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 phantom was used. 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.

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 +18.0ºC and +25.0ºC. The tissue equivalent material fluid temperature was controlled to give a maximum variation of ± 2.0ºC

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 175 points (5 mm spacing in each axis ≈ 27g) 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.

Appendix 3. SAR Distribution Scans

This appendix contains SAR distribution scans which are not included in the total number of pages for this report.

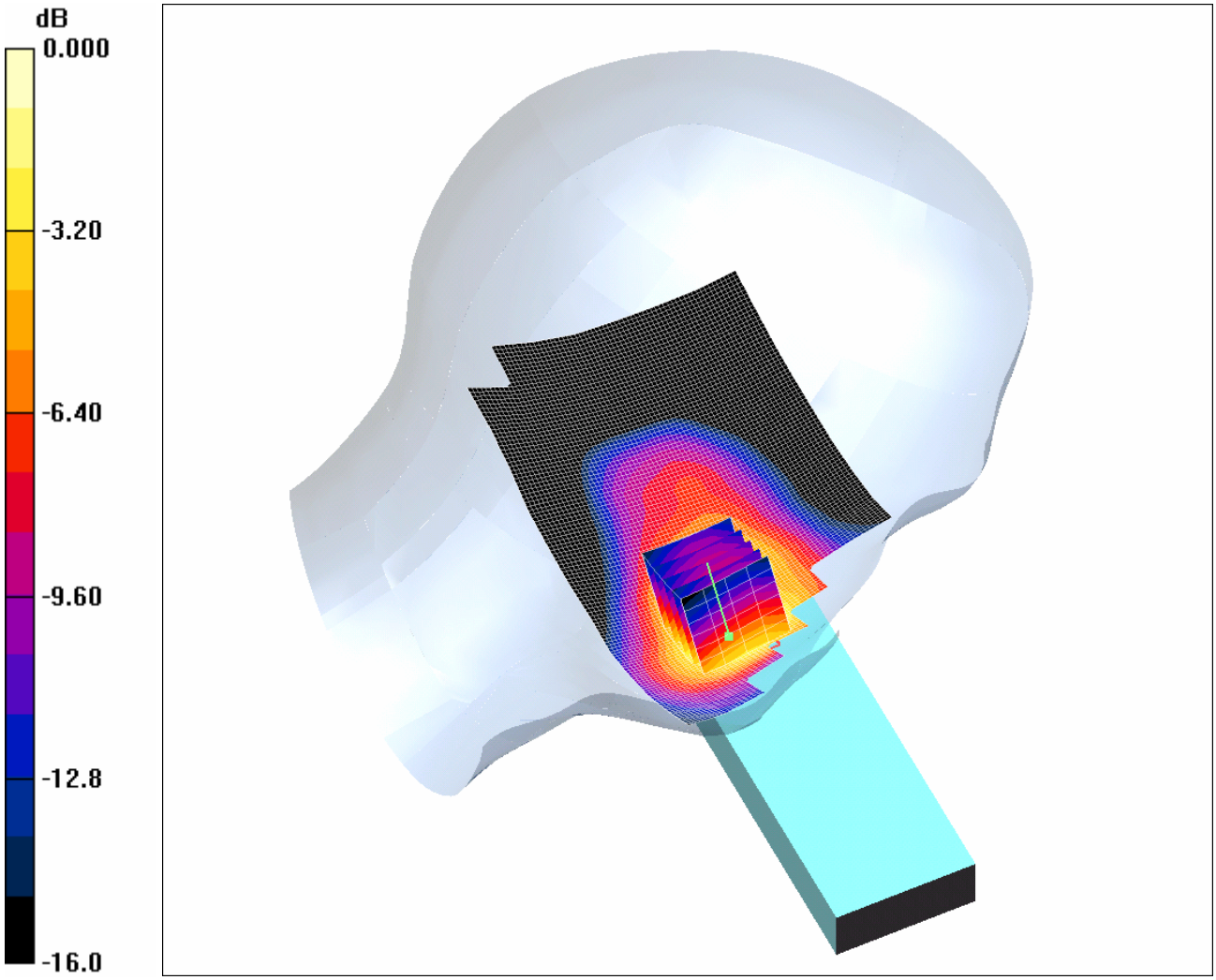
Scan Reference Number	Title
SCN/49463JD07/001	Touch Left Antenna Retracted PCS CH660
SCN/49463JD07/002	Touch Left Antenna Extended PCS CH660
SCN/49463JD07/003	Tilt Left Antenna Retracted PCS CH660
SCN/49463JD07/004	Tilt Left Antenna Extended PCS CH660
SCN/49463JD07/005	Touch Right Antenna Retracted PCS CH660
SCN/49463JD07/006	Touch Right Antenna Extended PCS CH660
SCN/49463JD07/007	Tilt Right Antenna Retracted PCS CH660
SCN/49463JD07/008	Tilt Right Antenna Extended PCS CH660
SCN/49463JD07/009	Front Of EUT Open Facing Phantom Antenna Extended PCS CH660
SCN/49463JD07/010	Front Of EUT Open Facing Phantom Antenna Extended GPRS CH660
SCN/49463JD07/011	Rear Of EUT Open Facing Phantom Antenna Extended GPRS CH660
SCN/49463JD07/012	Rear Of EUT Open Facing Phantom Antenna Retracted GPRS CH660
SCN/49463JD07/013	Front Of EUT Open Facing Phantom Antenna Retracted GPRS CH660
SCN/49463JD07/014	System Performance Check1900 Head 13 09 07
SCN/49463JD07/015	System Performance Check1900 Body 13 09 07

Test of: Panasonic Mobile Comms Dev of Europe Ltd
P905i

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

001 Touch Left Antenna Retracted PCS CH660

DUT: Panasonic P905i; Type: P905i (Sample C9); Serial: 355282010026099



0 dB = 0.508mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.43 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Left Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1528; ConvF(4.98, 4.98, 4.98); Calibrated: 06/07/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 24/05/2007
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
Touch Left Antenna Retracted - Middle/Area Scan (71x161x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.509 mW/g
Touch Left Antenna Retracted - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.28 V/m; Power Drift = -0.411 dB
Peak SAR (extrapolated) = 0.641 W/kg
SAR(1 g) = 0.456 mW/g; SAR(10 g) = 0.282 mW/g
Maximum value of SAR (measured) = 0.508 mW/g

Test of: Panasonic Mobile Comms Dev of Europe Ltd
P905i

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

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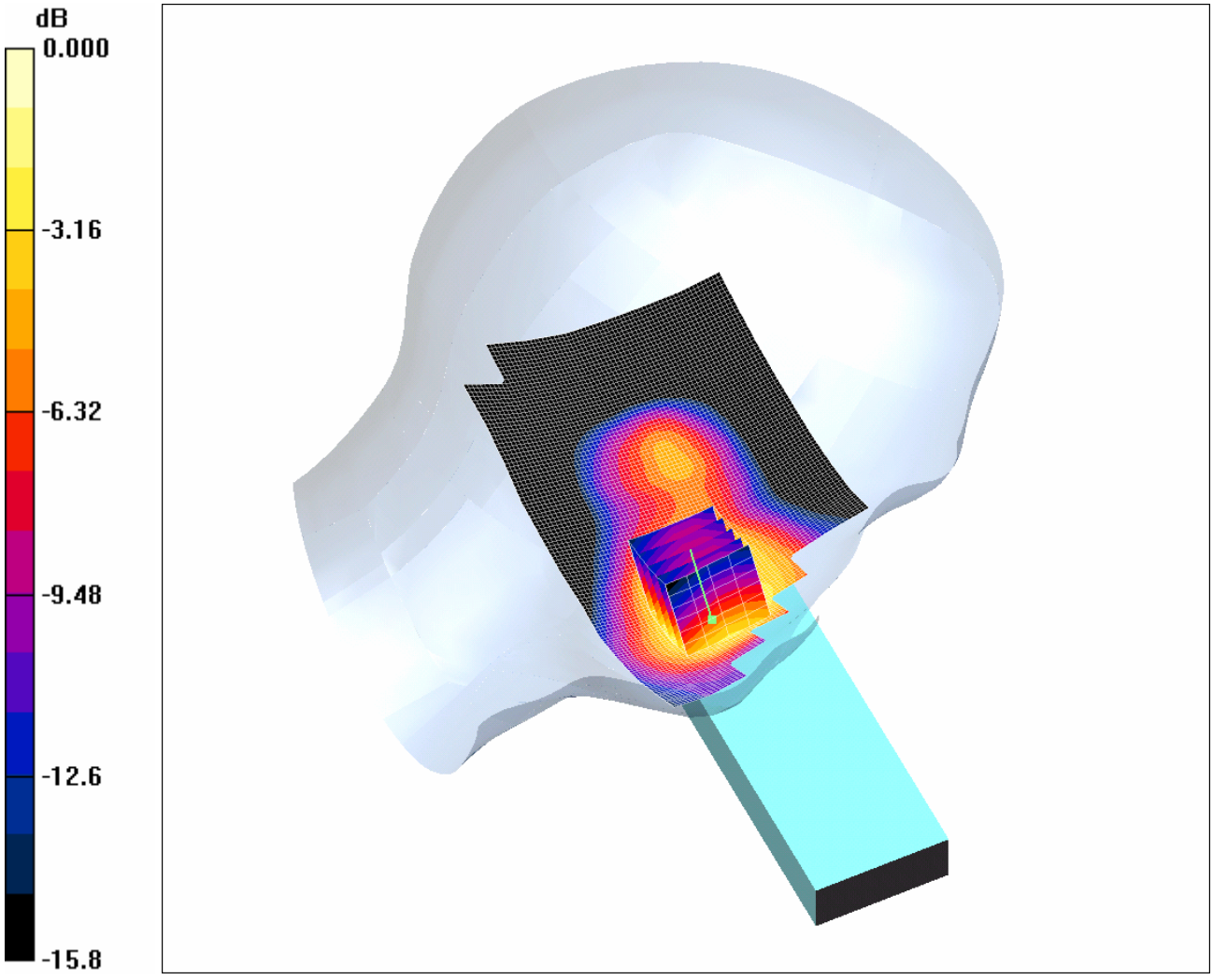
002 Touch Left Antenna Extended PCS CH660

DUT: Panasonic P905i; Type: P905i (Sample C9); Serial: 355282010026099



0 dB = 0.502mW/g

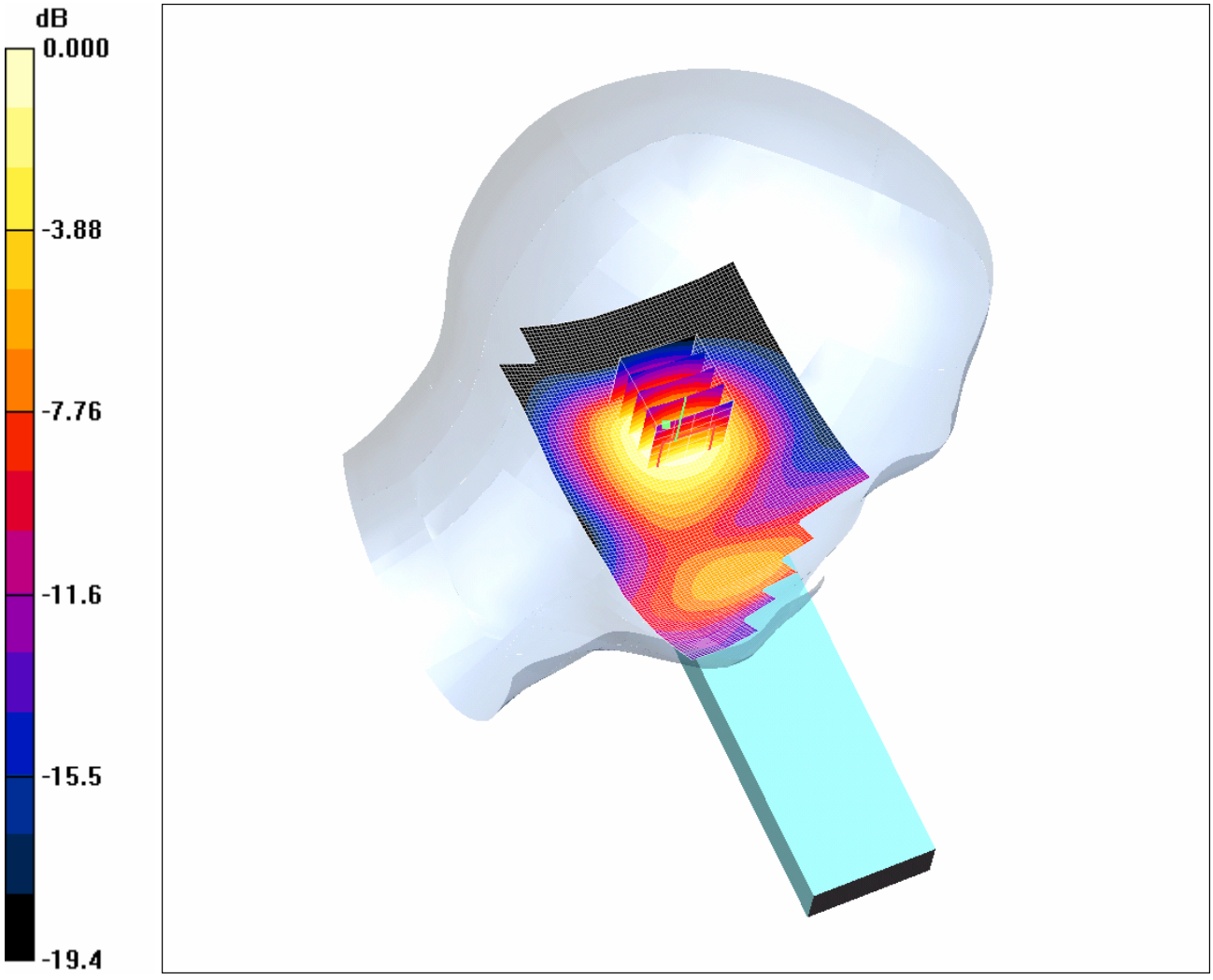
Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.43 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Left Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1528; ConvF(4.98, 4.98, 4.98); Calibrated: 06/07/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 24/05/2007
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
Touch Left Antenna Extended - Middle/Area Scan (71x161x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.506 mW/g
Touch Left Antenna Extended - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.10 V/m; Power Drift = -0.085 dB
Peak SAR (extrapolated) = 0.635 W/kg
SAR(1 g) = 0.453 mW/g; SAR(10 g) = 0.285 mW/g
Maximum value of SAR (measured) = 0.502 mW/g

Test of: Panasonic Mobile Comms Dev of Europe Ltd
P905i

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

003 Tilt Left Antenna Retracted PCS CH660

DUT: Panasonic P905i; Type: P905i (Sample C9); Serial: 355282010026099



0 dB = 0.199mW/g

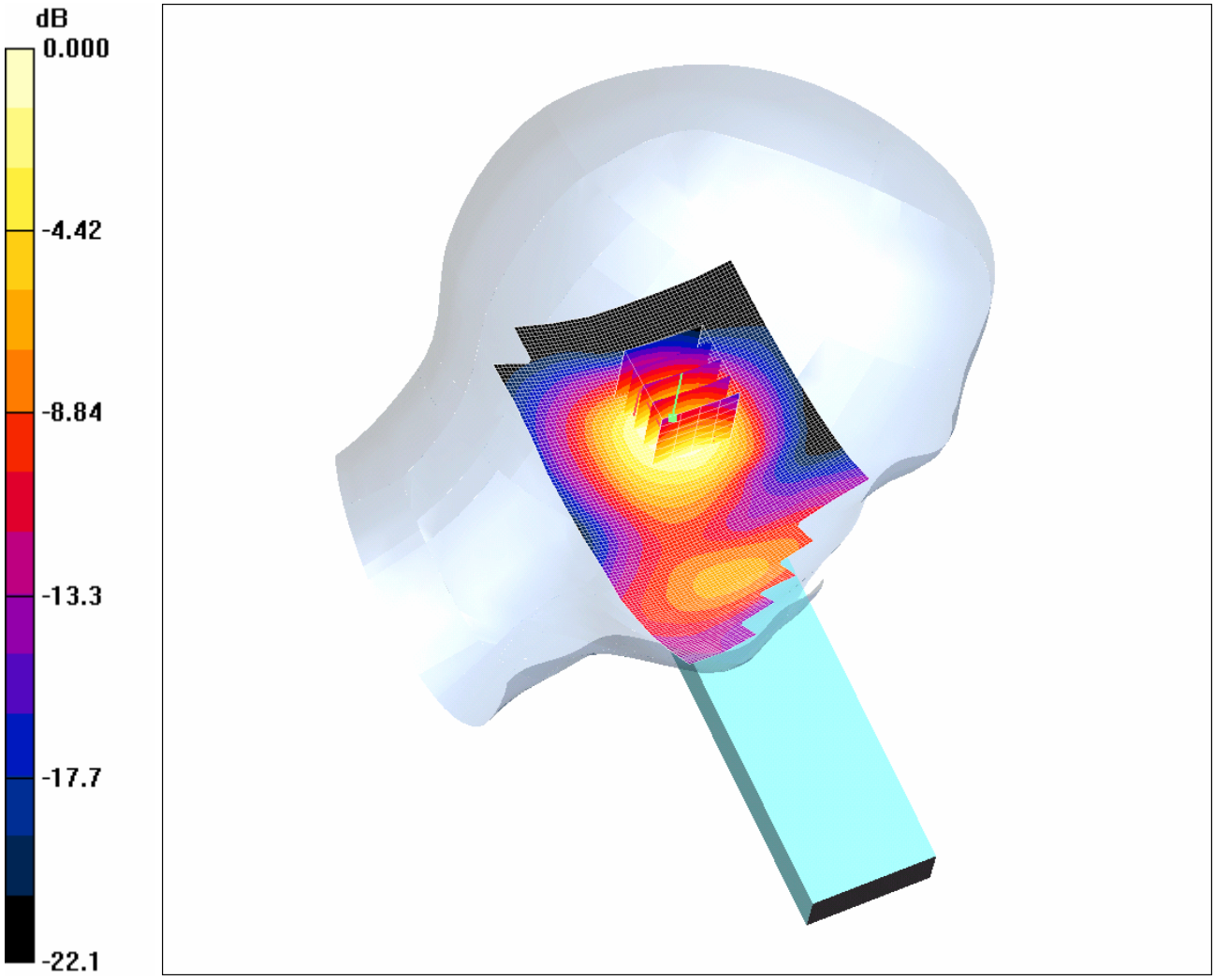
Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.43 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Left Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1528; ConvF(4.98, 4.98, 4.98); Calibrated: 06/07/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 24/05/2007
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
Tilt Left Antenna Retracted - Middle/Area Scan (71x161x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.219 mW/g
Tilt Left Antenna Retracted - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.7 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.277 W/kg
SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.116 mW/g
Maximum value of SAR (measured) = 0.199 mW/g

Test of: Panasonic Mobile Comms Dev of Europe Ltd
P905i

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

004 Tilt Left Antenna Extended PCS CH660

DUT: Panasonic P905i; Type: P905i (Sample C9); Serial: 355282010026099



0 dB = 0.291mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.43 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Left Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1528; ConvF(4.98, 4.98, 4.98); Calibrated: 06/07/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 24/05/2007
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
Tilt Left Antenna Extended- Middle/Area Scan (71x161x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.334 mW/g
Tilt Left Antenna Extended- Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.3 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 0.398 W/kg
SAR(1 g) = 0.266 mW/g; SAR(10 g) = 0.158 mW/g
Maximum value of SAR (measured) = 0.291 mW/g

Test of: Panasonic Mobile Comms Dev of Europe Ltd
P905i

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

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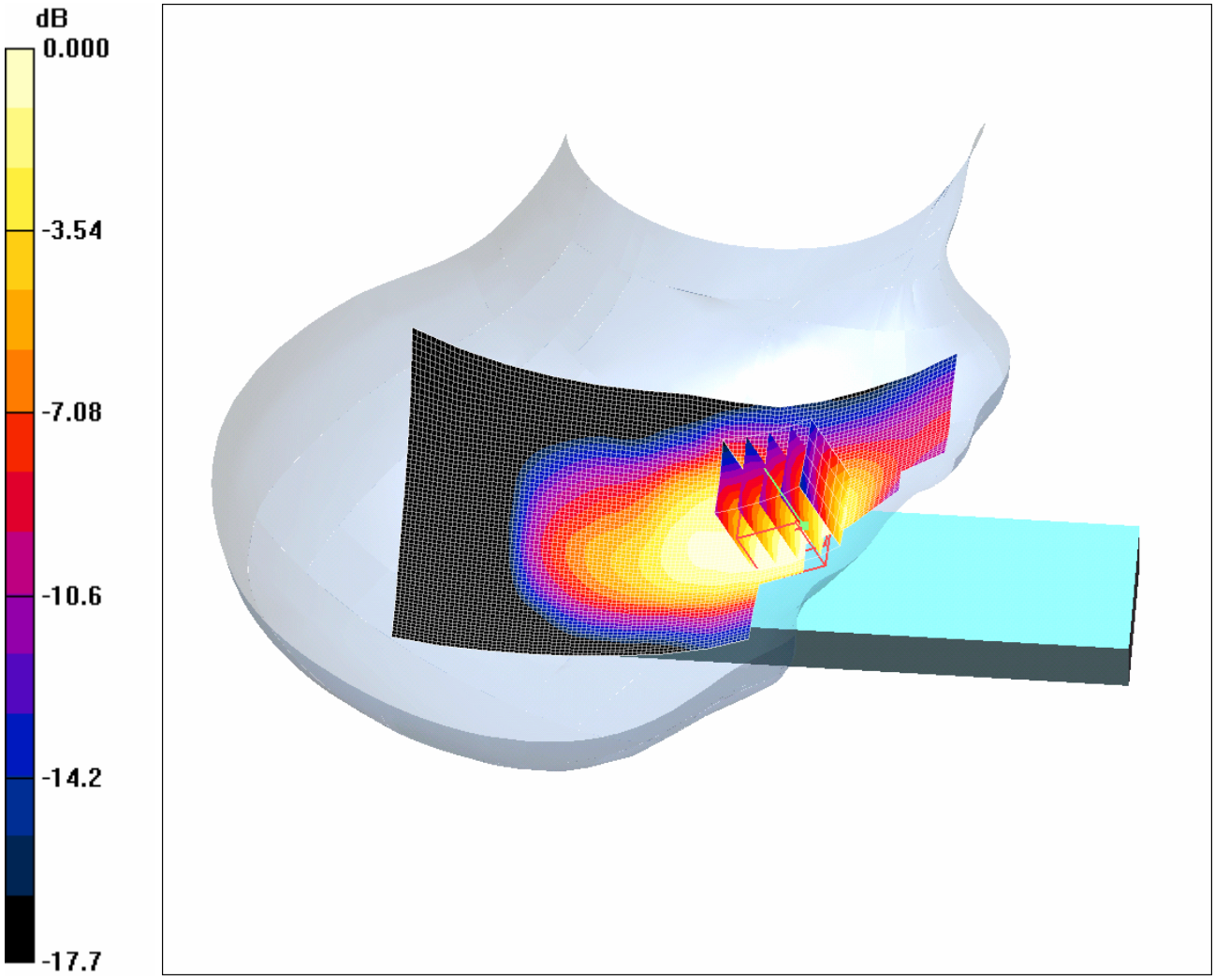
005 Touch Right Antenna Retracted PCS CH660

DUT: Panasonic P905i; Type: P905i (Sample C9); Serial: 355282010026099



0 dB = 0.379mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.43 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Right Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1528; ConvF(4.98, 4.98, 4.98); Calibrated: 06/07/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 24/05/2007
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
Touch Right Antenna Retracted - Middle/Area Scan (71x161x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.390 mW/g
Touch Right Antenna Retracted - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.44 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 0.498 W/kg
SAR(1 g) = 0.344 mW/g; SAR(10 g) = 0.221 mW/g
Maximum value of SAR (measured) = 0.379 mW/g

Test of: Panasonic Mobile Comms Dev of Europe Ltd
P905i

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

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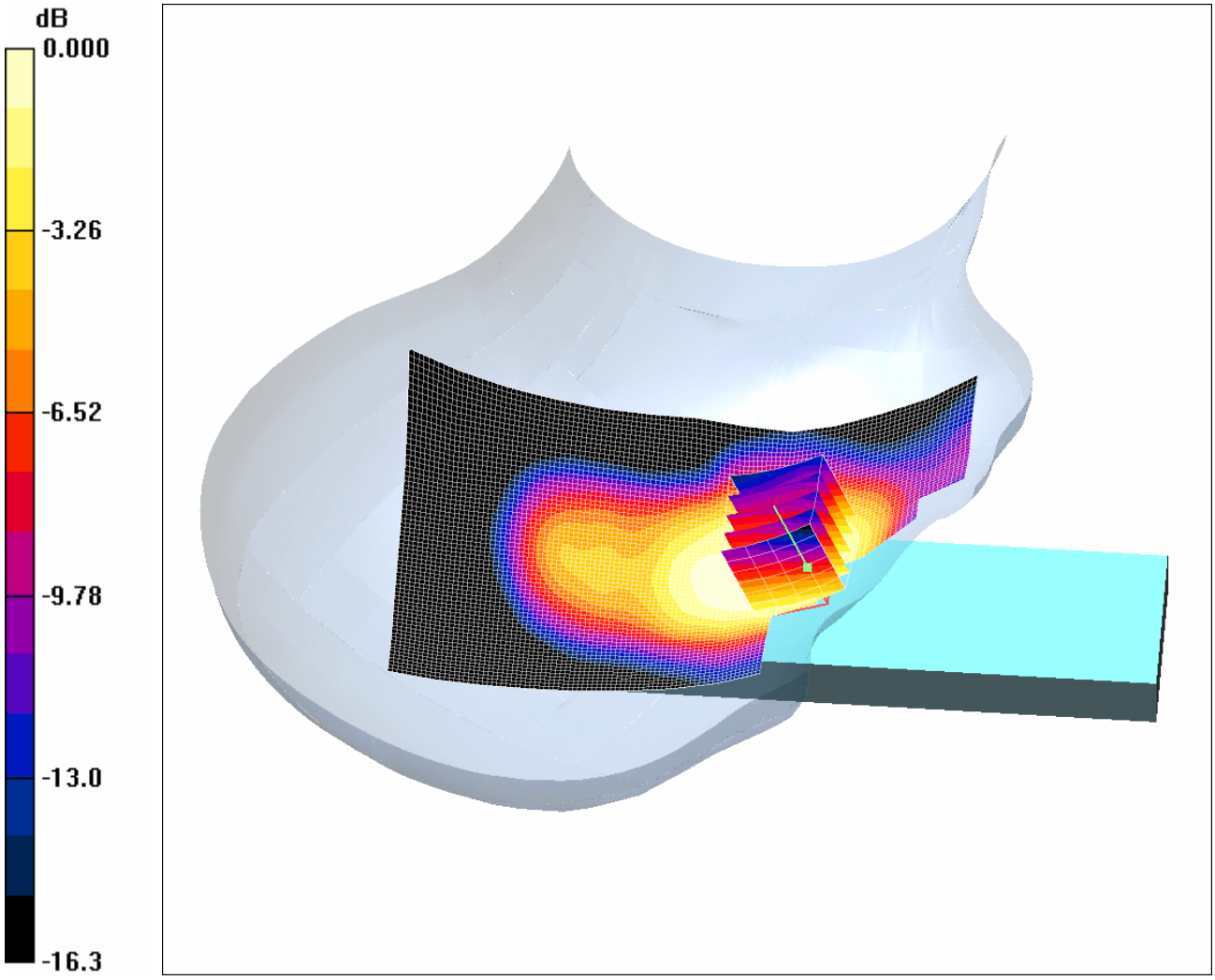
006 Touch Right Antenna Extended PCS CH660

DUT: Panasonic P905i; Type: P905i (Sample C9); Serial: 355282010026099



0 dB = 0.347mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.43 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Right Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1528; ConvF(4.98, 4.98, 4.98); Calibrated: 06/07/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 24/05/2007
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
Touch Right Antenna Extended - Middle/Area Scan (71x161x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.367 mW/g
Touch Right Antenna Extended - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.26 V/m; Power Drift = -0.085 dB
Peak SAR (extrapolated) = 0.461 W/kg
SAR(1 g) = 0.324 mW/g; SAR(10 g) = 0.218 mW/g
Maximum value of SAR (measured) = 0.347 mW/g

Test of: Panasonic Mobile Comms Dev of Europe Ltd
P905i

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

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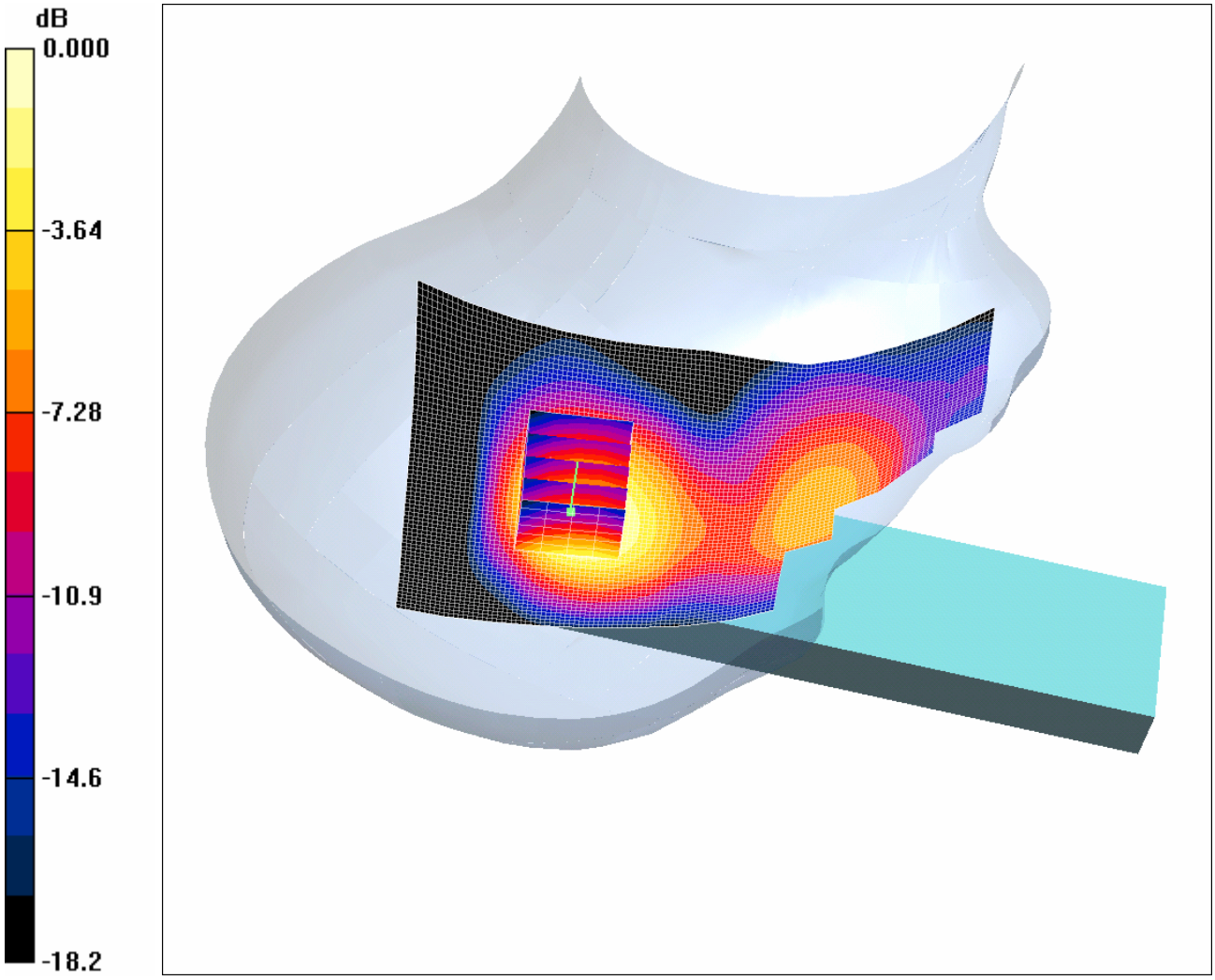
007 Tilt Right Antenna Retracted PCS CH660

DUT: Panasonic P905i; Type: P905i (Sample C9); Serial: 355282010026099



0 dB = 0.220mW/g

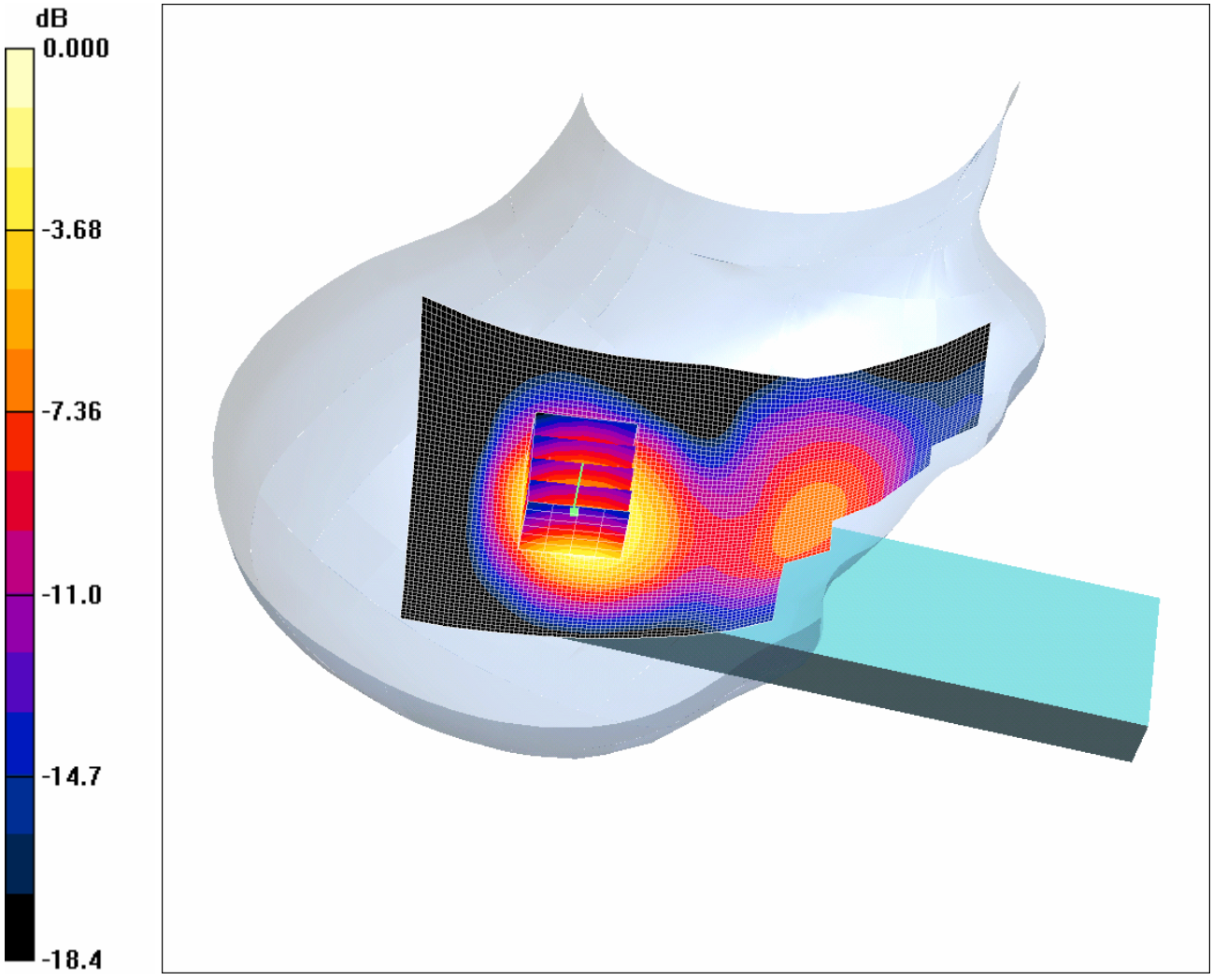
Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.43 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Right Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1528; ConvF(4.98, 4.98, 4.98); Calibrated: 06/07/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 24/05/2007
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
Tilt Right Antenna Retracted - Middle/Area Scan (71x161x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.246 mW/g
Tilt Right Antenna Retracted - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.3 V/m; Power Drift = 0.079 dB
Peak SAR (extrapolated) = 0.288 W/kg
SAR(1 g) = 0.204 mW/g; SAR(10 g) = 0.126 mW/g
Maximum value of SAR (measured) = 0.220 mW/g

Test of: Panasonic Mobile Comms Dev of Europe Ltd
P905i

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

008 Tilt Right Antenna Extended PCS CH660

DUT: Panasonic P905i; Type: P905i (Sample C9); Serial: 355282010026099



0 dB = 0.305mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.43 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Right Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1528; ConvF(4.98, 4.98, 4.98); Calibrated: 06/07/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 24/05/2007
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
Tilt Right Antenna Extended - Middle/Area Scan (71x161x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.335 mW/g
Tilt Right Antenna Extended - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.005 dB
Peak SAR (extrapolated) = 0.403 W/kg
SAR(1 g) = 0.278 mW/g; SAR(10 g) = 0.168 mW/g
Maximum value of SAR (measured) = 0.305 mW/g