


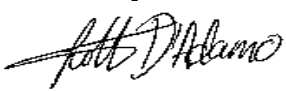
TEST REPORT FROM RFI GLOBAL SERVICES LTD

Test of: NTT docomo P-08A

To: OET Bulletin 65 Supplement C: (2001-01)

Test Report Serial No:
RFI/SAR2/RP74716JD10A

Supersedes Test Report Serial No:
RFI/SAR1/RP74716JD10A

| | | | |
|---|--|---|--|
| This Test Report Is Issued Under The Authority Of Stuart Thomas, General Manager Cellular Services: | | pp  | |
| Checked By Scott D'Adamo:  | | Report Copy No: PDF01 | |
| Issue Date: 21 April 2009 | | Test Dates: 20 March 2009 to 25 March 2009 | |

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1. Customer Information

| | |
|----------------------|--|
| Company Name: | Panasonic Mobile Comms Dev of Europe Ltd. |
| Address: | Panasonic House Willoughby Road Bracknell Berkshire RG12 8FP United Kingdom |

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2. Equipment Under Test (EUT)

2.1. Identification of Equipment Under Test (EUT)

| | |
|---|---|
| Description: | Mobile Handset |
| Brand Name: | NTT docomo |
| Model Name or Number: | P-08A |
| Serial Number: | None Stated (Sample C7) |
| IMEI Number: | 35 6754020050086 |
| Hardware Version Number: | Rev C |
| Software Version Number: | B-WN908D-01.03.001 08-2H_CPF_Cv0A1352A |
| Hardware Revision of GSM Module: | Not Applicable |
| Software Revision of GSM Module: | Not Applicable |
| FCC ID Number: | UCE208015A |
| Country of Manufacture: | None Stated |
| Date of Receipt: | 18 March 2009 |

2.2. Description of EUT

The equipment under test was a Dual mode Cellular Mobile Telephone with PCS, UMTS FDD V and UMTS Release 5 HSDPA capabilities, incorporating Bluetooth and RFID. The Cellular Mobile Telephone operates on PCS/GPRS1900 MHz Band, UMTS/UMTS Release 5 HSDPA 850 MHz Band, Bluetooth 2400 MHz Band and RFID 13.5 MHz Band.

2.3. Modifications Incorporated in the EUT

There were no modifications incorporated in the EUT during testing.

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2.4. Accessories

The following accessories were supplied with the EUT during testing:

| | |
|--------------------------------|------------------------------|
| Description: | Micro-SD Memory Card |
| Brand Name: | None Stated |
| Model Name or Number: | None Stated |
| Serial Number: | None Stated |
| Cable Length and Type: | Not applicable |
| Country of Manufacture: | None Stated |
| Connected to Port: | Dedicated micro-SD card port |

| | |
|--------------------------------|------------------------------------|
| Description: | Personal Hands-Free |
| Brand Name: | NTT Docomo |
| Model Name or Number: | Stereo Earphone Set 01 |
| Serial Number: | None Stated |
| Cable Length and Type: | 1.8m / multi-core |
| Country of Manufacture: | None Stated |
| Connected to Port: | AV Out Port Unique to Manufacturer |

| | |
|--------------------------------|-----------------|
| Description: | Battery |
| Brand Name: | NTT |
| Model Name or Number: | P19-T1 |
| Serial Number: | None Stated |
| Cable Length and Type: | Not Applicable |
| Country of Manufacture: | None Stated |
| Connected to Port: | 3 point contact |

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2.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

| | |
|-------------------------------|------------------------------|
| Description: | Radio Communication Test Set |
| Brand Name: | Agilent |
| Model Name or Number: | 8960 Series 10 |
| Serial Number: | GB45360562 |
| Cable Length and Type: | ~1.5m Utiflex Cable |
| Connected to Port: | RF Input/Output |

| | |
|-------------------------------|----------------------------|
| Description: | Communication Test Set |
| Brand Name: | R&S |
| Model Name or Number: | CMU200 |
| Serial Number: | 101376 |
| Cable Length and Type: | Not Applicable |
| Connected to Port: | RF (Input/Output) Air Link |

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2.6. Additional Information Related to Testing

| | | | |
|---|---|----------------------------|------------------------|
| Equipment Category: | PCS1900 / UMTS Band V / Bluetooth / RFID | | |
| Type of Unit: | Portable Transceiver | | |
| Intended Operating Environment: | Within GSM, UMTS, RFID and Bluetooth Coverage | | |
| Transmitter Maximum Output Power Characteristics: | UMTS Band V | 24dBm | |
| | PCS1900 | 30dBm | |
| | Bluetooth | 2dBm | |
| Transmitter Frequency Range: | UMTS Band V | (826 to 847) MHz | |
| | PCS1900 | (1850 to 1910) MHz | |
| | Bluetooth | (2402 to 2480) MHz | |
| Transmitter Frequency Allocation of EUT When Under Test: | Channel Number | Channel Description | Frequency (MHz) |
| | 4132 | Low | 826.4 |
| | 4183 | Middle | 836.6 |
| | 4233 | High | 846.6 |
| | 512 | Low | 1850.2 |
| | 660 | Middle | 1879.8 |
| | 810 | High | 1909.8 |
| Modulation(s): | GMSK(GSM / GPRS): 217 Hz, QPSK(UMTS / HSDPA): 0 Hz | | |
| Modulation Scheme (Crest Factor): | GMSK (GSM): 8.3, GMSK (GPRS):4, QPSK (UMTS FDD / HSDPA):1 | | |
| Antenna Type: | Internal | | |
| Antenna Length: | Unknown | | |
| Number of Antenna Positions: | 1 fixed | | |
| Power Supply Requirement: | 3.7v | | |
| Battery Type(s): | Li-ion | | |

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3. Test Specification, Methods and Procedures

3.1. Test Specification

| | |
|-------------------------|--|
| Reference: | OET Bulletin 65 Supplement C: (2001-01) |
| Title: | Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields. |
| Purpose of Test: | To determine whether the equipment met the basic restrictions as defined in OET Bulletin 65 Supplement C: (2001-01) using the SAR averaging method as described in the test specification above. |

3.2. Methods and Procedures Reference Documentation

The methods and procedures used were as detailed in:

Federal Communications Commission, "Evaluating compliance with FCC Guidelines for human exposure to radio frequency electromagnetic fields", OET Bulletin 65 Supplement C, FCC, Washington, D.C, 20554, 2001.

Thomas Schmid, Oliver Egger and Neils Kuster, "Automated E-field scanning system for dosimetric assessments", IEEE Transaction on microwave theory and techniques, Vol. 44, pp. 105-113, January 1996.

Neils Kuster, Ralph Kastle and Thomas Schmid, "Dosimetric evaluation of mobile communications equipment with know precision", IEICE Transactions of communications, Vol. E80-B, No.5, pp. 645-652, May 1997.

KDB 447498 D01 Mobile Portable RF Exposure v03.

KDB 648474 D01 SAR Handsets Multi Xmitter and Ant v01r05.

KDB 941225 D01 SAR test for 3G devices v02.

3.3. Definition of Measurement Equipment

The measurement equipment used complied with the requirements of the standards referenced in the methods & procedures section above. Appendix 1 contains a list of the test equipment used.

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4. Deviations from the Test Specification

Test was performed as per "KDB 447498 D01 Mobile Portable RF Exposure v03", "KDB 648474 D01 SAR Handsets Multi Xmitter and Ant v01r05" and "KDB 941225 D01 SAR test for 3G devices v02", according to the handset procedures in IEEE Std 1528-2003, OET Bulletin 65 Supplement C 01-01 and the specific FCC test procedures.

2G SAR test was performed in the middle channel only as the measured levels were < 50% of the SAR limit as stated in OET Bulletin 65 Supplement C: (2001-01). 3G Body SAR test was performed in the middle channel. The top channel was also evaluated using the worst cases configuration from the middle channel as the top channel had the highest output power measured. This configuration was evaluated to prove the overall worst case configuration value consistency.

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5. Operation and Configuration of the EUT during Testing

5.1. Operating Modes

The EUT was tested in the following operating mode(s) unless otherwise stated:

- PCS1900 Call allocated mode
 - GPRS1900 Data allocated mode
 - UMTS Band V call allocated
 - UMTS FDD V - RMC 12.2kbps + HSDPA With Test loop mode 1 and TPC bits configured to all "1's", Sub-test 1
 - 2G SAR test was performed in the middle channel only as the measured levels were < 50% of the SAR limit as stated in FCC Public Notice DA 02-1438 by the SCC-34/SC-2.
 - 3G SAR test was performed in the middle channel only as the middle channel had similar power levels as the top channel.
-

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5.2. Configuration and Peripherals

The EUT was tested in the following configuration(s) unless otherwise stated:

- Standalone Battery Powered.
- EUT tested in Head and Body-worn configuration. The applied configurations for body-worn orientations where the corresponding edge(s) is closest to the user with the most conservative exposure condition.

Head Configuration

- a) The handset was placed in a normal operating position with the centre of the ear-piece aligned with the ear canal on the phantom.
- b) With the ear-piece touching the phantom the centre line of the handset was aligned with an imaginary plane (X and Y axis) consisting of three lines connecting both ears and the mouth.
- c) For the cheek position the handset was gradually moved towards the cheek until any point of the mouth-piece or keypad touched the cheek.
- d) For the tilted position the EUT was positioned as for the cheek position, and then the horizontal angle was increased by fifteen degrees (the phone keypad was moved away from the cheek by fifteen degrees).
- e) SAR measurements were evaluated at maximum power and the unit was operated for an appropriate period prior to the evaluation in order to minimise the drift.
- f) The device was keyed to operate continuously in the transmit mode for the duration of the test.
- g) The location of the maximum spatial SAR distribution (hot spot) was determined relative to the handset and its antenna.
- h) The EUT was transmitting at full power throughout the duration of the test powered by a fully charged battery.

Body Configuration

- a) The EUT was placed in a normal operating position where the centre of EUT was aligned with the centre reference point on the flat section of the 'SAM' phantom.
 - b) With the EUT touching the phantom at an imaginary centre line. The EUT was aligned with a marked plane (X and Y axis) consisting of two lines.
 - c) For the touch-safe position the handset was gradually moved towards the flat section of the 'SAM' phantom until any point of the EUT touched the phantom.
 - d) For position(s) greater than 0mm separation the EUT was positioned as per the touch-safe position, and then the vertical height was decreased/adjusted as required.
 - e) SAR measurements were evaluated at maximum power and the unit was operated for an appropriate period prior to the evaluation in order to minimise the drift.
 - f) The device was keyed to operate continuously in the transmit mode for the duration of the test.
 - g) The location of the maximum spatial SAR distribution (hot spot) was determined relative to the handset and its antenna.
 - h) The EUT was transmitting at full power throughout the duration of the test powered by a fully charged battery.
-

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6. Summary of Test Results

| Test Name | Specification Reference | Result |
|--|------------------------------------|----------|
| Specific Absorption Rate-UMTS FDD V Head Configuration 1g | OET Bulletin 65 Supplement C: 2001 | Complied |
| Specific Absorption Rate-UMTS FDD V Body Configuration 1g | OET Bulletin 65 Supplement C: 2001 | Complied |
| Specific Absorption Rate-FDD V HSDPA Body Configuration 1g | OET Bulletin 65 Supplement C: 2001 | Complied |
| Specific Absorption Rate-PCS1900 Head Configuration 1g | OET Bulletin 65 Supplement C: 2001 | Complied |
| Specific Absorption Rate-PCS1900 Body Configuration 1g | OET Bulletin 65 Supplement C: 2001 | Complied |
| Specific Absorption Rate-GPRS1900 Body Configuration 1g | OET Bulletin 65 Supplement C: 2001 | Complied |

SAR Individual Transmitter Evaluation

| device, mode | Frequency, (MHz) | P _x (mW) | P _{REF} (mW) | n (cm) | single SAR, W/kg | remarks |
|---------------|------------------|---------------------|-----------------------|--------|------------------|---|
| WWAN, UMTS | 850 | 676 | - | 10 | 0.539 | Routine Evaluation |
| WWAN, GSM | 1900 | 1072 | - | 35 | 0.501 | Routine Evaluation |
| BT, Bluetooth | 2410 | 2 | 12 | 0 | :=0 | $\{P_{BT} \leq 2P_{REF}\} \{d_{UMTS, BT} > 5cm\} \{d_{gsm, BT} > 5cm\}$ |

SAR Simultaneous Transmitter Evaluation

| (x,y) | d(x,y) cm | L(x,y) cm | SPLSR _{xy} | Sim-Tx SAR | remarks |
|-----------------------------|-----------|-----------|---------------------|------------|-----------------------------|
| (WWAN _{UMTS} , BT) | 9 | n/a | n/a | n/a | {no stand-alone SAR for BT} |
| (WWAN _{GSM} , BT) | 9 | n/a | n/a | n/a | {no stand-alone SAR for BT} |

Note(s):

1. Simultaneous transmission evaluation was not required as the output power for Bluetooth was < (60/f) and the Sum of all antenna < 1.6w/kg.
2. Bluetooth transmitter thresholds output power "P_{Ref} = 12 as listed in KDB 648474.
3. P_x: power level measured by RFI.
4. Single SAR value was measured by RFI.
5. The "Antenna-to-Antenna distance and Antenna-to-User distance were provided by the customer.

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6.1. Location of Tests

All the measurements described in this report were performed at the premises of
RFI Global Services Ltd, Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire,
RG23 8BG United Kingdom

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7. Measurements, Examinations and Derived Results

7.1. General Comments

This section contains test results only.

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to section 8 for details of measurement uncertainties.

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7.2. Test Results

7.2.1. Specific Absorption Rate - UMTS FDD V Head Configuration 1g

Test Summary:

| | |
|-----------------------|-------|
| Tissue Volume: | 1g |
| Maximum Level (W/kg): | 0.446 |

Environmental Conditions:

| | |
|---------------------------------------|--------------|
| Temperature Variation in Lab (°C): | 23.0 to 23.0 |
| Temperature Variation in Liquid (°C): | 22.4 to 22.4 |

Results:

| EUT Position | Phantom Configuration | Channel Number | Level (W/kg) | Limit (W/kg) | Margin (W/kg) | Note(s) | Result |
|--------------------------------------|-----------------------|----------------|--------------|--------------|---------------|---------|----------|
| Touch Slide Closed Antenna Retracted | Left | 4183 | 0.289 | 1.600 | 1.311 | 1 | Complied |
| Touch Slide Closed Antenna Extended | Left | 4183 | 0.416 | 1.600 | 1.184 | 1 | Complied |
| Touch Slide Open Antenna Retracted | Left | 4183 | 0.381 | 1.600 | 1.219 | 1 | Complied |
| Touch Slide Open Antenna Extended | Left | 4183 | 0.324 | 1.600 | 1.276 | 1 | Complied |
| Tilt Slide Closed Antenna Retracted | Left | 4183 | 0.226 | 1.600 | 1.374 | 1 | Complied |
| Tilt Slide Closed Antenna Extended | Left | 4183 | 0.287 | 1.600 | 1.313 | 1 | Complied |
| Tilt Slide Open Antenna Retracted | Left | 4183 | 0.084 | 1.600 | 1.516 | 1 | Complied |
| Tilt Slide Open Antenna Extended | Left | 4183 | 0.084 | 1.600 | 1.516 | 1 | Complied |

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Specific Absorption Rate - UMTS FDD V Head Configuration 1g (continued)

| EUT Position | Phantom Configuration | Channel Number | Level (W/kg) | Limit (W/kg) | Margin (W/kg) | Note(s) | Result |
|--------------------------------------|-----------------------|----------------|--------------|--------------|---------------|---------|----------|
| Touch Slide Closed Antenna Retracted | Right | 4183 | 0.291 | 1.600 | 1.309 | 1 | Complied |
| Touch Slide Closed Antenna Extended | Right | 4193 | 0.437 | 1.600 | 1.163 | 1 | Complied |
| Touch Slide Open Antenna Retracted | Right | 4183 | 0.446 | 1.600 | 1.154 | 1 | Complied |
| Touch Slide Open Antenna Extended | Right | 4183 | 0.390 | 1.600 | 1.210 | 1 | Complied |
| Tilt Slide Closed Antenna Retracted | Right | 4183 | 0.232 | 1.600 | 1.368 | 1 | Complied |
| Tilt Slide Closed Antenna Extended | Right | 4183 | 0.300 | 1.600 | 1.300 | 1 | Complied |
| Tilt Slide Open Antenna Retracted | Right | 4183 | 0.101 | 1.600 | 1.499 | 1 | Complied |
| Tilt Slide Open Antenna Extended | Right | 4183 | 0.100 | 1.600 | 1.500 | 1 | Complied |

Note(s):

1. SAR test was performed in the middle channel only as the measured levels were < 50% of the SAR limit as stated in the FCC Public Notice DA 02-1438 by the SCC-34/SC-2.

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7.2.2. Specific Absorption Rate - UMTS FDD V Body Configuration 1g**Test Summary:**

| | |
|-----------------------|-------|
| Tissue Volume: | 1g |
| Maximum Level (W/kg): | 0.539 |

Environmental Conditions:

| | |
|---------------------------------------|--------------|
| Temperature Variation in Lab (°C): | 23.0 to 23.0 |
| Temperature Variation in Liquid (°C): | 20.1 to 20.1 |

Results:

| EUT Position | Phantom Configuration | Channel Number | Level (W/kg) | Limit (W/kg) | Margin (W/kg) | Note(s) | Result |
|---|-----------------------|----------------|--------------|--------------|---------------|---------|----------|
| Front of EUT Facing Phantom with Slide Closed Antenna Retracted | Flat (SAM) | 4183 | 0.210 | 1.600 | 1.390 | 1,2 | Complied |
| Front of EUT Facing Phantom with Slide Closed Antenna Extended | Flat (SAM) | 4183 | 0.237 | 1.600 | 1.363 | 1,2 | Complied |
| Front of EUT Facing Phantom with Slide Open Antenna Retracted | Flat (SAM) | 4183 | 0.238 | 1.600 | 1.362 | 1,2 | Complied |
| Front of EUT Facing Phantom with Slide Open Antenna Extended | Flat (SAM) | 4183 | 0.198 | 1.600 | 1.402 | 1,2 | Complied |

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Specific Absorption Rate - UMTS FDD V Body Configuration 1g (continued)

| EUT Position | Phantom Configuration | Channel Number | Level (W/kg) | Limit (W/kg) | Margin (W/kg) | Note(s) | Result |
|---|-----------------------|----------------|--------------|--------------|---------------|---------|----------|
| Rear of EUT Facing Phantom with Slide Closed Antenna Retracted | Flat (SAM) | 4183 | 0.539 | 1.600 | 1.061 | 1,2 | Complied |
| Rear of EUT Facing Phantom with Slide Closed Antenna Extended | Flat (SAM) | 4183 | 0.509 | 1.600 | 1.091 | 1,2 | Complied |
| Rear of EUT Facing Phantom with Slide Open Antenna Retracted | Flat (SAM) | 4183 | 0.539 | 1.600 | 1.061 | 1,2 | Complied |
| Rear of EUT Facing Phantom with Slide Open Antenna Extended | Flat (SAM) | 4183 | 0.472 | 1.600 | 1.128 | 1,2 | Complied |
| Rear of EUT Facing Phantom with Slide Closed Antenna Retracted With PHF | Flat (SAM) | 4183 | 0.404 | 1.600 | 1.196 | 1,2 | Complied |

Note(s):

1. SAR test was performed in the middle channel only as the measured levels were < 50% of the SAR limit as stated in the FCC Public Notice DA 02-1438 by the SCC-34/SC-2.
2. SAR measurements were performed with the EUT at a separation distance of 15mm from the 'SAM' phantom flat section.

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7.2.3.Specific Absorption Rate – FDD V HSDPA Body Configuration 1g**Test Summary:**

| | |
|-----------------------|-------|
| Tissue Volume: | 1g |
| Maximum Level (W/kg): | 0.499 |

Environmental Conditions:

| | |
|---------------------------------------|--------------|
| Temperature Variation in Lab (°C): | 23.0 to 23.0 |
| Temperature Variation in Liquid (°C): | 20.1 to 20.1 |

Results:

| EUT Position | Phantom Configuration | Channel Number | Level (W/kg) | Limit (W/kg) | Margin (W/kg) | Note(s) | Result |
|--|-----------------------|----------------|--------------|--------------|---------------|---------|----------|
| Rear of EUT Facing Phantom with Slide Closed Antenna Retracted | Flat (SAM) | 4183 | 0.499 | 1.600 | 1.101 | 1,2,3 | Complied |

Note(s):

1. SAR test was performed in the middle channel only as the measured levels were < 50% of the SAR limit as stated in the FCC Public Notice DA 02-1438 by the SCC-34/SC-2.
2. HSDPA Enabled with Test loop mode 1 and TPC bits configured to all "1's", Sub-test 1.
3. SAR measurements were performed with the EUT at a separation distance of 15mm from the 'SAM' phantom flat section.

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7.2.4.Specific Absorption Rate - PCS1900 Head Configuration 1g**Test Summary:**

| | |
|-----------------------|-------|
| Tissue Volume: | 1g |
| Maximum Level (W/kg): | 0.403 |

Environmental Conditions:

| | |
|---------------------------------------|--------------|
| Temperature Variation in Lab (°C): | 23.0 to 23.0 |
| Temperature Variation in Liquid (°C): | 23.8 to 23.8 |

Results:

| EUT Position | Phantom Configuration | Channel Number | Level (W/kg) | Limit (W/kg) | Margin (W/kg) | Note(s) | Result |
|--------------------------------------|-----------------------|----------------|--------------|--------------|---------------|---------|----------|
| Touch Slide Closed Antenna Retracted | Left | 660 | 0.221 | 1.600 | 1.379 | 1 | Complied |
| Touch Slide Closed Antenna Extended | Left | 660 | 0.231 | 1.600 | 1.369 | 1 | Complied |
| Touch Slide Open Antenna Retracted | Left | 660 | 0.125 | 1.600 | 1.475 | 1 | Complied |
| Touch Slide Open Antenna Extended | Left | 660 | 0.154 | 1.600 | 1.446 | 1 | Complied |
| Tilt Slide Closed Antenna Retracted | Left | 660 | 0.285 | 1.600 | 1.315 | 1 | Complied |
| Tilt Slide Closed Antenna Extended | Left | 660 | 0.338 | 1.600 | 1.262 | 1 | Complied |
| Tilt Slide Open Antenna Retracted | Left | 660 | 0.087 | 1.600 | 1.513 | 1 | Complied |
| Tilt Slide Open Antenna Extended | Left | 660 | 0.172 | 1.600 | 1.428 | 1 | Complied |

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Specific Absorption Rate - PCS1900 Head Configuration 1g (continued)

| EUT Position | Phantom Configuration | Channel Number | Level (W/kg) | Limit (W/kg) | Margin (W/kg) | Note(s) | Result |
|--------------------------------------|-----------------------|----------------|--------------|--------------|---------------|---------|----------|
| Touch Slide Closed Antenna Retracted | Right | 660 | 0.258 | 1.600 | 1.342 | 1 | Complied |
| Touch Slide Closed Antenna Extended | Right | 660 | 0.403 | 1.600 | 1.197 | 1 | Complied |
| Touch Slide Open Antenna Retracted | Right | 660 | 0.127 | 1.600 | 1.473 | 1 | Complied |
| Touch Slide Open Antenna Extended | Right | 660 | 0.128 | 1.600 | 1.472 | 1 | Complied |
| Tilt Slide Closed Antenna Retracted | Right | 660 | 0.304 | 1.600 | 1.296 | 1 | Complied |
| Tilt Slide Closed Antenna Extended | Right | 660 | 0.372 | 1.600 | 1.228 | 1 | Complied |
| Tilt Slide Open Antenna Retracted | Right | 660 | 0.069 | 1.600 | 1.532 | 1 | Complied |
| Tilt Slide Open Antenna Extended | Right | 660 | 0.139 | 1.600 | 1.461 | 1 | Complied |

Note(s):

1. SAR test was performed in the middle channel only as the measured levels were < 50% of the SAR limit as stated in the FCC Public Notice DA 02-1438 by the SCC-34/SC-2.

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7.2.5.Specific Absorption Rate - PCS1900 Body Configuration 1g**Test Summary:**

| | |
|-----------------------|-------|
| Tissue Volume: | 1g |
| Maximum Level (W/kg): | 0.384 |

Environmental Conditions:

| | |
|---------------------------------------|--------------|
| Temperature Variation in Lab (°C): | 22.0 to 22.0 |
| Temperature Variation in Liquid (°C): | 23.4 to 23.4 |

Results:

| EUT Position | Phantom Configuration | Channel Number | Level (W/kg) | Limit (W/kg) | Margin (W/kg) | Note(s) | Result |
|---|-----------------------|----------------|--------------|--------------|---------------|---------|----------|
| Rear of EUT Facing Phantom with Slide Closed Antenna Extended | Flat (SAM) | 660 | 0.384 | 1.600 | 1.216 | 1,2 | Complied |

Note(s):

1. SAR test was performed in the middle channel only as the measured levels were < 50% of the SAR limit as stated in the FCC Public Notice DA 02-1438 by the SCC-34/SC-2.
2. SAR measurements were performed with the EUT at a separation distance of 15mm from the 'SAM' phantom flat section.

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7.2.6.Specific Absorption Rate - GPRS1900 Body Configuration 1g**Test Summary:**

| | |
|-----------------------|-------|
| Tissue Volume: | 1g |
| Maximum Level (W/kg): | 0.501 |

Environmental Conditions:

| | |
|---------------------------------------|--------------|
| Temperature Variation in Lab (°C): | 22.0 to 22.0 |
| Temperature Variation in Liquid (°C): | 23.4 to 23.4 |

Results:

| EUT Position | Phantom Configuration | Channel Number | Level (W/kg) | Limit (W/kg) | Margin (W/kg) | Note(s) | Result |
|---|-----------------------|----------------|--------------|--------------|---------------|---------|----------|
| Front of EUT Facing Phantom with Slide Closed Antenna Retracted | Flat (SAM) | 660 | 0.116 | 1.600 | 1.484 | 1,2 | Complied |
| Front of EUT Facing Phantom with Slide Closed Antenna Extended | Flat (SAM) | 660 | 0.142 | 1.600 | 1.458 | 1,2 | Complied |
| Front of EUT Facing Phantom with Slide Open Antenna Retracted | Flat (SAM) | 660 | 0.147 | 1.600 | 1.453 | 1,2 | Complied |
| Front of EUT Facing Phantom with Slide Open Antenna Extended | Flat (SAM) | 660 | 0.139 | 1.600 | 1.461 | 1,2 | Complied |

Test of: NTT docomo P-08A

To: OET Bulletin 65 Supplement C: (2001-01)

Specific Absorption Rate - GPRS1900 Body Configuration 1g (Continued)

| EUT Position | Phantom Configuration | Channel Number | Level (W/kg) | Limit (W/kg) | Margin (W/kg) | Note(s) | Result |
|--|-----------------------|----------------|--------------|--------------|---------------|---------|----------|
| Rear of EUT Facing Phantom with Slide Closed Antenna Retracted | Flat (SAM) | 660 | 0.480 | 1.600 | 1.120 | 1,2 | Complied |
| Rear of EUT Facing Phantom with Slide Closed Antenna Extended | Flat (SAM) | 660 | 0.501 | 1.600 | 1.099 | 1,2 | Complied |
| Rear of EUT Facing Phantom with Slide Open Antenna Retracted | Flat (SAM) | 660 | 0.421 | 1.600 | 1.179 | 1,2 | Complied |
| Rear of EUT Facing Phantom with Slide Open Antenna Extended | Flat (SAM) | 660 | 0.438 | 1.600 | 1.162 | 1,2 | Complied |
| Rear of EUT Facing Phantom with Slide Closed Antenna Extended With PHF | Flat (SAM) | 660 | 0.439 | 1.600 | 1.161 | 1,2 | Complied |

Note(s):

1. SAR test was performed in the middle channel only as the measured levels were < 50% of the SAR limit as stated in the FCC Public Notice DA 02-1438 by the SCC-34/SC-2.
2. SAR measurements were performed with the EUT at a separation distance of 15mm from the 'SAM' phantom flat section.

Test of: NTT docomo P-08A

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7.2.7. EIRP/ERP Measurement

| Channel Number | Frequency (MHZ) | GSM – TX Power before Test (dBm) | GPRS – TX Power before Test (dBm) | Note |
|----------------|-----------------|----------------------------------|-----------------------------------|------|
| 512 | 1850.2 | 30.3 | 28.4 | EIRP |
| 660 | 1879.8 | 29.1 | 28.4 | EIRP |
| 810 | 1909.8 | 29.9 | 29.2 | EIRP |

| Modes | | HSDPA | | | | WCDMA |
|---|---------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Sets | | 1 | 2 | 3 | 4 | Voice / RMC12.2kbps |
| Band | Channel | Power (dBm) Peak/ Avg. | Power (dBm) Peak/ Avg. | Power (dBm) Peak/ Avg. | Power (dBm) Peak/ Avg. | Power (dBm) Peak/ Avg. |
| 850 | 4132 | 26.8/ 24.0 | 27.0/ 22.2 | 27.6/ 22.9 | 27.0/ 22.1 | 26.7/ 23.9 |
| | 4183 | 27.2/ 24.3 | 27.5/ 22.5 | 28.1/ 23.3 | 27.5/ 22.4 | 27.2/ 24.2 |
| | 4233 | 27.4/ 24.7 | 27.8/ 22.8 | 28.3/ 23.5 | 27.8/ 22.8 | 27.4/ 24.6 |
| β_c | | 2 | 12 | 15 | 15 | |
| β_d | | 15 | 15 | 8 | 4 | |
| $\Delta_{ACK}, \Delta_{NACK}, \Delta_{CQI}$ | | 8 | 8 | 8 | 8 | |

Sub-test 1 Setup for Release 5 HSDPA

| Sub-test | β_c | β_d | B_d (SF) | β_c / β_d | $\beta_{hs}^{(1)}$ | SM (dB) ⁽²⁾ |
|----------|----------------------|----------------------|---------------|----------------------|--------------------|------------------------|
| 1 | 2/15 | 15/15 | 64 | 2/15 | 4/15 | 0.0 |
| 2 | 12/15 ⁽³⁾ | 15/15 ⁽³⁾ | 64 | 12/15 ⁽³⁾ | 24/15 | 1.0 |
| 3 | 15/15 | 8/15 | 64 | 15/8 | 30/15 | 1.5 |
| 4 | 15/15 | 4/15 | 64 | 15/4 | 30/15 | 1.5 |

Note 1: $\Delta_{ACK}, \Delta_{NACK}$ and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$ Note 2: CM = 1 for $\beta_c / \beta_d = 12/15$, $B_{hs}/\beta_c = 24/15$ Note 3: For subtest 2 the β_c / β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$

Test of: NTT docomo P-08A

To: OET Bulletin 65 Supplement C: (2001-01)

8. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently, the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor, such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

| Test Name | Confidence Level | Calculated Uncertainty |
|--|------------------|------------------------|
| Specific Absorption Rate-PCS1900 Head Configuration 1g | 95% | 18.44% |
| Specific Absorption Rate- PCS1900 Body Configuration 1g | 95% | 18.30% |
| Specific Absorption Rate- GPRS1900 Body Configuration 1g | 95% | 18.30% |
| Specific Absorption Rate- UMTS850 Head Configuration 1g | 95% | 17.91% |
| Specific Absorption Rate- UMTS850 Body Configuration 1g | 95% | 17.93% |

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty, the published guidance of the appropriate accreditation body is followed.

Test of: NTT docomo P-08A

To: OET Bulletin 65 Supplement C: (2001-01)

Measurement Uncertainty (Continued)**8.1. Specific Absorption Rate Uncertainty at 1900 MHz Head 1g, PCS Modulation Scheme calculated in accordance with IEC 62209-1 & IEEE 1528**

| Type | Source of uncertainty | + Value | - Value | Probability Distribution | Divisor | C _i (10g) | Standard Uncertainty | | v _i or v _{eff} |
|------|---|---------|---------|--------------------------|---------|----------------------|----------------------|---------|------------------------------------|
| | | | | | | | + u (%) | - u (%) | |
| B | Probe calibration | 11.000 | 11.000 | normal (k=2) | 2.0000 | 1.0000 | 5.500 | 5.500 | ∞ |
| B | Axial Isotropy | 0.500 | 0.500 | normal (k=2) | 2.0000 | 1.0000 | 0.250 | 0.250 | ∞ |
| B | Hemispherical Isotropy | 2.600 | 2.600 | normal (k=2) | 2.0000 | 1.0000 | 1.300 | 1.300 | ∞ |
| B | Spatial Resolution | 0.500 | 0.500 | Rectangular | 1.7321 | 1.0000 | 0.289 | 0.289 | ∞ |
| B | Boundary Effect | 0.769 | 0.769 | Rectangular | 1.7321 | 1.0000 | 0.444 | 0.444 | ∞ |
| B | Linearity | 0.600 | 0.600 | Rectangular | 1.7321 | 1.0000 | 0.346 | 0.346 | ∞ |
| B | Detection Limits | 0.200 | 0.200 | Rectangular | 1.7321 | 1.0000 | 0.115 | 0.115 | ∞ |
| B | Readout Electronics | 0.560 | 0.560 | normal (k=2) | 2.0000 | 1.0000 | 0.280 | 0.280 | ∞ |
| B | Response Time | 0.000 | 0.000 | Rectangular | 1.7321 | 1.0000 | 0.000 | 0.000 | ∞ |
| B | Integration Time | 1.730 | 1.730 | Rectangular | 1.7321 | 1.0000 | 0.999 | 0.999 | ∞ |
| B | RF Ambient conditions | 3.000 | 3.000 | Rectangular | 1.7321 | 1.0000 | 1.732 | 1.732 | ∞ |
| B | Probe Positioner Mechanical Restrictions | 4.000 | 4.000 | Rectangular | 1.7321 | 1.0000 | 2.309 | 2.309 | ∞ |
| B | Probe Positioning with regard to Phantom Shell | 2.850 | 2.850 | Rectangular | 1.7321 | 1.0000 | 1.645 | 1.645 | ∞ |
| B | Extrapolation and integration/ Maximum SAR evaluation | 5.080 | 5.080 | Rectangular | 1.7321 | 1.0000 | 2.933 | 2.933 | ∞ |
| A | Test Sample Positioning | 0.584 | 0.584 | normal (k=1) | 1.0000 | 1.0000 | 0.584 | 0.584 | 10 |
| A | Device Holder uncertainty | 0.154 | 0.154 | normal (k=1) | 1.0000 | 1.0000 | 0.154 | 0.154 | 10 |
| B | Phantom Uncertainty | 4.000 | 4.000 | Rectangular | 1.7321 | 1.0000 | 2.309 | 2.309 | ∞ |
| B | Drift of output power | 5.000 | 5.000 | Rectangular | 1.7321 | 1.0000 | 2.887 | 2.887 | ∞ |
| B | Liquid Conductivity (target value) | 5.000 | 5.000 | Rectangular | 1.7321 | 0.6400 | 1.848 | 1.848 | ∞ |
| A | Liquid Conductivity (measured value) | 4.370 | 4.370 | normal (k=1) | 1.0000 | 0.6400 | 2.797 | 2.797 | 5 |
| B | Liquid Permittivity (target value) | 5.000 | 5.000 | Rectangular | 1.7321 | 0.6000 | 1.732 | 1.732 | ∞ |
| A | Liquid Permittivity (measured value) | 4.450 | 4.450 | normal (k=1) | 1.0000 | 0.6000 | 2.670 | 2.670 | 5 |
| | Combined standard uncertainty | | | t-distribution | | | 9.41 | 9.41 | >300 |
| | Expanded uncertainty | | | k = 1.96 | | | 18.44 | 18.44 | >300 |

Test of: NTT docomo P-08A

To: OET Bulletin 65 Supplement C: (2001-01)

Measurement Uncertainty (Continued)**8.2. Specific Absorption Rate Uncertainty at 1900 MHz Body 1g, PCS Modulation Scheme calculated in accordance with IEC 62209-1 & IEEE 1528**

| Type | Source of uncertainty | + Value | - Value | Probability Distribution | Divisor | C _i (10g) | Standard Uncertainty | | v _i or v _{eff} |
|------|---|---------|---------|--------------------------|---------|----------------------|----------------------|---------|------------------------------------|
| | | | | | | | + u (%) | - u (%) | |
| B | Probe calibration | 11.000 | 11.000 | normal (k=2) | 2.0000 | 1.0000 | 5.500 | 5.500 | ∞ |
| B | Axial Isotropy | 0.500 | 0.500 | normal (k=2) | 2.0000 | 1.0000 | 0.250 | 0.250 | ∞ |
| B | Hemispherical Isotropy | 2.600 | 2.600 | normal (k=2) | 2.0000 | 1.0000 | 1.300 | 1.300 | ∞ |
| B | Spatial Resolution | 0.500 | 0.500 | Rectangular | 1.7321 | 1.0000 | 0.289 | 0.289 | ∞ |
| B | Boundary Effect | 0.769 | 0.769 | Rectangular | 1.7321 | 1.0000 | 0.444 | 0.444 | ∞ |
| B | Linearity | 0.600 | 0.600 | Rectangular | 1.7321 | 1.0000 | 0.346 | 0.346 | ∞ |
| B | Detection Limits | 0.200 | 0.200 | Rectangular | 1.7321 | 1.0000 | 0.115 | 0.115 | ∞ |
| B | Readout Electronics | 0.560 | 0.560 | normal (k=2) | 2.0000 | 1.0000 | 0.280 | 0.280 | ∞ |
| B | Response Time | 0.000 | 0.000 | Rectangular | 1.7321 | 1.0000 | 0.000 | 0.000 | ∞ |
| B | Integration Time | 1.730 | 1.730 | Rectangular | 1.7321 | 1.0000 | 0.999 | 0.999 | ∞ |
| B | RF Ambient conditions | 3.000 | 3.000 | Rectangular | 1.7321 | 1.0000 | 1.732 | 1.732 | ∞ |
| B | Probe Positioner Mechanical Restrictions | 4.000 | 4.000 | Rectangular | 1.7321 | 1.0000 | 2.309 | 2.309 | ∞ |
| B | Probe Positioning with regard to Phantom Shell | 2.850 | 2.850 | Rectangular | 1.7321 | 1.0000 | 1.645 | 1.645 | ∞ |
| B | Extrapolation and integration/ Maximum SAR evaluation | 5.080 | 5.080 | Rectangular | 1.7321 | 1.0000 | 2.933 | 2.933 | ∞ |
| A | Test Sample Positioning | 0.584 | 0.584 | normal (k=1) | 1.0000 | 1.0000 | 0.584 | 0.584 | 10 |
| A | Device Holder uncertainty | 0.154 | 0.154 | normal (k=1) | 1.0000 | 1.0000 | 0.154 | 0.154 | 10 |
| B | Phantom Uncertainty | 4.000 | 4.000 | Rectangular | 1.7321 | 1.0000 | 2.309 | 2.309 | ∞ |
| B | Drift of output power | 5.000 | 5.000 | Rectangular | 1.7321 | 1.0000 | 2.887 | 2.887 | ∞ |
| B | Liquid Conductivity (target value) | 5.000 | 5.000 | Rectangular | 1.7321 | 0.6400 | 1.848 | 1.848 | ∞ |
| A | Liquid Conductivity (measured value) | 4.170 | 4.170 | normal (k=1) | 1.0000 | 0.6400 | 2.669 | 2.669 | 5 |
| B | Liquid Permittivity (target value) | 5.000 | 5.000 | Rectangular | 1.7321 | 0.6000 | 1.732 | 1.732 | ∞ |
| A | Liquid Permittivity (measured value) | 4.230 | 4.230 | normal (k=1) | 1.0000 | 0.6000 | 2.538 | 2.538 | 5 |
| | Combined standard uncertainty | | | t-distribution | | | 9.34 | 9.34 | >500 |
| | Expanded uncertainty | | | k = 1.96 | | | 18.30 | 18.30 | >500 |

Test of: NTT docomo P-08A

To: OET Bulletin 65 Supplement C: (2001-01)

Measurement Uncertainty (Continued)**8.3. Specific Absorption Rate Uncertainty at 1900 MHz Body 1g, GPRS Modulation Scheme calculated in accordance with IEC 62209-1 & IEEE 1528**

| Type | Source of uncertainty | + Value | - Value | Probability Distribution | Divisor | C _i (10g) | Standard Uncertainty | | v _i or v _{eff} |
|------|---|---------|---------|--------------------------|---------|----------------------|----------------------|---------|------------------------------------|
| | | | | | | | + u (%) | - u (%) | |
| B | Probe calibration | 11.000 | 11.000 | normal (k=2) | 2.0000 | 1.0000 | 5.500 | 5.500 | ∞ |
| B | Axial Isotropy | 0.500 | 0.500 | normal (k=2) | 2.0000 | 1.0000 | 0.250 | 0.250 | ∞ |
| B | Hemispherical Isotropy | 2.600 | 2.600 | normal (k=2) | 2.0000 | 1.0000 | 1.300 | 1.300 | ∞ |
| B | Spatial Resolution | 0.500 | 0.500 | Rectangular | 1.7321 | 1.0000 | 0.289 | 0.289 | ∞ |
| B | Boundary Effect | 0.769 | 0.769 | Rectangular | 1.7321 | 1.0000 | 0.444 | 0.444 | ∞ |
| B | Linearity | 0.600 | 0.600 | Rectangular | 1.7321 | 1.0000 | 0.346 | 0.346 | ∞ |
| B | Detection Limits | 0.200 | 0.200 | Rectangular | 1.7321 | 1.0000 | 0.115 | 0.115 | ∞ |
| B | Readout Electronics | 0.560 | 0.560 | normal (k=2) | 2.0000 | 1.0000 | 0.280 | 0.280 | ∞ |
| B | Response Time | 0.000 | 0.000 | Rectangular | 1.7321 | 1.0000 | 0.000 | 0.000 | ∞ |
| B | Integration Time | 1.730 | 1.730 | Rectangular | 1.7321 | 1.0000 | 0.999 | 0.999 | ∞ |
| B | RF Ambient conditions | 3.000 | 3.000 | Rectangular | 1.7321 | 1.0000 | 1.732 | 1.732 | ∞ |
| B | Probe Positioner Mechanical Restrictions | 4.000 | 4.000 | Rectangular | 1.7321 | 1.0000 | 2.309 | 2.309 | ∞ |
| B | Probe Positioning with regard to Phantom Shell | 2.850 | 2.850 | Rectangular | 1.7321 | 1.0000 | 1.645 | 1.645 | ∞ |
| B | Extrapolation and integration/ Maximum SAR evaluation | 5.080 | 5.080 | Rectangular | 1.7321 | 1.0000 | 2.933 | 2.933 | ∞ |
| A | Test Sample Positioning | 0.584 | 0.584 | normal (k=1) | 1.0000 | 1.0000 | 0.584 | 0.584 | 10 |
| A | Device Holder uncertainty | 0.154 | 0.154 | normal (k=1) | 1.0000 | 1.0000 | 0.154 | 0.154 | 10 |
| B | Phantom Uncertainty | 4.000 | 4.000 | Rectangular | 1.7321 | 1.0000 | 2.309 | 2.309 | ∞ |
| B | Drift of output power | 5.000 | 5.000 | Rectangular | 1.7321 | 1.0000 | 2.887 | 2.887 | ∞ |
| B | Liquid Conductivity (target value) | 5.000 | 5.000 | Rectangular | 1.7321 | 0.6400 | 1.848 | 1.848 | ∞ |
| A | Liquid Conductivity (measured value) | 4.170 | 4.170 | normal (k=1) | 1.0000 | 0.6400 | 2.669 | 2.669 | 5 |
| B | Liquid Permittivity (target value) | 5.000 | 5.000 | Rectangular | 1.7321 | 0.6000 | 1.732 | 1.732 | ∞ |
| A | Liquid Permittivity (measured value) | 4.230 | 4.230 | normal (k=1) | 1.0000 | 0.6000 | 2.538 | 2.538 | 5 |
| | Combined standard uncertainty | | | t-distribution | | | 9.34 | 9.34 | >400 |
| | Expanded uncertainty | | | k = 1.96 | | | 18.30 | 18.30 | >400 |

Test of: NTT docomo P-08A

To: OET Bulletin 65 Supplement C: (2001-01)

8.4. Specific Absorption Rate Uncertainty at 850 MHz Head 1g, UMTS Modulation Scheme calculated in accordance with IEC 62209-1 & IEEE 1528

| Type | Source of uncertainty | + Value | - Value | Probability Distribution | Divisor | C _i (10g) | Standard Uncertainty | | v _i or v _{eff} |
|------|---|---------|---------|--------------------------|---------|----------------------|----------------------|---------|------------------------------------|
| | | | | | | | + u (%) | - u (%) | |
| B | Probe calibration | 11.000 | 11.000 | normal (k=2) | 2.0000 | 1.0000 | 5.500 | 5.500 | ∞ |
| B | Axial Isotropy | 0.500 | 0.500 | normal (k=2) | 2.0000 | 1.0000 | 0.250 | 0.250 | ∞ |
| B | Hemispherical Isotropy | 2.600 | 2.600 | normal (k=2) | 2.0000 | 1.0000 | 1.300 | 1.300 | ∞ |
| B | Spatial Resolution | 0.500 | 0.500 | Rectangular | 1.7321 | 1.0000 | 0.289 | 0.289 | ∞ |
| B | Boundary Effect | 0.769 | 0.769 | Rectangular | 1.7321 | 1.0000 | 0.444 | 0.444 | ∞ |
| B | Linearity | 0.600 | 0.600 | Rectangular | 1.7321 | 1.0000 | 0.346 | 0.346 | ∞ |
| B | Detection Limits | 0.200 | 0.200 | Rectangular | 1.7321 | 1.0000 | 0.115 | 0.115 | ∞ |
| B | Readout Electronics | 0.560 | 0.560 | normal (k=2) | 2.0000 | 1.0000 | 0.280 | 0.280 | ∞ |
| B | Response Time | 0.000 | 0.000 | Rectangular | 1.7321 | 1.0000 | 0.000 | 0.000 | ∞ |
| B | Integration Time | 0.000 | 0.000 | Rectangular | 1.7321 | 1.0000 | 0.000 | 0.000 | ∞ |
| B | RF Ambient conditions | 3.000 | 3.000 | Rectangular | 1.7321 | 1.0000 | 1.732 | 1.732 | ∞ |
| B | Probe Positioner Mechanical Restrictions | 4.000 | 4.000 | Rectangular | 1.7321 | 1.0000 | 2.309 | 2.309 | ∞ |
| B | Probe Positioning with regard to Phantom Shell | 2.850 | 2.850 | Rectangular | 1.7321 | 1.0000 | 1.645 | 1.645 | ∞ |
| B | Extrapolation and integration/ Maximum SAR evaluation | 5.080 | 5.080 | Rectangular | 1.7321 | 1.0000 | 2.933 | 2.933 | ∞ |
| A | Test Sample Positioning | 0.584 | 0.584 | normal (k=1) | 1.0000 | 1.0000 | 0.584 | 0.584 | 10 |
| A | Device Holder uncertainty | 0.154 | 0.154 | normal (k=1) | 1.0000 | 1.0000 | 0.154 | 0.154 | 10 |
| B | Phantom Uncertainty | 4.000 | 4.000 | Rectangular | 1.7321 | 1.0000 | 2.309 | 2.309 | ∞ |
| B | Drift of output power | 5.000 | 5.000 | Rectangular | 1.7321 | 1.0000 | 2.887 | 2.887 | ∞ |
| B | Liquid Conductivity (target value) | 5.000 | 5.000 | Rectangular | 1.7321 | 0.6400 | 1.848 | 1.848 | ∞ |
| A | Liquid Conductivity (measured value) | 3.410 | 3.410 | normal (k=1) | 1.0000 | 0.6400 | 2.182 | 2.182 | 5 |
| B | Liquid Permittivity (target value) | 5.000 | 5.000 | Rectangular | 1.7321 | 0.6000 | 1.732 | 1.732 | ∞ |
| A | Liquid Permittivity (measured value) | 4.140 | 4.140 | normal (k=1) | 1.0000 | 0.6000 | 2.484 | 2.484 | 5 |
| | Combined standard uncertainty | | | t-distribution | | | 9.14 | 9.14 | >500 |
| | Expanded uncertainty | | | k = 1.96 | | | 17.91 | 17.91 | >500 |

Test of: NTT docomo P-08A

To: OET Bulletin 65 Supplement C: (2001-01)

8.5. Specific Absorption Rate Uncertainty at 850 MHz Body 1g, UMTS Modulation Scheme calculated in accordance with IEC 62209-1 & IEEE 1528

| Type | Source of uncertainty | + Value | - Value | Probability Distribution | Divisor | C _i (10g) | Standard Uncertainty | | v _i or v _{eff} |
|------|---|---------|---------|--------------------------|---------|----------------------|----------------------|---------|------------------------------------|
| | | | | | | | + u (%) | - u (%) | |
| B | Probe calibration | 11.000 | 11.000 | normal (k=2) | 2.0000 | 1.0000 | 5.500 | 5.500 | ∞ |
| B | Axial Isotropy | 0.500 | 0.500 | normal (k=2) | 2.0000 | 1.0000 | 0.250 | 0.250 | ∞ |
| B | Hemispherical Isotropy | 2.600 | 2.600 | normal (k=2) | 2.0000 | 1.0000 | 1.300 | 1.300 | ∞ |
| B | Spatial Resolution | 0.500 | 0.500 | Rectangular | 1.7321 | 1.0000 | 0.289 | 0.289 | ∞ |
| B | Boundary Effect | 0.769 | 0.769 | Rectangular | 1.7321 | 1.0000 | 0.444 | 0.444 | ∞ |
| B | Linearity | 0.600 | 0.600 | Rectangular | 1.7321 | 1.0000 | 0.346 | 0.346 | ∞ |
| B | Detection Limits | 0.200 | 0.200 | Rectangular | 1.7321 | 1.0000 | 0.115 | 0.115 | ∞ |
| B | Readout Electronics | 0.560 | 0.560 | normal (k=2) | 2.0000 | 1.0000 | 0.280 | 0.280 | ∞ |
| B | Response Time | 0.000 | 0.000 | Rectangular | 1.7321 | 1.0000 | 0.000 | 0.000 | ∞ |
| B | Integration Time | 0.000 | 0.000 | Rectangular | 1.7321 | 1.0000 | 0.000 | 0.000 | ∞ |
| B | RF Ambient conditions | 3.000 | 3.000 | Rectangular | 1.7321 | 1.0000 | 1.732 | 1.732 | ∞ |
| B | Probe Positioner Mechanical Restrictions | 4.000 | 4.000 | Rectangular | 1.7321 | 1.0000 | 2.309 | 2.309 | ∞ |
| B | Probe Positioning with regard to Phantom Shell | 2.850 | 2.850 | Rectangular | 1.7321 | 1.0000 | 1.645 | 1.645 | ∞ |
| B | Extrapolation and integration/ Maximum SAR evaluation | 5.080 | 5.080 | Rectangular | 1.7321 | 1.0000 | 2.933 | 2.933 | ∞ |
| A | Test Sample Positioning | 0.584 | 0.584 | normal (k=1) | 1.0000 | 1.0000 | 0.584 | 0.584 | 10 |
| A | Device Holder uncertainty | 0.154 | 0.154 | normal (k=1) | 1.0000 | 1.0000 | 0.154 | 0.154 | 10 |
| B | Phantom Uncertainty | 4.000 | 4.000 | Rectangular | 1.7321 | 1.0000 | 2.309 | 2.309 | ∞ |
| B | Drift of output power | 5.000 | 5.000 | Rectangular | 1.7321 | 1.0000 | 2.887 | 2.887 | ∞ |
| B | Liquid Conductivity (target value) | 5.000 | 5.000 | Rectangular | 1.7321 | 0.6400 | 1.848 | 1.848 | ∞ |
| A | Liquid Conductivity (measured value) | 3.600 | 3.600 | normal (k=1) | 1.0000 | 0.6400 | 2.304 | 2.304 | 5 |
| B | Liquid Permittivity (target value) | 5.000 | 5.000 | Rectangular | 1.7321 | 0.6000 | 1.732 | 1.732 | ∞ |
| A | Liquid Permittivity (measured value) | 4.000 | 4.000 | normal (k=1) | 1.0000 | 0.6000 | 2.400 | 2.400 | 5 |
| | Combined standard uncertainty | | | t-distribution | | | 9.15 | 9.15 | >500 |
| | Expanded uncertainty | | | k = 1.96 | | | 17.93 | 17.93 | >500 |

Test of: NTT docomo P-08A

To: OET Bulletin 65 Supplement C: (2001-01)

Appendix 1. Test Equipment Used

| RFI No. | Instrument | Manufacturer | Type No. | Serial No. | Date Last Calibrated | Cal. Interval (Months) |
|---------|------------------------------|---------------------------------|-------------------|---------------|------------------------------|------------------------|
| A034 | Narda 20W Termination | Narda | 374BNM | 8706 | Calibrated as part of system | - |
| A1094 | Digital Camera | Sony | MVC - FD81 | 125805 | - | - |
| A1097 | SMA Directional Coupler | MiDISCO | MDC6223-30 | None | Calibrated as part of system | - |
| A1137 | 3dB Attenuator | Narda | 779 | 04690 | Calibrated as part of system | - |
| A1174 | Dielectric Probe Kit | Agilent Technologies | 85070C | Us99360072 | Calibrated before use | - |
| A1328 | Handset Positioner | Schmid & Partner Engineering AG | Modification | SD 000 H01 DA | - | - |
| A1182 | Handset Positioner | Schmid & Partner Engineering AG | V3.0 | None | - | - |
| A1184 | Data Acquisition Electronics | Schmid & Partner Engineering AG | DAE3 | 394 | 25 June 2008 | 12 |
| A1378 | Probe | Schmid & Partner Engineering AG | EX3 DV3 | 3508 | 24 June 2008 | 12 |
| A1238 | SAM Phantom | Schmid & Partner Engineering AG | SAM b | 001 | Calibrated before use | - |
| A1566 | SAM Phantom | Schmid & Partner Engineering AG | SAM a | 002 | Calibrated before use | - |
| A1237 | 1900 MHz Dipole Kit | Schmid & Partner Engineering AG | D1900V2 | 540 | 11 June 2007 | 24 |
| A1329 | 900 MHz Dipole Kit | Schmid & Partner Engineering AG | D900V2 | 185 | 18 May 2007 | 24 |
| A1497 | Amplifier | Mini-Circuits | zhl-42w (sma) | e020105 | Calibrated as part of system | - |
| A215 | 20 dB Attenuator | Narda | 766-20 | 9402 | Calibrated as part of system | - |
| C1144 | Cable | Rosenberger MICRO-COAX | FA147AF00 1503030 | 41842-1 | Calibrated as part of system | - |
| C1145 | Cable | Rosenberger MICRO-COAX | FA147AF00 3003030 | 41843-1 | Calibrated as part of system | - |
| C1146 | Cable | Rosenberger MICRO-COAX | FA147AF03 0003030 | 41752-1 | Calibrated as part of system | - |

Test of: NTT docomo P-08A

To: OET Bulletin 65 Supplement C: (2001-01)

| RFI No. | Instrument | Manufacturer | Type No. | Serial No. | Date Last Calibrated | Cal. Interval (Months) |
|---------|---------------------------------------|---------------------------------|----------------|-----------------|----------------------------------|------------------------|
| G0528 | Robot Power Supply | Schmid & Partner Engineering AG | DASY | None | Calibrated before use | - |
| G087 | PSU | Thurlby Thandar | CPX200 | 100701 | Calibrated before use | - |
| M010 | NRV Power Meter | Rohde & Schwarz | NRV | 882 317/065 | 08 May 2008 | 12 |
| M1015 | Network Analyser | Agilent Technologies | 8753ES | US39172406 | 16 September 2008 | 12 |
| M1047 | Robot Arm | Staubli | RX908 L | F00/SD89A1/A/01 | Calibrated before use | - |
| M1069 | Diode Power Sensor | Rohde & Schwarz | NRV-Z2 | 838824/010 | 08 May 2008 | 12 |
| M1129 | Power Sensor | Rohde & Schwarz | URY-Z2 | 890242/16 | 12 June 2008 | 12 |
| M136 | Temperature/ Humidity/ Pressure Meter | RS Components | None | None | Internal Calibration | - |
| M1519 | Radio Communication Test Set | Agilent | 8960 Series 10 | GB45071099 | 17 October 2008 | 12 |
| A1287 | Power head | Rohde & Schwarz | URY-Z4 | 880 174/12 | Calibrated as part of system | - |
| M1270 | Temperature/ Humidity/ Pressure Meter | RS Components | None | None | June 2008 (Internal Calibration) | 12 |
| C1092 | Cable | RS Components | 293-334 | 1087200-3 3402 | Internal Calibration | - |
| A1531 | Antenna | AARONIA AG | 7025 | 02458 | - | - |
| S256 | SAR Lab | RFI | Site 56 | N/A | Calibrated before use | - |

NB In accordance with UKAS requirements, all the measurement equipment is on a calibration schedule.

Test of: NTT docomo P-08A

To: OET Bulletin 65 Supplement C: (2001-01)

A.1.1. Calibration Certificates

This section contains the calibration certificates and data for the Probe(s) and Dipole(s) used, which are not included in the total number of pages for this report.

A1378
checked by RFI

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Client **RFI**

Certificate No: **EX3-3508_Jun08**

CALIBRATION CERTIFICATE

Object **EX3DV3 - SN:3508**

Calibration procedure(s) **QA CAL-01.v6, QA CAL-12.v5 and QA CAL-23.v3
Calibration procedure for dosimetric E-field probes**

Calibration date: **June 24, 2008**

Condition of the calibrated item **In Tolerance**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Certificate No.) | Scheduled Calibration |
|----------------------------|-----------------|-------------------------------|-----------------------|
| Power meter E4419B | GB41293874 | 1-Apr-08 (No. 217-00788) | Apr-09 |
| Power sensor E4412A | MY41495277 | 1-Apr-08 (No. 217-00788) | Apr-09 |
| Power sensor E4412A | MY41498087 | 1-Apr-08 (No. 217-00788) | Apr-09 |
| Reference 3 dB Attenuator | SN: S5054 (3c) | 8-Aug-07 (No. 217-00719) | Aug-08 |
| Reference 20 dB Attenuator | SN: S5086 (20b) | 31-Mar-08 (No. 217-00787) | Apr-09 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 8-Aug-07 (No. 217-00720) | Aug-08 |
| Reference Probe ES3DV2 | SN: 3013 | 2-Jan-08 (No. ES3-3013_Jan08) | Jan-09 |
| DAE4 | SN: 660 | 3-Sep-07 (No. DAE4-660_Sep07) | Sep-08 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---------------------------|--------------|-----------------------------------|------------------------|
| RF generator HP 8648C | US3642U01700 | 4-Aug-99 (in house check Oct-07) | In house check: Oct-09 |
| Network Analyzer HP 8753E | US37390585 | 18-Oct-01 (in house check Oct-07) | In house check: Oct-08 |

| | | | |
|----------------|---------------|-------------------|-----------|
| | Name | Function | Signature |
| Calibrated by: | Katja Pokovic | Technical Manager | |

| | | |
|--------------|--------------|-----------------|
| Approved by: | Niels Kuster | Quality Manager |
|--------------|--------------|-----------------|

Issued: June 24, 2008

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary:

| | |
|--------------------------|--|
| TSL | tissue simulating liquid |
| NORM _{x,y,z} | sensitivity in free space |
| ConvF | sensitivity in TSL / NORM _{x,y,z} |
| DCP | diode compression point |
| Polarization ϕ | ϕ rotation around probe axis |
| Polarization ϑ | ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis |

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not effect the E²-field uncertainty inside TSL (see below *ConvF*).
- NORM(f)_{x,y,z}** = NORM_{x,y,z} * *frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * *ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe EX3DV3

SN:3508

| | |
|------------------|-------------------|
| Manufactured: | December 19, 2003 |
| Last calibrated: | April 20, 2007 |
| Recalibrated: | June 24, 2008 |

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

DASY - Parameters of Probe: EX3DV3 SN:3508

Sensitivity in Free Space^A

Diode Compression^B

| | | | | |
|-------|---------------------|-------------------------------------|-------|--------------|
| NormX | 0.77 ± 10.1% | $\mu\text{V}/(\text{V}/\text{m})^2$ | DCP X | 94 mV |
| NormY | 0.64 ± 10.1% | $\mu\text{V}/(\text{V}/\text{m})^2$ | DCP Y | 93 mV |
| NormZ | 0.61 ± 10.1% | $\mu\text{V}/(\text{V}/\text{m})^2$ | DCP Z | 92 mV |

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL **900 MHz** **Typical SAR gradient: 5 % per mm**

| | | | |
|---|------------------------------|---------------|---------------|
| Sensor Center to Phantom Surface Distance | | 2.0 mm | 3.0 mm |
| SAR _{be} [%] | Without Correction Algorithm | 8.7 | 5.0 |
| SAR _{be} [%] | With Correction Algorithm | 0.4 | 0.2 |

TSL **1750 MHz** **Typical SAR gradient: 10 % per mm**

| | | | |
|---|------------------------------|---------------|---------------|
| Sensor Center to Phantom Surface Distance | | 2.0 mm | 3.0 mm |
| SAR _{be} [%] | Without Correction Algorithm | 7.4 | 4.0 |
| SAR _{be} [%] | With Correction Algorithm | 0.6 | 0.2 |

Sensor Offset

Probe Tip to Sensor Center **1.0 mm**

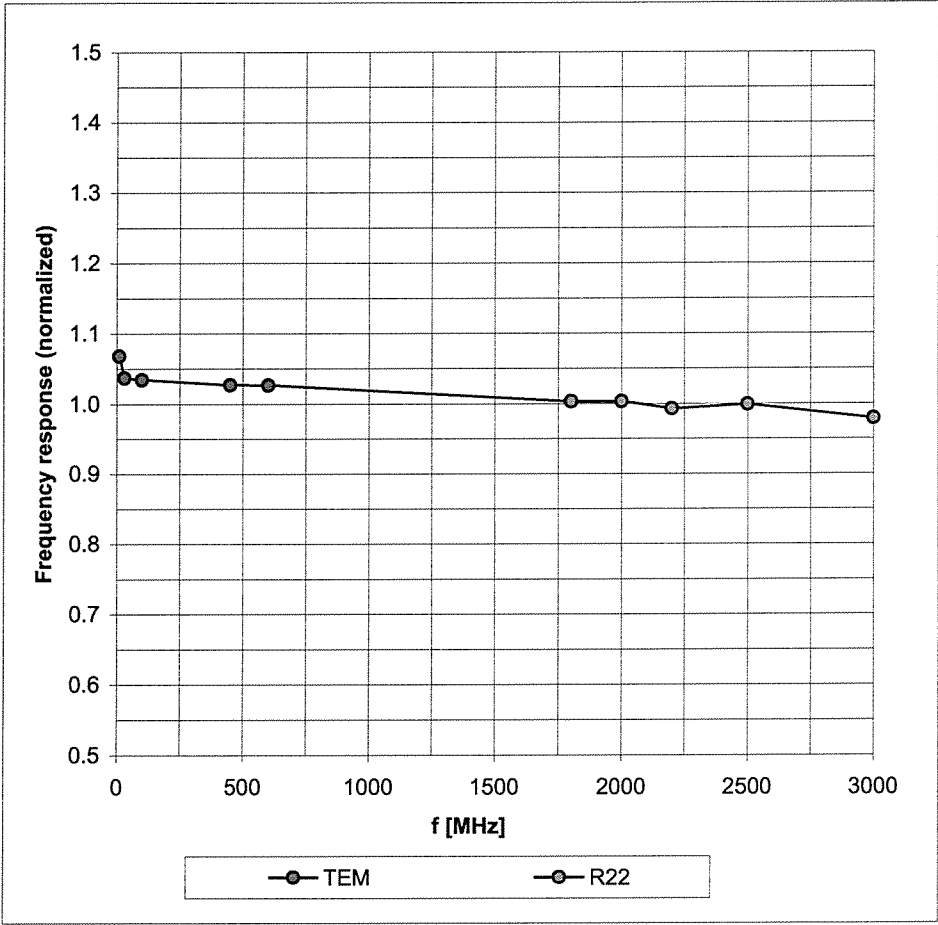
The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).

^B Numerical linearization parameter: uncertainty not required.

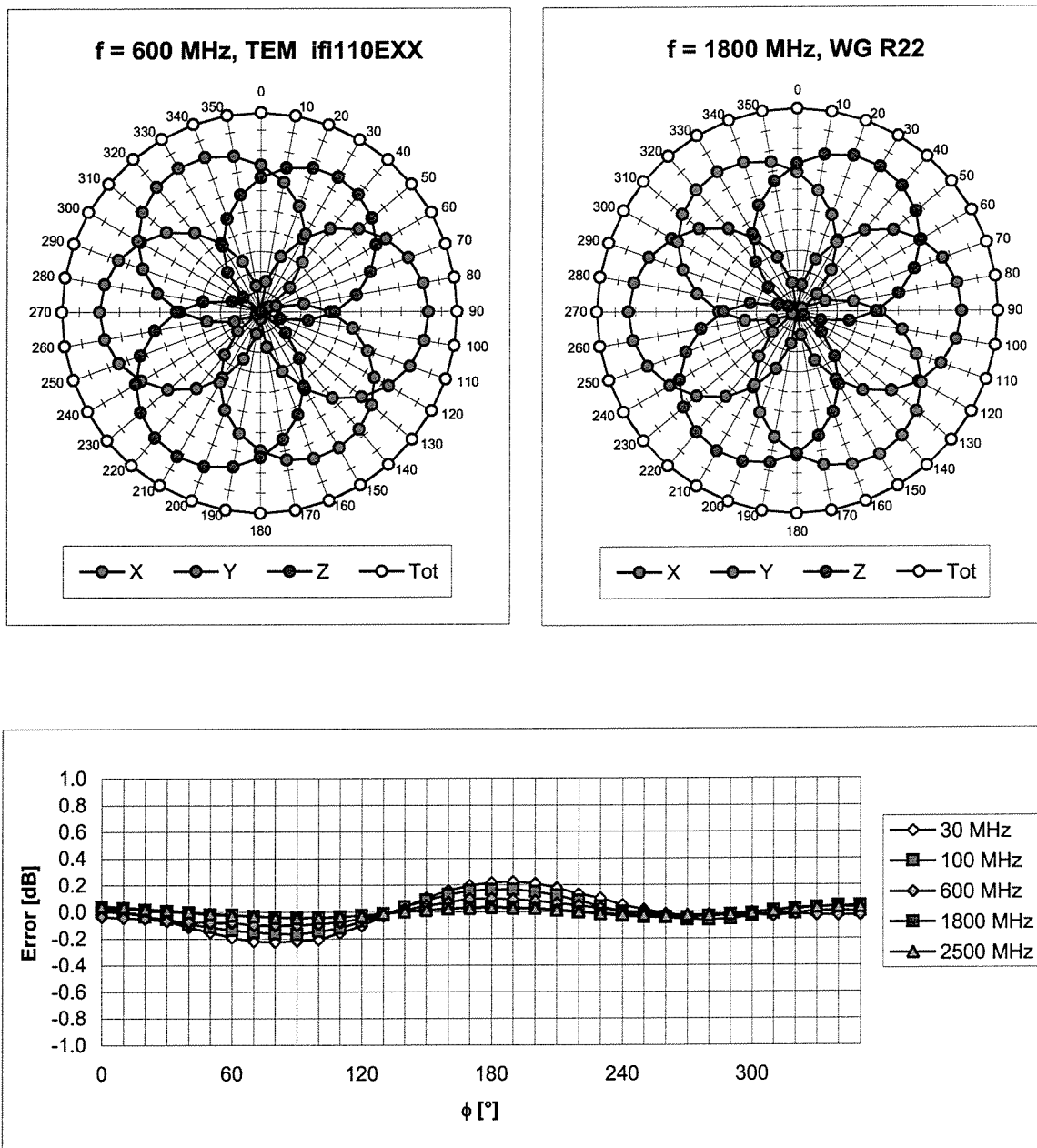
Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)



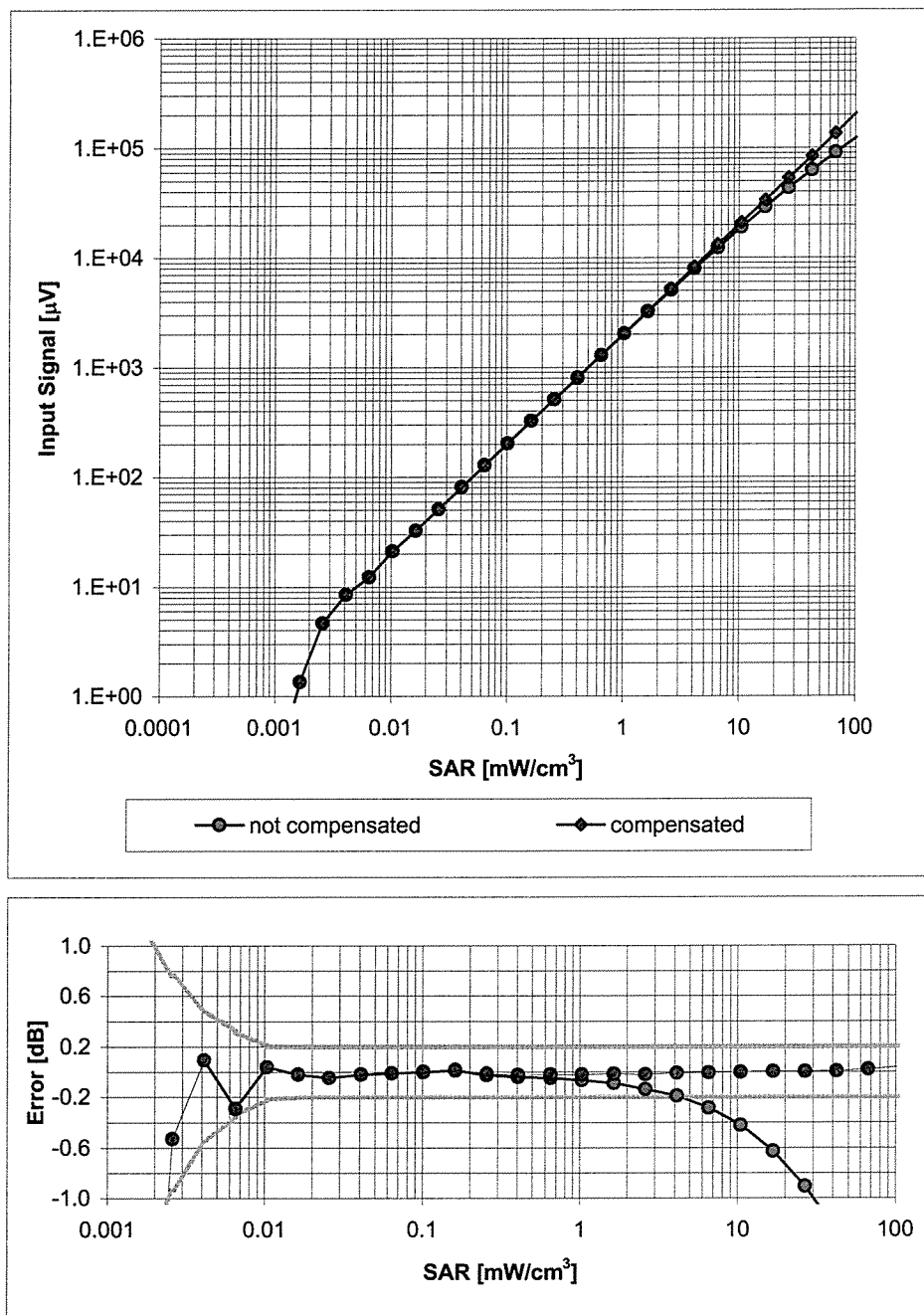
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

Receiving Pattern (ϕ), $\theta = 0^\circ$



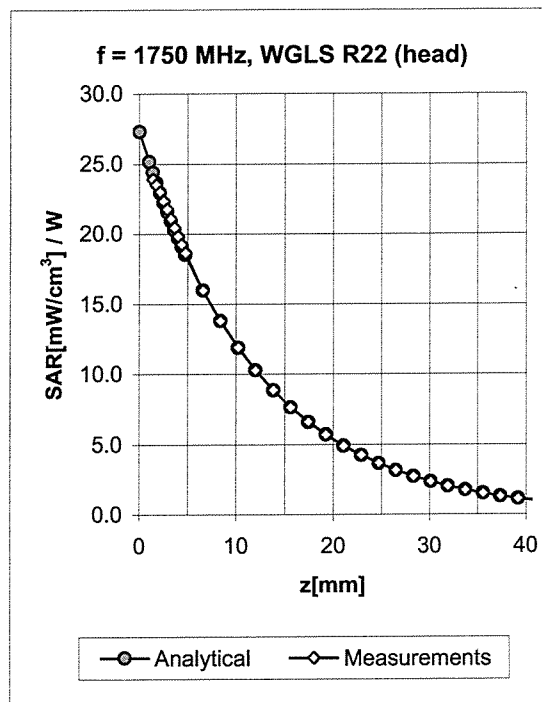
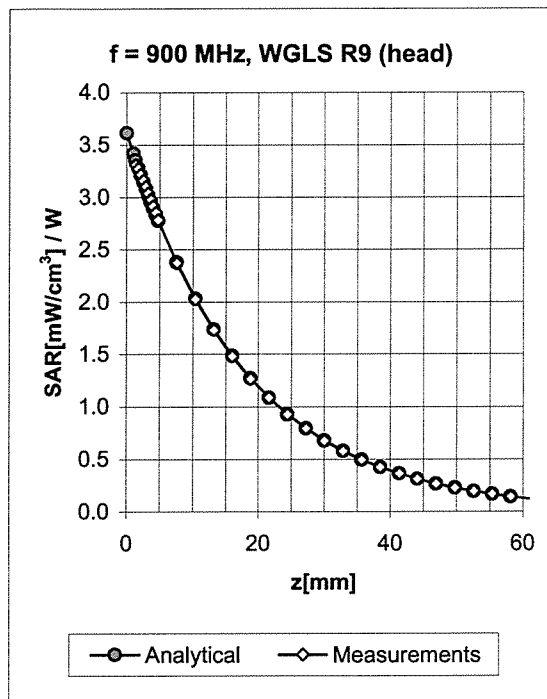
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

Dynamic Range $f(\text{SAR}_{\text{head}})$ (Waveguide R22, $f = 1800$ MHz)



Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

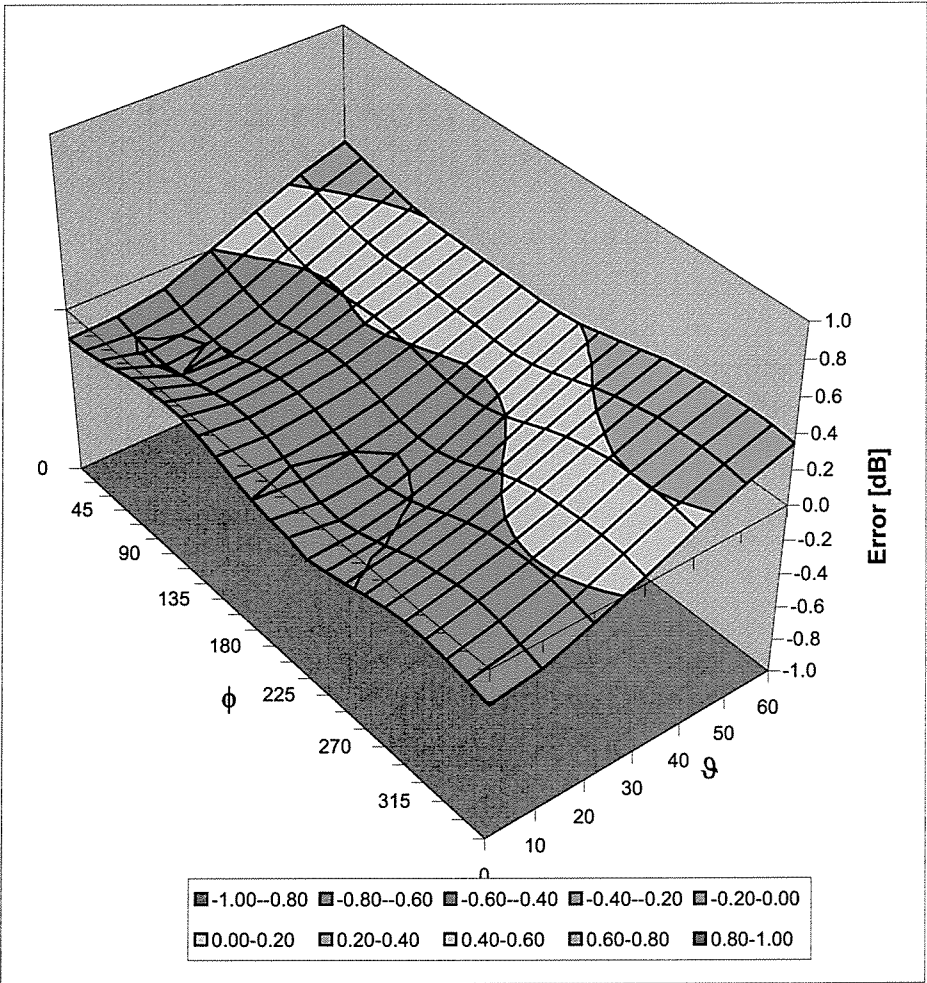
Conversion Factor Assessment



| f [MHz] | Validity [MHz] ^c | TSL | Permittivity | Conductivity | Alpha | Depth | ConvF Uncertainty |
|---------|-----------------------------|------|--------------|--------------|-------|-------|---------------------|
| 450 | ± 50 / ± 100 | Head | 43.5 ± 5% | 0.87 ± 5% | 0.37 | 0.78 | 10.89 ± 13.3% (k=2) |
| 900 | ± 50 / ± 100 | Head | 41.5 ± 5% | 0.97 ± 5% | 0.68 | 0.67 | 10.14 ± 11.0% (k=2) |
| 1750 | ± 50 / ± 100 | Head | 40.1 ± 5% | 1.37 ± 5% | 0.76 | 0.58 | 9.08 ± 11.0% (k=2) |
| 1900 | ± 50 / ± 100 | Head | 40.0 ± 5% | 1.40 ± 5% | 0.66 | 0.58 | 8.83 ± 11.0% (k=2) |
| 2150 | ± 50 / ± 101 | Head | 39.7 ± 5% | 1.53 ± 5% | 0.71 | 0.56 | 8.61 ± 11.0% (k=2) |
| 2450 | ± 50 / ± 100 | Head | 39.2 ± 5% | 1.80 ± 5% | 0.58 | 0.63 | 8.02 ± 11.0% (k=2) |
| 450 | ± 50 / ± 100 | Body | 56.7 ± 5% | 0.94 ± 5% | 0.64 | 0.41 | 11.73 ± 13.3% (k=2) |
| 900 | ± 50 / ± 100 | Body | 55.0 ± 5% | 1.05 ± 5% | 0.85 | 0.61 | 10.21 ± 11.0% (k=2) |
| 1750 | ± 50 / ± 100 | Body | 53.4 ± 5% | 1.49 ± 5% | 0.58 | 0.70 | 8.80 ± 11.0% (k=2) |
| 1900 | ± 50 / ± 100 | Body | 53.3 ± 5% | 1.52 ± 5% | 0.62 | 0.68 | 8.29 ± 11.0% (k=2) |
| 2150 | ± 50 / ± 100 | Body | 53.0 ± 5% | 1.75 ± 5% | 0.51 | 0.78 | 8.14 ± 11.0% (k=2) |
| 2450 | ± 50 / ± 100 | Body | 52.7 ± 5% | 1.95 ± 5% | 0.53 | 0.76 | 7.68 ± 11.0% (k=2) |

^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

Deviation from Isotropy in HSL
Error (ϕ , ϑ), $f = 900 \text{ MHz}$



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ ($k=2$)



A1237

20/06/07

NM

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 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client

RFI

Certificate No: **D1900V2-540_Jun07**

CALIBRATION CERTIFICATE

Object

D1900V2 - SN: 540

Calibration procedure(s)

QA CAL-05.v7

Calibration procedure for dipole validation kits

Calibration date:

June 11, 2007

Condition of the calibrated item

In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration |
|-----------------------------|------------------|---|------------------------|
| Power meter EPM-442A | GB37480704 | 03-Oct-06 (METAS, No. 217-00608) | Oct-07 |
| Power sensor HP 8481A | US37292783 | 03-Oct-06 (METAS, No. 217-00608) | Oct-07 |
| Reference 20 dB Attenuator | SN: 5086 (20g) | 10-Aug-06 (METAS, No 217-00591) | Aug-07 |
| Reference 10 dB Attenuator | SN: 5047.2 (10r) | 10-Aug-06 (METAS, No 217-00591) | Aug-07 |
| Reference Probe ET3DV6 | SN: 1507 | 19-Oct-06 (SPEAG, No. ET3-1507_Oct06) | Oct-07 |
| Reference Probe ES3DV3 | SN: 3025 | 19-Oct-06 (SPEAG, No. ES3-3025_Oct06) | Oct-07 |
| DAE4 | SN 601 | 30-Jan-07 (SPEAG, No. DAE4-601_Jan07) | Jan-08 |
| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
| Power sensor HP 8481A | MY41092317 | 18-Oct-02 (SPEAG, in house check Oct-05) | In house check: Oct-07 |
| RF generator Agilent E4421B | MY41000675 | 11-May-05 (SPEAG, in house check Nov-05) | In house check: Nov-07 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (SPEAG, in house check Oct-06) | In house check: Oct-07 |

Calibrated by:

Name

Claudio Leubler

Function

Laboratory Technician

Signature

Approved by:

Name

Katja Pokovic

Technical Manager

Issued: June 14, 2007

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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Accreditation No.: **SCS 108**

Glossary:

| | |
|-------|---------------------------------|
| TSL | tissue simulating liquid |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A | not applicable or not measured |

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- DASY4 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

| | | |
|-------------------------------------|---------------------------|-------------|
| DASY Version | DASY4 | V4.7 |
| Extrapolation | Advanced Extrapolation | |
| Phantom | Modular Flat Phantom V5.0 | |
| Distance Dipole Center - TSL | 10 mm | with Spacer |
| Zoom Scan Resolution | dx, dy, dz = 5 mm | |
| Frequency | 1900 MHz \pm 1 MHz | |

Head TSL parameters

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---------------------|----------------|----------------------|
| Nominal Head TSL parameters | 22.0 °C | 40.0 | 1.40 mho/m |
| Measured Head TSL parameters | (22.0 \pm 0.2) °C | 39.7 \pm 6 % | 1.46 mho/m \pm 6 % |
| Head TSL temperature during test | (21.5 \pm 0.2) °C | --- | --- |

SAR result with Head TSL

| SAR averaged over 1 cm³ (1 g) of Head TSL | condition | |
|---|--------------------|--|
| SAR measured | 250 mW input power | 9.25 mW / g |
| SAR normalized | normalized to 1W | 37.0 mW / g |
| SAR for nominal Head TSL parameters ¹ | normalized to 1W | 36.1 mW / g \pm 17.0 % (k=2) |

| SAR averaged over 10 cm³ (10 g) of Head TSL | Condition | |
|---|--------------------|--|
| SAR measured | 250 mW input power | 4.89 mW / g |
| SAR normalized | normalized to 1W | 19.6 mW / g |
| SAR for nominal Head TSL parameters ¹ | normalized to 1W | 19.3 mW / g \pm 16.5 % (k=2) |

¹ Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Body TSL parameters

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|----------------------------------|-----------------|--------------|------------------|
| Nominal Body TSL parameters | 22.0 °C | 53.3 | 1.52 mho/m |
| Measured Body TSL parameters | (22.0 ± 0.2) °C | 51.8 ± 6 % | 1.58 mho/m ± 6 % |
| Body TSL temperature during test | (21.2 ± 0.2) °C | --- | --- |

SAR result with Body TSL

| SAR averaged over 1 cm ³ (1 g) of Body TSL | Condition | |
|---|--------------------|-----------------------------------|
| SAR measured | 250 mW input power | 9.52 mW / g |
| SAR normalized | normalized to 1W | 38.1 mW / g |
| SAR for nominal Body TSL parameters ² | normalized to 1W | 38.0 mW / g ± 17.0 % (k=2) |

| SAR averaged over 10 cm ³ (10 g) of Body TSL | condition | |
|---|--------------------|-----------------------------------|
| SAR measured | 250 mW input power | 5.14 mW / g |
| SAR normalized | normalized to 1W | 20.6 mW / g |
| SAR for nominal Body TSL parameters ² | normalized to 1W | 20.7 mW / g ± 16.5 % (k=2) |

² Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL

| | |
|--------------------------------------|-----------------------------|
| Impedance, transformed to feed point | $51.9 \Omega + 5.1 j\Omega$ |
| Return Loss | - 25.4 dB |

Antenna Parameters with Body TSL

| | |
|--------------------------------------|-----------------------------|
| Impedance, transformed to feed point | $47.7 \Omega + 4.8 j\Omega$ |
| Return Loss | - 25.3 dB |

General Antenna Parameters and Design

| | |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.197 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

| | |
|-----------------|---------------|
| Manufactured by | SPEAG |
| Manufactured on | July 26, 2001 |

DASY4 Validation Report for Head TSL

Date/Time: 11.06.2007 10:40:22

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:540

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL U10 BB;

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(4.97, 4.97, 4.97); Calibrated: 19.10.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.01.2007
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:

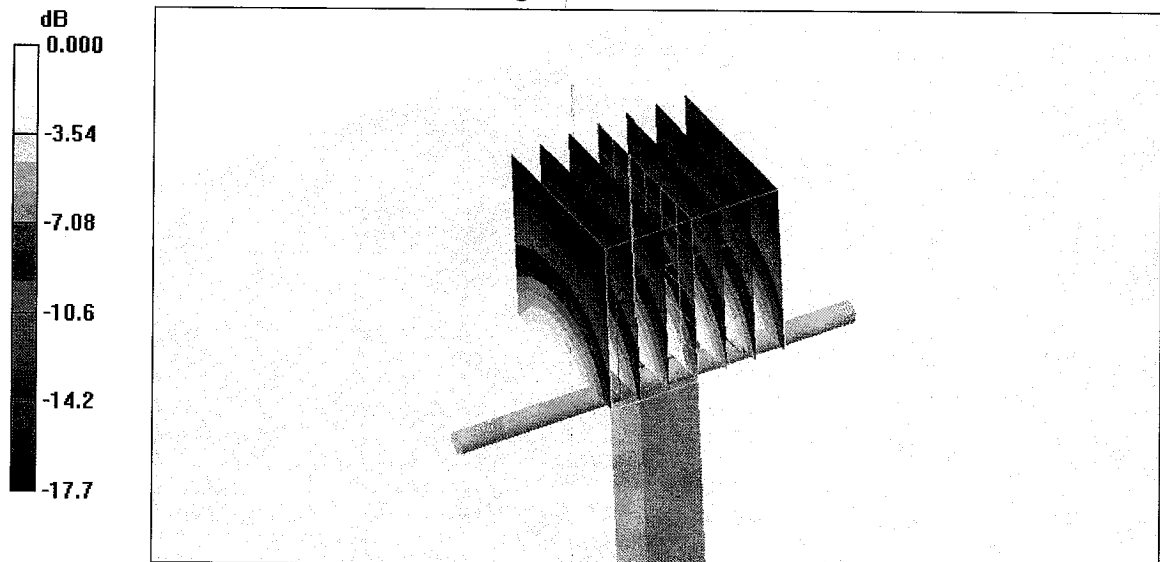
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.9 V/m; Power Drift = 0.054 dB

Peak SAR (extrapolated) = 15.7 W/kg

SAR(1 g) = 9.25 mW/g; SAR(10 g) = 4.89 mW/g

Maximum value of SAR (measured) = 10.2 mW/g



0 dB = 10.2mW/g

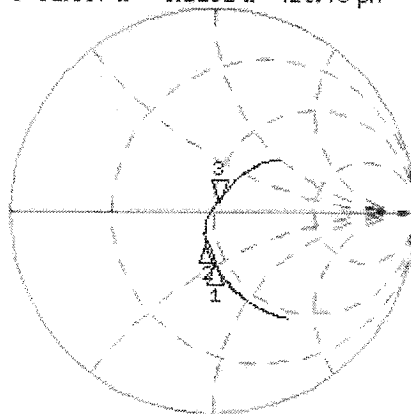
Impedance Measurement Plot for Head TSL

11 Jun 2007 08:42:20
 CH1 S11 1 U FS 3: 51.887 Ω 5.1152 Ω 428.48 μH 1 900.000 000 MHz

*
 Del
 Cor

Avg
 16

↑



CH1 Markers

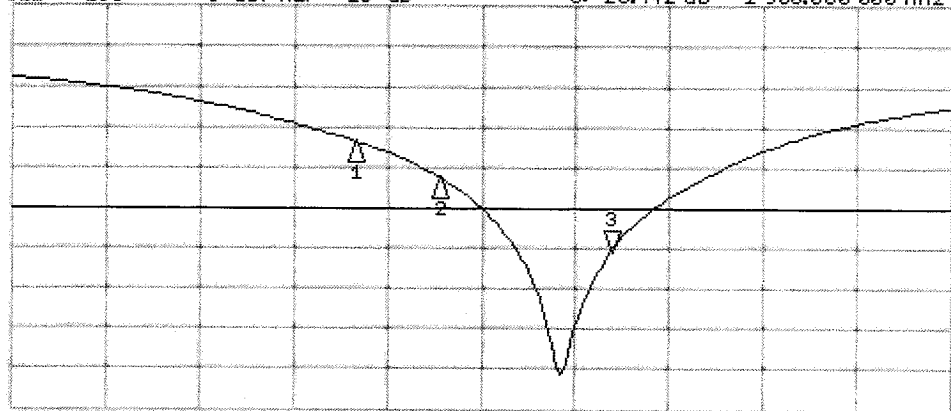
1: 44.473 Ω
 -24.576 Ω
 1.75000 GHz
 2: 44.383 Ω
 -13.623 Ω
 1.80000 GHz

CH2 S11 LOG 5 dB/REF -20 dB 3: -25.442 dB 1 900.000 000 MHz

Cor

Avg
 16

↑



CH2 Markers

1: -11.765 dB
 1.75000 GHz
 2: -16.222 dB
 1.80000 GHz

START 1 550.000 000 MHz

STOP 2 100.000 000 MHz

DASY4 Validation Report for Body TSL

Date/Time: 11.06.2007 11:24:00

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:540

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: MSL U10 BB;

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.59$ mho/m; $\epsilon_r = 55.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(4.43, 4.43, 4.43); Calibrated: 19.10.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.01.2007
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:

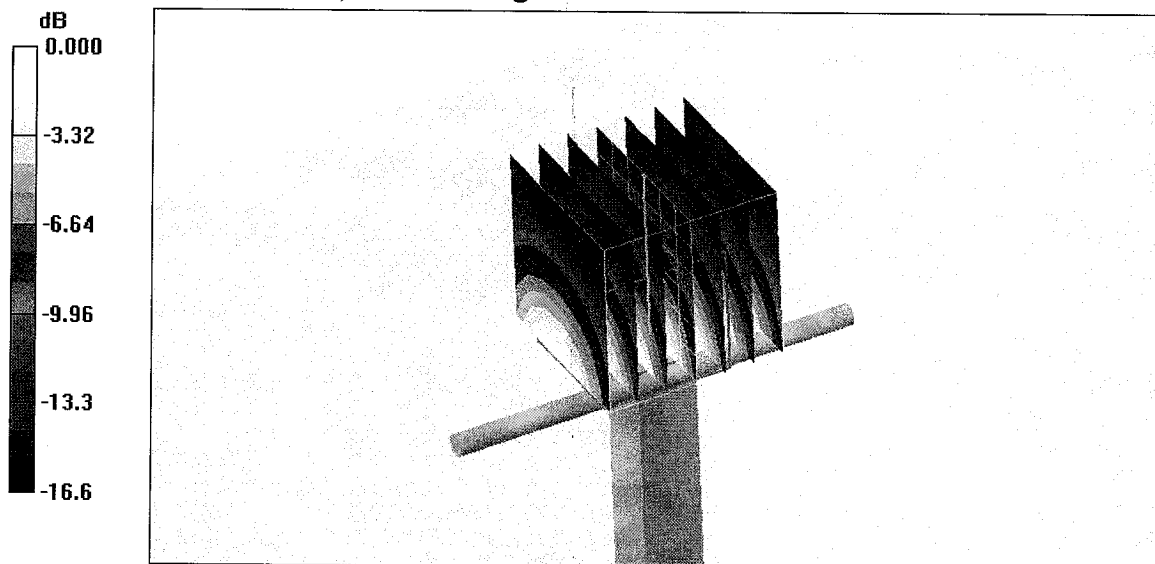
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.9 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 15.8 W/kg

SAR(1 g) = 9.52 mW/g; SAR(10 g) = 5.14 mW/g

Maximum value of SAR (measured) = 10.6 mW/g



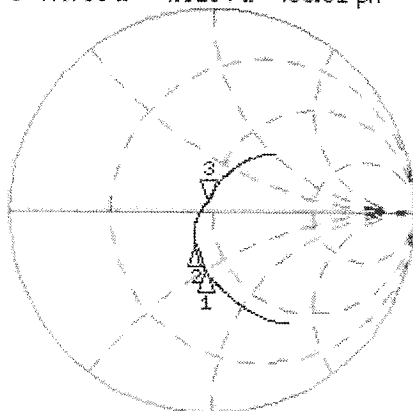
Impedance Measurement Plot for Body TSL

11 Jun 2007 08:43:19
 CH1 S11 1 U FS 3: 47.736 Ω 4.8184 Ω 403.61 pF 1 900.000 000 MHz

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↑



CH1 Markers

1: 39.707 Ω
 -25.889 Ω
 1.75000 GHz

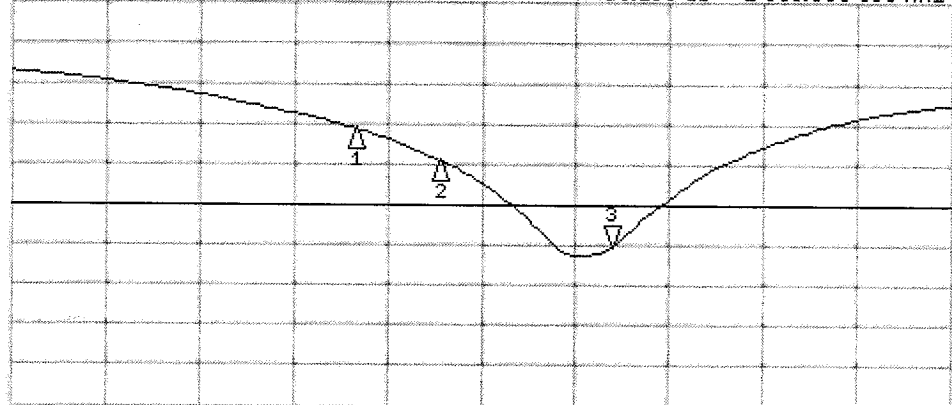
2: 40.176 Ω
 -14.076 Ω
 1.80000 GHz

CH2 S11 LOG 5 dB/REF -20 dB 3: -25.286 dB 1 900.000 000 MHz

Cor

Avg
 16

↑



CH2 Markers

1: -10.505 dB
 1.75000 GHz

2: -14.514 dB
 1.80000 GHz

START 1 550.000 000 MHz

STOP 2 100.000 000 MHz

A1329
30/05/07 NM

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client

RFI

Certificate No. **D900V2-185_May07**

CALIBRATION CERTIFICATE

Object

D900V2 - SN: 185

Calibration procedure(s)

QA CAL-05.v6
Calibration procedure for dipole validation kits

Calibration date:

May 18, 2007

Condition of the calibrated item

In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration |
|-----------------------------|------------------|---|------------------------|
| Power meter EPM-442A | GB37480704 | 03-Oct-06 (METAS, No. 217-00608) | Oct-07 |
| Power sensor HP 8481A | US37292783 | 03-Oct-06 (METAS, No. 217-00608) | Oct-07 |
| Reference 20 dB Attenuator | SN: 5086 (20g) | 10-Aug-06 (METAS, No 217-00591) | Aug-07 |
| Reference 10 dB Attenuator | SN: 5047.2 (10r) | 10-Aug-06 (METAS, No 217-00591) | Aug-07 |
| Reference Probe ET3DV6 (HF) | SN 1507 | 19-Oct-06 (SPEAG, No. ET3-1507_Oct06) | Oct-07 |
| DAE4 | SN 601 | 30-Jan-07 (SPEAG, No. DAE4-601_Jan07) | Jan-08 |
| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
| Power sensor HP 8481A | MY41092317 | 18-Oct-02 (SPEAG, in house check Oct-05) | In house check: Oct-07 |
| RF generator Agilent E4421B | MY41000675 | 11-May-05 (SPEAG, in house check Nov-05) | In house check: Nov-07 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (SPEAG, in house check Oct-06) | In house check: Oct-07 |

| | | | |
|----------------|-----------------|-----------------------|-----------|
| | Name | Function | Signature |
| Calibrated by: | Claudio Leubler | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: May 21, 2007

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Federal Office of Metrology and Accreditation
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary:

| | |
|-------|---------------------------------|
| TSL | tissue simulating liquid |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A | not applicable or not measured |

Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- d) DASY4 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

| | | |
|-------------------------------------|---------------------------|-------------|
| DASY Version | DASY4 | V4.7 |
| Extrapolation | Advanced Extrapolation | |
| Phantom | Modular Flat Phantom V4.9 | |
| Distance Dipole Center - TSL | 15 mm | with Spacer |
| Zoom Scan Resolution | dx, dy, dz = 5 mm | |
| Frequency | 900 MHz \pm 1 MHz | |

Head TSL parameters

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---------------------|----------------|----------------------|
| Nominal Head TSL parameters | 22.0 °C | 41.5 | 0.97 mho/m |
| Measured Head TSL parameters | (22.0 \pm 0.2) °C | 40.9 \pm 6 % | 0.95 mho/m \pm 6 % |
| Head TSL temperature during test | (21.5 \pm 0.2) °C | --- | --- |

SAR result with Head TSL

| SAR averaged over 1 cm³ (1 g) of Head TSL | Condition | |
|---|--------------------|--|
| SAR measured | 250 mW input power | 2.65 mW / g |
| SAR normalized | normalized to 1W | 10.6 mW / g |
| SAR for nominal Head TSL parameters ¹ | normalized to 1W | 10.6 mW / g \pm 17.0 % (k=2) |

| SAR averaged over 10 cm³ (10 g) of Head TSL | condition | |
|---|--------------------|--|
| SAR measured | 250 mW input power | 1.71 mW / g |
| SAR normalized | normalized to 1W | 6.84 mW / g |
| SAR for nominal Head TSL parameters ¹ | normalized to 1W | 6.84 mW / g \pm 16.5 % (k=2) |

¹ Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Body TSL parameters

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|----------------------------------|-----------------|--------------|------------------|
| Nominal Body TSL parameters | 22.0 °C | 55.0 | 1.05 mho/m |
| Measured Body TSL parameters | (22.0 ± 0.2) °C | 52.3 ± 6 % | 1.04 mho/m ± 6 % |
| Body TSL temperature during test | (22.5 ± 0.2) °C | --- | --- |

SAR result with Body TSL

| SAR averaged over 1 cm ³ (1 g) of Body TSL | condition | |
|---|--------------------|-----------------------------------|
| SAR measured | 250 mW input power | 2.70 mW / g |
| SAR normalized | normalized to 1W | 10.8 mW / g |
| SAR for nominal Body TSL parameters ² | normalized to 1W | 10.5 mW / g ± 17.0 % (k=2) |

| SAR averaged over 10 cm ³ (10 g) of Body TSL | condition | |
|---|--------------------|-----------------------------------|
| SAR measured | 250 mW input power | 1.76 mW / g |
| SAR normalized | normalized to 1W | 7.04 mW / g |
| SAR for nominal Body TSL parameters ² | normalized to 1W | 6.88 mW / g ± 16.5 % (k=2) |

² Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL

| | |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 49.9 Ω - 8.2 j Ω |
| Return Loss | - 21.8 dB |

Antenna Parameters with Body TSL

| | |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 46.5 Ω - 9.2 j Ω |
| Return Loss | - 20.0 dB |

General Antenna Parameters and Design

| | |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.405 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

| | |
|-----------------|--------------|
| Manufactured by | SPEAG |
| Manufactured on | May 27, 2003 |

DASY4 Validation Report for Head TSL

Date/Time: 14.05.2007 14:01:26

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:185

Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1

Medium: HSL 900 MHz;

Medium parameters used: $f = 900$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(6.01, 6.01, 6.01); Calibrated: 19.10.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.01.2007
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0:

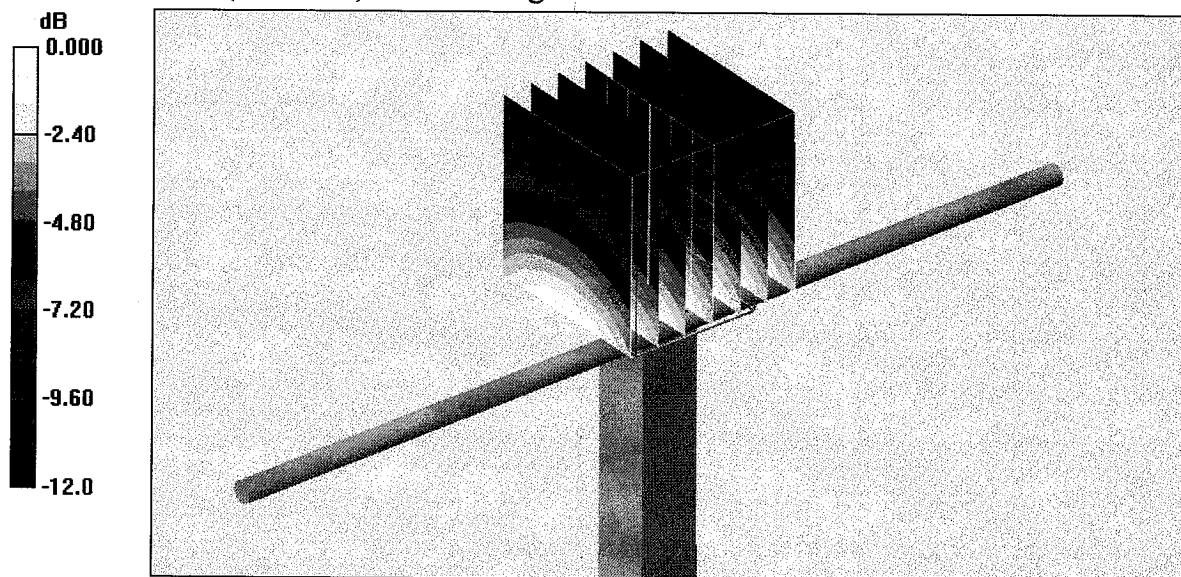
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.5 V/m; Power Drift = -0.044 dB

Peak SAR (extrapolated) = 3.92 W/kg

SAR(1 g) = 2.65 mW/g; SAR(10 g) = 1.71 mW/g

Maximum value of SAR (measured) = 2.89 mW/g



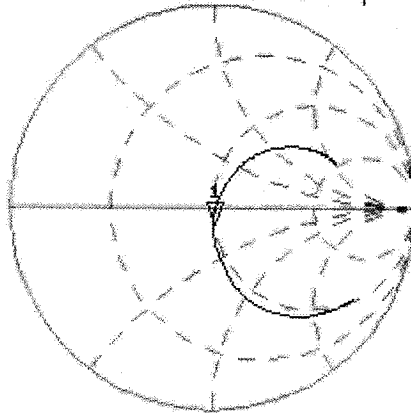
0 dB = 2.89mW/g

Impedance Measurement Plot for Head TSL

14 May 2007 11:17:55
 CH1 S11 1 U FS 1: 49.914 Ω -8.1777 Ω 21.624 pF 900.000 000 MHz

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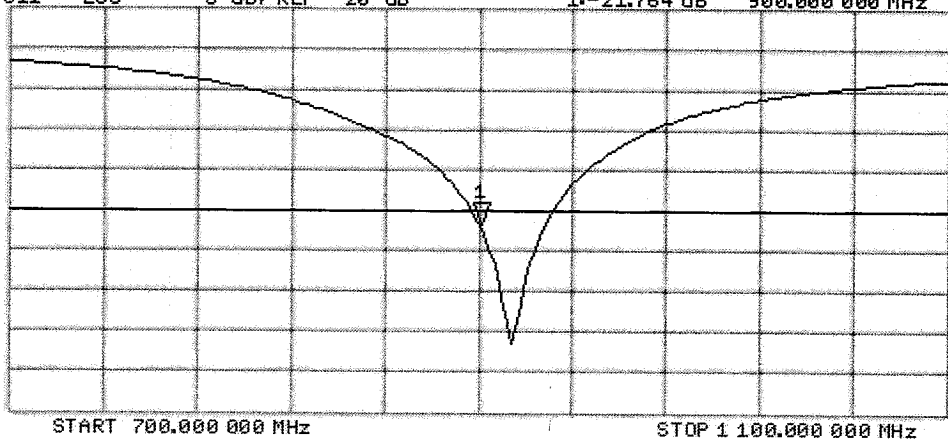
Avg
 16



CH2 S11 LOG 5 dB/REF -20 dB 1:-21.764 dB 900.000 000 MHz

Cor

Avg
 16



DASY4 Validation Report for Body TSL

Date/Time: 18.05.2007 15:00:08

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:185

Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1

Medium: MSL900;

Medium parameters used: $f = 900$ MHz; $\sigma = 1.04$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(5.8, 5.8, 5.8); Calibrated: 19.10.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.01.2007
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin=250mW/Zoom Scan (7x7x7)/Cube 0:

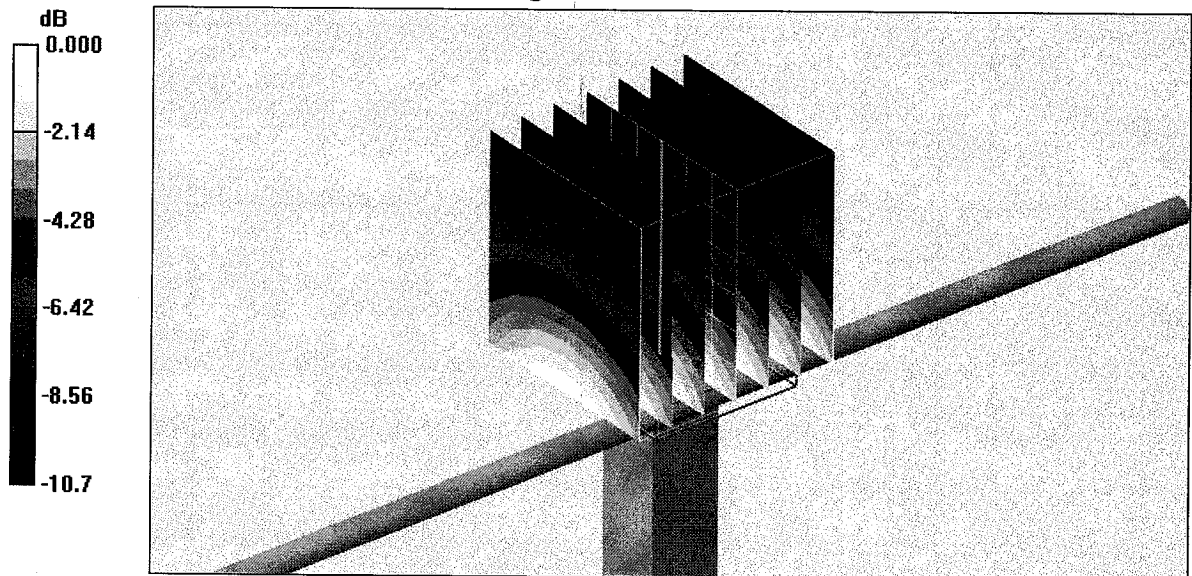
Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 55.8 V/m; Power Drift = -0.012 dB

Peak SAR (extrapolated) = 3.82 W/kg

SAR(1 g) = 2.7 mW/g; SAR(10 g) = 1.76 mW/g

Maximum value of SAR (measured) = 2.94 mW/g



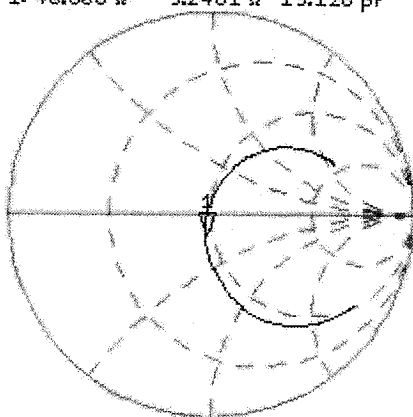
0 dB = 2.94mW/g

Impedance Measurement Plot for Body TSL

18 May 2007 12:22:56
 CH1 S11 1 U FS 1: 46.508 Ω -9.2461 Ω 19.126 pF 900.000 000 MHz

*
 Del
 Cor

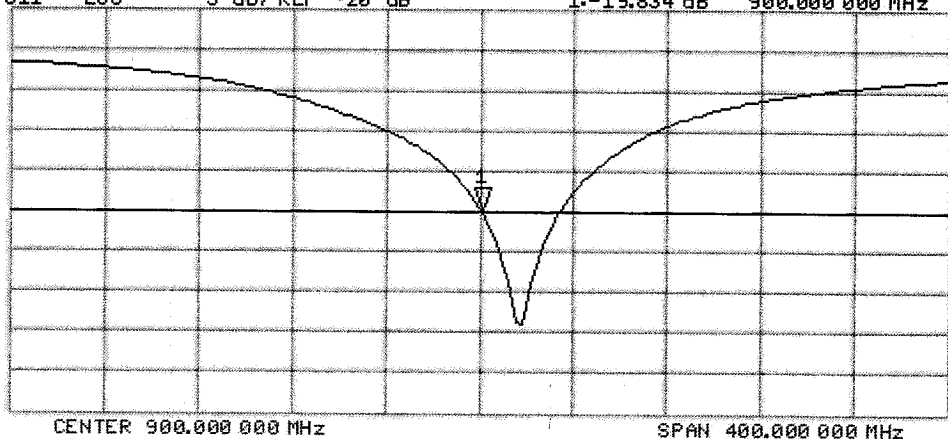
Avg
 16



CH2 S11 L06 5 dB/REF -20 dB 1:-19.834 dB 900.000 000 MHz

Cor

Avg
 16



Test of: NTT docomo P-08A

To: OET Bulletin 65 Supplement C: (2001-01)

Appendix 2. Measurement Methods

A.2.1. Evaluation Procedure

The Specific Absorption Rate (SAR) evaluation was performed in the following manner:

- a) (i) The evaluation was performed in an applicable area of the phantom depending on the type of device being tested. For devices worn about the ear during normal operation, both the left and right ear positions were evaluated at the centre frequency of the band at maximum power. The side, which produced the greatest SAR, determined which side of the phantom would be used for the entire evaluation. The positioning of the head worn device relative to the phantom was dictated by the test specification identified in section 3.1 of this report.

(ii) For body worn devices or devices which can be operated within 20 cm of the body, the flat section of the SAM phantom was used where the size of the device(s) is normal. For bigger devices and base station the 2mm Oval phantom is used for evaluation. The type of device being evaluated dictated the distance of the EUT to the outer surface of the phantom flat section.
 - b) The SAR was determined by a pre-defined procedure within the DASY4 software. The exposed region of the phantom was scanned near the inner surface with a grid spacing of 20mm x 20mm or appropriate resolution.
 - c) A 5x5x7 matrix was performed around the greatest spatial SAR distribution found during the area scan of the applicable exposed region. SAR values were then calculated using a 3-D spline interpolation algorithm and averaged over spatial volumes of 1 and 10 grams.
 - d) If the EUT had any appreciable drift over the course of the evaluation, then the EUT was re-evaluated. Any unusual anomalies over the course of the test also warranted a re-evaluation.
-

Test of: NTT docomo P-08A

To: OET Bulletin 65 Supplement C: (2001-01)

A.2.2. Specific Absorption Rate (SAR) Measurements to OET Bulletin 65 Supplement C: (2001-01)

Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields

SAR measurements were performed in accordance with Appendix D of the standard FCC OET Bulletin 65 Supplement C: 2001, against appropriate limits for each measurement position in accordance with the standard.

The test was performed in a shielded enclosure with the temperature controlled to remain between +18.0°C and +25.0°C. The tissue equivalent material fluid temperature was controlled to give a maximum variation of $\pm 2.0^\circ\text{C}$

Prior to any SAR measurements on the EUT, system validation and material dielectric property measurements were conducted. In the absence of a detailed procedure within the specification, system validation and material dielectric property measurements were performed in accordance with Appendix C and Appendix D of FCC OET Bulletin 65 Supplement C: 2001.

Following the successful system validation and material dielectric property measurements, a SAR versus time sweep shall be performed within 10 mm of the phantom inner surface. If the EUT power output is stable after three minutes then the measurement probe will perform a coarse surface level scan at each test position in order to ascertain the location of the maximum local SAR level. Once this area had been established, a 5x5x7 cube of 343 points (5 mm spacing in each axis $\approx 27\text{g}$) will be centred at the area of concern. Extrapolation and interpolation will then be carried out on the 27g of tissue and the highest averaged SAR over a 10g cube determined.

Once the maximum interpolated SAR measurement is complete; the coarse scan is visually assessed to check for secondary peaks within 50% of the maximum SAR level. If there are any further SAR measurements required, extra 5x5x7 cubes shall be centred on each of these extra local SAR maxima.

At the end of each position test case a second time sweep shall be performed to check whether the EUT has remained stable throughout the test.
