

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.

The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM ICT Services GmbH.

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

Telephone: +49 681 598 - 0

Fax: + 49 681 598 - 9075

e-mail: info@ict.cetecom.de

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 ϵ_r	Conductivity σ
GSM 1900 :	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

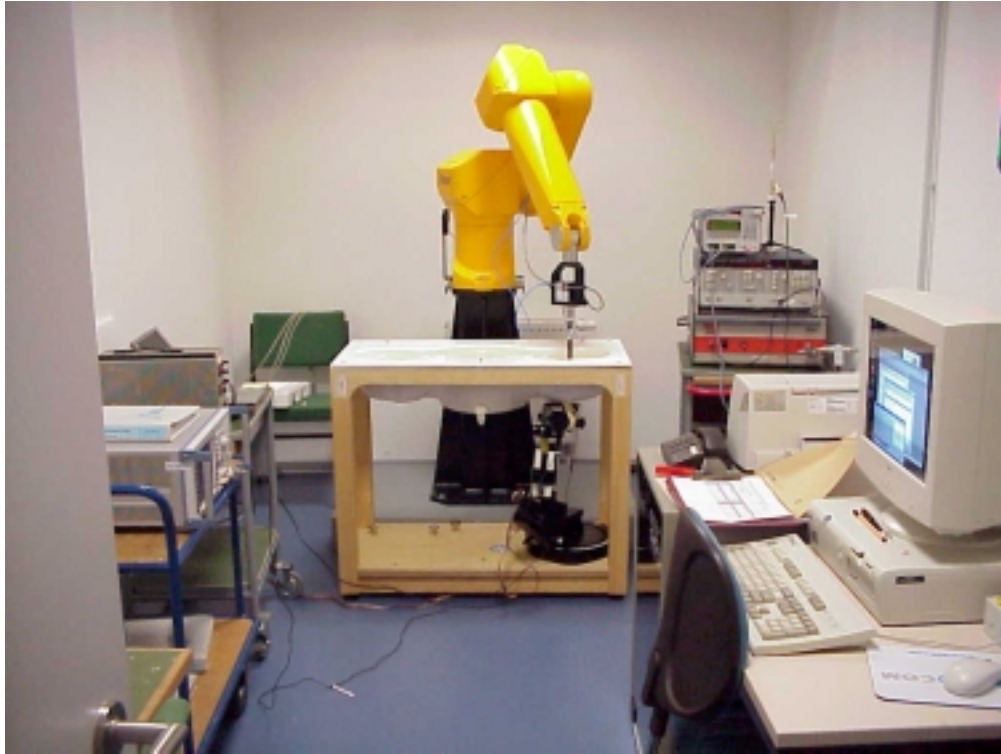


Photo1: Measurement System DASY3

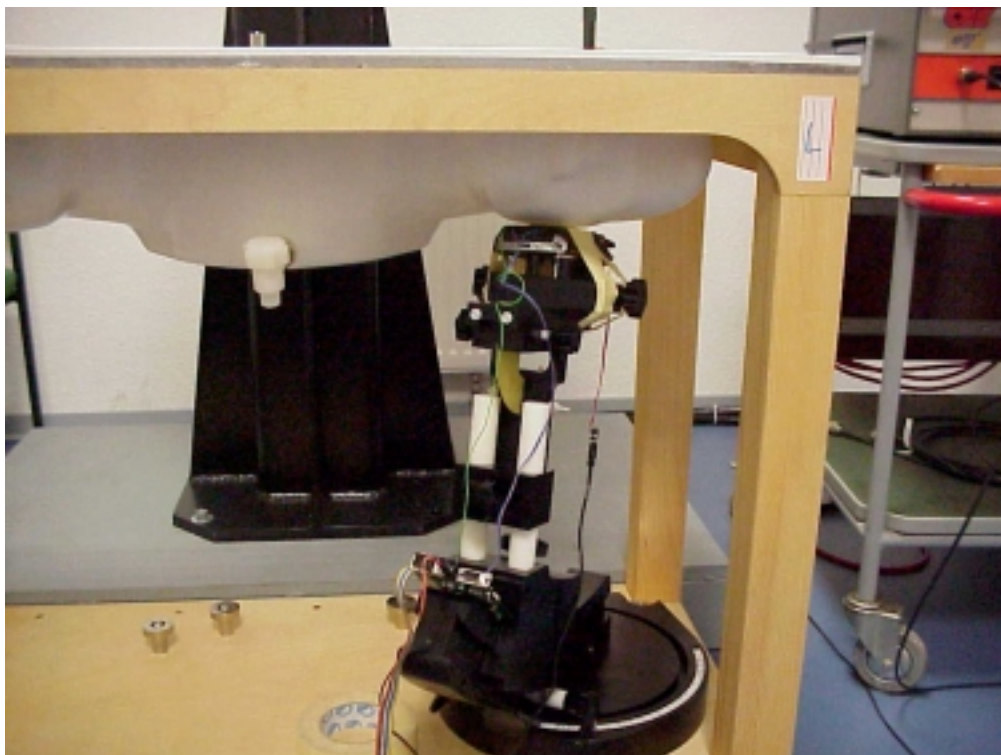


Photo2: A mobile phone operating in a defined position at a shell phantom