

**Accredited EMC-Test-Laboratory**

**accredited by:**

**Regulatory Authority for Telecommunications and Posts (Reg TP)**  
**DAR-No.: TTI-P-G-166/98**

**Federal Motor Transport Authority (KBA)**  
**DAR registration number: KBA-P 00070-97 from January –19-1999**

Listed by  
**FEDERAL COMMUNICATIONS COMMISSION (FCC )**  
**Registration Number: 90462**  
**FCC Website: WWW.FCC.GOV**

**Test report no.: 2-2608/01\_1\_3**

**Type identification : GSM 1900 Mobile Phone**  
**transmitting unit for Compaq PDA**

**Test specification: Supplement C to OET Bulletin 65**  
**and AS 2772.1**

## Table of Content

|                                                     |   |
|-----------------------------------------------------|---|
| 1 General Information .....                         | 3 |
| 1.1 Notes.....                                      | 3 |
| 1.2 Testing laboratory.....                         | 4 |
| 1.3 Details of applicant.....                       | 4 |
| 1.4 Application details.....                        | 4 |
| 1.5 Test item.....                                  | 5 |
| 1.5.1 Operating conditions .....                    | 5 |
| 1.6 Test specifications .....                       | 5 |
| 2 Technical test.....                               | 6 |
| 2.1. Summary of test results .....                  | 6 |
| 2.2 Test environment.....                           | 6 |
| 2.3 Test equipment used.....                        | 6 |
| 2.4 Test results.....                               | 7 |
| 2.5 Parameter of the tissue simulating liquid ..... | 8 |
| 2.6 Combined measurement uncertainties.....         | 8 |
| 3 Photo documentation .....                         | 9 |

## 1 General Information

### 1.1 Notes

The test results of this test report relate exclusively to the test item specified in 1.5. The CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item.

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### Tester operator:

25.04.2001

Fabien Coulet



Date

Name

Signature

### Technical responsibility for area of testing:

25.04.2001

Bernd Rebmann



Date

Name

Signature

## 1.2 Testing laboratory

CETECOM ICT Services GmbH

Untertürkheimer Straße 6-10, D-66117 Saarbrücken

Germany

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Internet: <http://www.cetecom.com>

State of accreditation: The Test laboratory SAR is accredited according to DIN EN 45001.

DAR-No.: TTI-P-G-166/98

Test location, if different from CETECOM ICT Services GmbH

Name: ---

Street: ---

Town: ---

Country: ---

Phone: ---

Fax: ---

## 1.3 Details of applicant

Name: Option International nv sa

Street: Kolonel Begaultlaan 45

Town: 3012 Leuven

Country: Belgium

Phone: +32 16 317 411

Fax: +32 16 207 164

Contact: Mr. Kjell Cools

Phone: +32 16 311 605

## 1.4 Application details

Date of receipt of application: July 22, 2001

Date of receipt of test item: July 23, 2001

Date of test: July 23, 2001

Person(s) who have been present during the test: Mr Xiao-Hai Shen

## 1.5 Test item

Description of test item: GSM 1900 Mobile Phone transmitting unit for Compaq PDA

Type designation: Wireless Pack

Serial No IMEI No: FIZPVT0124300004

Hw software version: 001025000010100 V1.1

Purpose: 04.06/07.18.2001 12:54:21

Manufacturer: see applicant

Name: ---

Street: ---

Town: ---

Country: ---

Additional information: ---

### 1.5.1 Operating conditions

The test device used the maximum output power.

#### PCN 1900



PCN1900 – power class 1



RF channel 512



RF channel 661



RF channel 810

## 1.6 Test specifications

Supplement C (Edition 97-01) to OET Bulletin 65 (Edition 97-01)

AS 2772.1:1998

ANSI C95.1:1992

## 2 Technical test

### 2.1. Summary of test results

- ☒ No deviations from the technical specification(s) were ascertained in the course of the tests performed.
- ☐ The deviations as specified in 2.4 were ascertained in the course of the tests performed.

### 2.2 Test environment

Ambient temperature: 22°C – 24°C

Tissue simulating liquid: 22°C – 24°C

### 2.3 Test equipment used

| Manufacturer                    | Device                               | Type             | Serial number | Date of last calibration    |
|---------------------------------|--------------------------------------|------------------|---------------|-----------------------------|
| Schmid & Partner Engineering AG | Dosimetric E-Fiel Probe              | ET3DV6           | 1558          | February 20, 2001           |
| Schmid & Partner Engineering AG | Dosimetric E-Fiel Probe              | ET3DV6           | 1559          | February 20, 2001           |
| Schmid & Partner Engineering AG | 900 MHz System Validation Dipole     | D900V2           | 102           | February 13, 2001           |
| Schmid & Partner Engineering AG | 1800 MHz System Validation Dipol     | D1800V2          | 287           | February 13, 2001           |
| Schmid & Partner Engineering AG | Data acquisition electronics         | DAE3V1           | 413           | January 15, 2001            |
| Schmid & Partner Engineering AG | Software                             | DASY 3 V3.1c     | ---           | Calibration isn't necessary |
| Schmid & Partner Engineering AG | Phantom                              | Pre SAM          | ---           | Calibration isn't necessary |
| Rohde & Schwarz                 | Digital Radio-communication Test Set | CRTC             | 862485/001    | Mai 15, 2000                |
| Rohde & Schwarz                 | Digital Radio-communication Test Set | CRTC analog unit | 833727/010    | Mai 15, 2000                |
| Hewlett Packard                 | Network Analyser 300 kHz to 3 GHz    | HP 8753C         | 2936A00872    | Mai 11, 1998                |
| Agilent                         | Dielectric Probe Kit                 | Agilent 85070C   | US99360146    | March 8, 2001               |

## 2.4 Test results

The device is positioned in a normal operating position with the centre of its ear-piece aligned with the location of the ear canal on a simulated head model.

| The table contain the measured SAR values averaged over a mass of 1 g |                    |                     |          |
|-----------------------------------------------------------------------|--------------------|---------------------|----------|
| Channel                                                               | Left hand position | Right hand position | Limit    |
| 512                                                                   | 0.155 W/kg         | 0.128 W/kg          | 1.6 W/kg |
| 661                                                                   | 0.195 W/kg         | 0.149 W/kg          | 1.6 W/kg |
| 810                                                                   | 0.211 W/kg         | 0.167 W/kg          | 1.6 W/kg |

Table 1: Measurement results for GSM 1900

## 2.5 Parameter of the tissue simulating liquid

The Table below contain the dielectric properties of equivalent head tissue.

|                      |              | Relative permittivity $\epsilon_r$ | Conductivity $\sigma$ |
|----------------------|--------------|------------------------------------|-----------------------|
| <b>GSM 1900</b><br>: | Channel 512: | 40.44                              | 1.41                  |
|                      | Channel 661: | 40.16                              | 1.45                  |
|                      | Channel 810: | 40.16                              | 1.45                  |

Table 3: Parameters of the tissue simulating liquid

## 2.6 Combined measurement uncertainties

The measurement uncertainty for the described measurements is as follows:

| Error Description              | Standard Uncertainty | Offset     |
|--------------------------------|----------------------|------------|
| E-field probe errors           | $\pm 6.9 \%$         |            |
| SAR evaluation error           | $\pm 7.4 \%$         | $\pm 5 \%$ |
| Source uncertainty             | $\pm 6,7 \%$         |            |
| Combined Standard Uncertainty: | $\pm 12.1 \%$        |            |
| Expanded Uncertainty (k=2)     | $\pm 24,2 \%$        |            |

Table 4: Measurement uncertainties

The measurement uncertainties were performed by Schmid & Partner Engineering AG.

The necessary detailed calculations and estimations for this are part of a separate document, which can be examined in the CETECOM ICT SAR laboratory.

### 3 Photo documentation

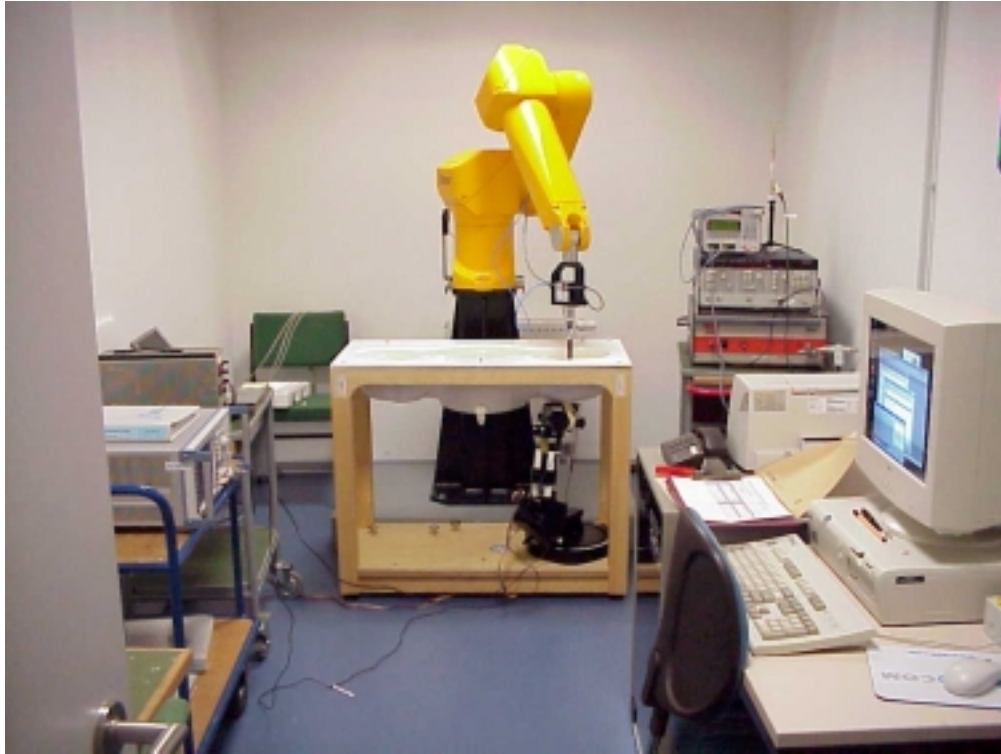


Photo1: Measurement System DASY3

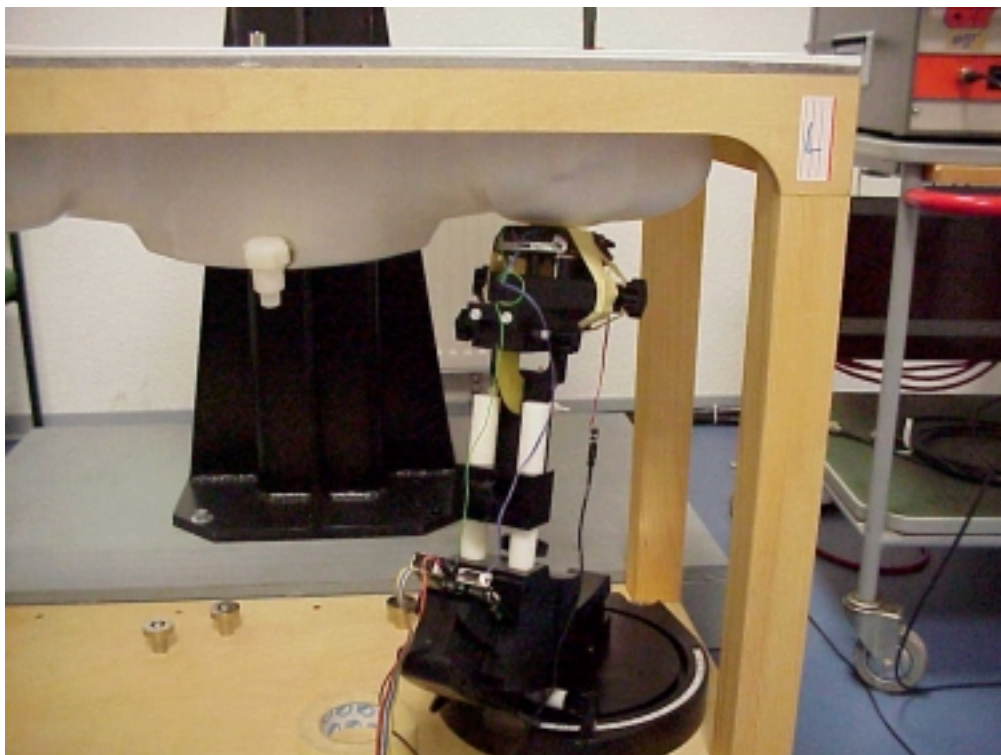


Photo2: A mobile phone operating in a defined position at a shell phantom