0.347    | -18.70                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 25.40      | 0.347    | -18.40                  | 43.80                 | HORIZONTAL   | Pass   |

EGPRS mode, 1 TX Slot slide open

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 25.80      | 0.380    | -18.00                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 25.10      | 0.324    | -19.00                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 25.30      | 0.339    | -18.50                  | 43.80                 | HORIZONTAL   | Pass   |

EGPRS mode, 2 TX Slot slide open

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 24.60      | 0.288    | -19.20                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 24.20      | 0.263    | -19.90                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 24.00      | 0.251    | -19.80                  | 43.80                 | HORIZONTAL   | Pass   |

EGPRS mode, 3 TX Slot slide open

| Channel / f <sub>c</sub> [MHz] | EIRP [dBm] | EIRP [W] | P <sub>MEAS</sub> [dBm] | A <sub>TOT</sub> [dB] | Polarisation | Result |
|--------------------------------|------------|----------|-------------------------|-----------------------|--------------|--------|
| 512 / 1850.2                   | 22.70      | 0.186    | -21.10                  | 43.80                 | HORIZONTAL   | Pass   |
| 661 / 1880.0                   | 22.90      | 0.195    | -21.20                  | 44.10                 | HORIZONTAL   | Pass   |
| 810 / 1909.8                   | 22.50      | 0.178    | -21.30                  | 43.80                 | HORIZONTAL   | Pass   |



### 3. Test Equipment

#### 3.1. Conducted measurements

| Eq. No | Equipment                                      | Type      | Manufacturer    | Used in            |
|--------|------------------------------------------------|-----------|-----------------|--------------------|
| 13037  | Power Supply 0-15V 10A                         | EA3012    | LP Instruments  | 15C, 15B           |
| 13513  | Pulse Limiter 9KHz-30MHz                       | ESH3Z2    | Rohde&Schwarz   | 15C, 15B           |
| 13666  | EMI Test Receiver 9KHz-2,5GHz                  | ESPC      | Rohde&Schwarz   | 15C, 15B           |
| 13935  | Two Lines Artificial Mains Network             | ESH3-Z5   | Rohde&Schwarz   | 15C, 15B           |
| 16995  | Directional Coupler 20dB 0,5-2,0 GHz SMA Conn. | 1538RA-20 | Weinschel       | 15C, 15B           |
| 18772  | Shielded Chamber                               | RFD-100   | ETS-Lindgren    | 15C, 15B           |
| 19171  | Universal Radio Communication Tester           | CMU200    | Rohde&Schwarz   | 15C, 15B           |
| 11386  | System DC Power Supply                         | HP6632A   | Hewlett Packard | 22/24/27, 15C, 15B |
| 19678  | Spectrum Analyzer 26 GHz                       | FSP       | Rohde&Schwarz   | 22/24/27, 15C, 15B |
| 16601  | Universal Radio Communication Tester           | CMU200    | Rohde&Schwarz   | 22/24/27, 15C, 15B |
| 19625  | Vötsch Climatic Chamber                        | VT4002EMC | Vötsch          | 22/24/27, 15C, 15B |
| 13357  | Rohde & Schwartz Signal Generator              | SMP02     | Rohde&Schwarz   | 22/24/27, 15C, 15B |
| 20168  | Bluetooth EDR Tester                           | CBT       | Rohde&Schwarz   | 22/24/27, 15C, 15B |

#### 3.2. Radiated measurements

| Eq. No | Equipment                                      | Type          | Manufacturer  | Used in            |
|--------|------------------------------------------------|---------------|---------------|--------------------|
| 18416  | Universal Radio Communication Tester           | CMU200        | Rohde&Schwarz | 22/24/27, 15C, 15B |
|        | Programmable Relay Switching System            | -----         | Pickering     | 22/24/27, 15C, 15B |
| 15742  | Programmable Relay Switching System            | -----         | Pickering     | 22/24/27, 15C, 15B |
| 14020  | Power Supply Module Relay Switching System 45W | 10-910-002    | Pickering     | 22/24/27, 15C, 15B |
| 15743  | Power Supply Module Relay Switching System 50W | 10-910L-001   | Pickering     | 22/24/27, 15C, 15B |
| 16490  | RS-232/IEEE-488.2 Interface                    | 10-921-001    | Pickering     | 22/24/27, 15C, 15B |
|        | RS-232/IEEE-488.2 Interface                    | 10-921-001    | Pickering     | 22/24/27, 15C, 15B |
| 20078  | Relay 2x6 Chnl $\mu$ Wave Mux                  | 10-785B-522   | Pickering     | 22/24/27, 15C, 15B |
| 14021  | Relay Dual 6 Chnl $\mu$ Wave Mux               | 10-785-522    |               | 22/24/27, 15C, 15B |
|        | Relay Dual 6 Chnl $\mu$ Wave Mux               | 10-785-522    |               | 22/24/27, 15C, 15B |
| 17644  | Dual 6 Channel MUX Microwave Relay SMA 50 Ohm  | 10-785-522    | Pickering     | 22/24/27, 15C, 15B |
| 16948  | Dual 6 Channel MUX Microwave Relay SMA 50 Ohm  | 10-785-522    | Pickering     | 22/24/27, 15C, 15B |
| 16949  | Dual 6 Channel MUX Microwave Relay SMA 50 Ohm  | 10-785-522    | Pickering     | 22/24/27, 15C, 15B |
| 18792  | Multi Device Controller                        | 2090          | ETS-EMCO      | 22/24/27, 15C, 15B |
| 14963  | RF Preamplifier 100MHz-4GHz (Metal Chassis)    | AFS3-00100400 | Miteq/NMP Cph | 22/24/27, 15C, 15B |
| 18861  | EMI Test Receiver 20Hz-26,5GHz                 | ESI           | Rohde&Schwarz | 22/24/27, 15C, 15B |
| 20335  | Ultra Broadband Antenna Ultralog 30-3000MHz    | HL562         | Rohde&Schwarz | 22/24/27, 15C, 15B |
| 18773  | Shielded Chamber                               | RFD-100       | ETS-Lindgren  | 22/24/27, 15C, 15B |
| 18774  | Shielded Chamber                               | RFSD-F/A-100  | ETS-Lindgren  | 22/24/27, 15C, 15B |
| 19151  | High Pass Filter 3GHz                          | WHJS3000-10SS | Wainwright    | 22/24/27, 15C, 15B |

| Eq. No | Equipment                                   | Type                            | Manufacturer           | Used in            |
|--------|---------------------------------------------|---------------------------------|------------------------|--------------------|
|        | WHK3.0/18G-10ss                             |                                 |                        |                    |
| 13937  | Ultra Stable Notch Filter 850MHz            | WRCA902.4-0.2/40-6SS            | Wainwright Instruments | 22/24/27, 15C, 15B |
| 13936  | Ultra Stable Notch Filter 1747,5MHz         | WRCD1747.5-0.2/40-10SS          | Wainwright Instruments | 22/24/27, 15C, 15B |
| 14114  | High pass filter                            | WHK1000-12SS                    | Wainwright Instruments | 22/24/27, 15C, 15B |
| 14188  | Ultra Stable Notch Filter 902,4MHz          | WRCA902.4-0.2/40-6SS            | Wainwright             | 22/24/27, 15C, 15B |
| 14187  | Ultra Stable Notch Filter 1747,5MHz         | WRCD1747.5-0.2/40-10SS          | Wainwright             | 22/24/27, 15C, 15B |
| 16633  | Ultra Stable Notch Filter 1880,0MHz         | WRCD1880.0-0.2/40-10SS          | Wainwright             | 22/24/27, 15C, 15B |
| 19587  | BT/WLAN Band Reject Filter                  | WRCG2400/2483-2390/2493-35/10SS | Wainwright             | 22/24/27, 15C, 15B |
| 20115  | WDCMA Band 2 filter                         |                                 | Wainwright             | 24, 15C, 15B       |
| 20114  | WDCMA Band 4 filter                         | WRCG1737/1743-1733/1747-40/6SS  | Wainwright             | 27, 15C, 15B       |
| 20116  | WDCMA Band 5&6 filter                       | WRCG832/83/-825/845-40/5SS      | Wainwright             | 22, 15C, 15B       |
| 18323  | Band reject filter 1947-1953MHz 40dB        | WRCG1947/1953-1940/1960-40/6SS  | Wainwright             | 22/24/27, 15C, 15B |
| 20031  | Double Ridged Broadband Horn                | BBHA 9120 D                     | SCHWARZBECK            | 22/24/27, 15C, 15B |
| 19966  | Magnetic Loop Antenna 9 kHz - 30 MHz        | HFH2-Z2                         | Rohde&Schwarz          | 15C, 15B           |
| 14993  | EMI Test Receiver 9KHz-2750MHz              | ESCS30                          | Rohde&Schwarz          | 22/24/27, 15C, 15B |
| 15191  | Turntable Controller Unit                   | G-800SDX                        | YAESU                  | 22/24/27, 15C, 15B |
| 14900  | Antenna Controller                          | HD100                           | HD GmbH                | 22/24/27, 15C, 15B |
| 19374  | Resonant Dipole Antenna 850MHz SMA m Conn.  | -----                           | NMP Cph                | 22/24/27, 15C, 15B |
| 19375  | Resonant Dipole Antenna 1900MHz SMA m Conn. | -----                           | NMP Cph                | 22/24/27, 15C, 15B |
| 20168  | Bluetooth EDR Tester                        | CBT                             | Rohde&Schwarz          | 22/24/27, 15C, 15B |