September 28, 2004

Re: Kyocera Wireless Corp, FCC ID: OVFKWC-KPC650, Assessment N

To Mike Kuo:

Thank you for your feedback on the FCC application that I have submitted. Please find my responses to your questions below.

Question:

Question #1: Based upon FCC public notice DA 04-1705, only the following attachments can be granted as short-term confidentiality:

"External Photos, Test Setup Photos, Block Diagram, Schematics, user's Manual, Internal Photos, Parts List / Tune-up Procedures, and Operational Description."

All test reports (including SAR report and support attachments) can not be granted as long term or short term confidentiality. Please submit revised request for confidentiality to comply FCC public Notice DA 04-1705 requirements.

Response:

The Request for Confidentiality request has been revised as you requested to comply with the FCC public Notice DA 04-1705 requirements. See attached document “OVFKWC-KPC650 Request for confidentiality 9-28-2004.pdf”.

SAR Portion:

Question:

Question #4: section 2.2 of SAR test report listed the Host #2 as Toshiba Notebook M/N:Portege PP01L, but model name R100 was actually tested (based upon the test report). Please make necessary correction on section 2.2.

As indicated on page 13 of SAR test report, Toshiba R100 was tested with extended battery which caused the notebook computer can not have direct contact to the flat phantom. In addition, the PCMCIA card was tilted with angle which may disturb the SAR distribution. Please either test R100 without extended battery or select different notebook computer to repeat the tests.

Response:

The make and models of the host computers that were tested as part of the original SAR report should read:

Host #	Description	Manufacturer	Model	Overall Dimension
1	Laptop Computer	Dell	Latitude PP01L	31.5cm x 25cm x 4.1cm
2	Laptop Computer	Toshiba	Portege R100	28.5cm x 22.5cm x 3cm
3	Laptop Computer	Hewlett-Packard	Compaq nx5000	32.5cm x 27cm x 3.8cm

The SAR report has been revised with the correct model number information. See attached document "Exhibit 9 OVFKWC-KPC650 SAR Report 9-28-2004.pdf".

The Toshiba R100 extended battery that was tested as part of the original SAR report is the standard battery for that notebook computer. Removing the extended battery in order to make the notebook computer have direct contact to the flat phantom would require tests to be performed without any battery present on Toshiba Portege R100. The notebook computer would then only operate if connected to the AC adapter. Therefore, an additional host notebook computer, the Dell Latitude D600, has been tested for SAR as requested. The results of the additional SAR testing can be found in the attached document, "OVFKWC-KPC650 Supplemental SAR Report 9-28-004.pdf". Note: The Dell Latitude D600 maximum SAR results are below the maximum values listed in the original SAR report.

Host #	Description	Manufacturer	Model	Overall Dimension
4	Laptop Computer	Dell	Latitude D600	32cm x 26cm x 3.5cm

Question:
Question #5: What is the liquid depth? Please indicate this information in the SAR test report.

Response:

The minimum 15cm depth of the liquid is verified by the test operator when preparing the SAM phantom for testing. A measurement device with markings at 15cm is used to ensure that phantom is filled with the proper amount of liquid prior to performing the validation and SAR measurements.

In addition, the z-axis scans are performed on the worse case SAR measurements to verify adequate liquid depth.

The reference to the 15cm depth of the liquid in the phantom can be found in section "5.3 Tissue Stimulants" of the test report.

Question:
Question #6: Please provide Dipole calibration report.

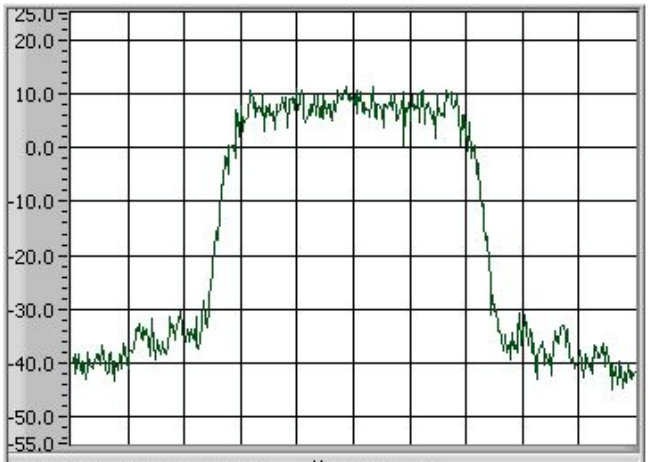
Response:

See "Appendix A: Dipole Calibration" at the end of this correspondence.

Part 22/24 portion:

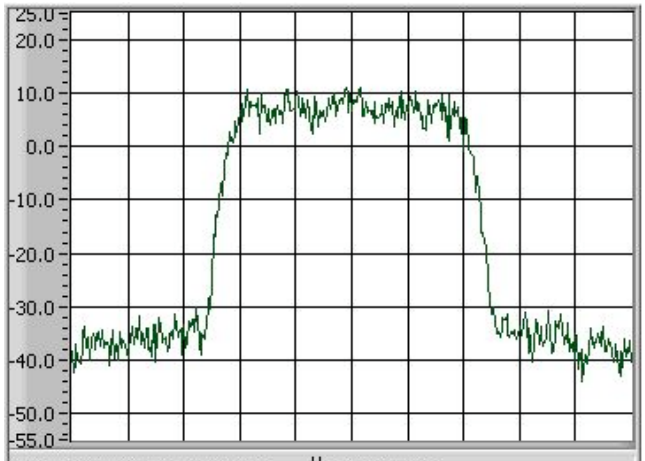
Question:
Question #7: Please provide lower and upper band edge plots to address 22.917(c) requirements.

Response:



Screen Title: OVFKWC-KPC650	Result: PASS
Center Frequency: 824.700 MHz	Chan Ref Power: 24.50 dBm/1.40 M
Reference Level: 25.0 dBm	-1.25625 MHz Offset: -67.70 dBc
Amplitude Offset: 12.3 dB	-2.75 MHz Offset: -63.87 dBc
Amplitude Scale: LOG 10 dB/Div	
Video Average: 10	
Span: 3.0 MHz	
Resolution Bandwidth: 30 kHz	
Video Bandwidth: 300 kHz	9/28/2004 9:29:20 AM

CDMA 800 Lower Band Edge



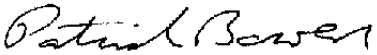
Screen Title: OVFKWC-KPC650	Result: PASS
Center Frequency: 848.310 MHz	Chan Ref Power: 24.01 dBm/1.40 M
Reference Level: 25.0 dBm	+1.25625 MHz Offset: -65.89 dBc
Amplitude Offset: 12.3 dB	+2.75 MHz Offset: -68.96 dBc
Amplitude Scale: LOG 10 dB/Div	
Video Average: 10	
Span: 3.0 MHz	
Resolution Bandwidth: 30 kHz	
Video Bandwidth: 300 kHz	9/28/2004 9:29:45 AM

CDMA 800 Upper Band Edge

I hope the responses I have submitted answered all your concerns regarding filing OVFKWC-KPC650.

Please contact me at Tel: (858) 882-1552 or Email: mailto:pbowen@kyocera-wireless.com if there are any questions or if any additional information is needed.

Kyocera Wireless Corporation



Patrick Bowen
Staff Engineer

Appendix A: Dipole Calibration

Schmid & Partner Engineering AG
s p e a g
Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 1 245 9700, Fax +41 1 245 9779
info@speag.com, http://www.speag.com

DASY

Dipole Validation Kit

Type: D835V2

Serial: 454

Manufactured: January 31, 2002
Calibrated: April 20, 2004

1. Measurement Conditions

The measurements were performed in the flat section of the SAM twin phantom filled with **head simulating solution** of the following electrical parameters at 835 MHz:

Relative Dielectricity	**42.8**	± 5%
Conductivity	**0.94 mho/m**	± 5%

The DASY4 System with a dosimetric E-field probe ET3DV6 (SN:1507, Conversion factor 6.3 at 835 MHz) was used for the measurements.

The dipole was mounted on the small tripod so that the dipole feedpoint was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 15mm from dipole center to the solution surface. The included distance spacer was used during measurements for accurate distance positioning.

The coarse grid with a grid spacing of 15mm was aligned with the dipole. The 7x7x7 fine cube was chosen for cube integration.
The dipole input power (forward power) was 250 mW ± 3 %. The results are normalized to 1W input power.

2. SAR Measurement with DASY4 System

Standard SAR-measurements were performed according to the measurement conditions described in section 1. The results (see figure supplied) have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR-values measured with the dosimetric probe ET3DV6 SN:1507 and applying the advanced extrapolation are:

averaged over 1 cm^3 (1 g) of tissue: **10.2 mW/g** ± 16.8 % (k=2)[1]

averaged over 10 cm^3 (10 g) of tissue: **6.64 mW/g** ± 16.2 % (k=2)[1]

[1] validation uncertainty

3. Dipole Impedance and Return Loss

The impedance was measured at the SMA-connector with a network analyzer and numerically transformed to the dipole feedpoint. The transformation parameters from the SMA-connector to the dipole feedpoint are:

Electrical delay:	**1.378 ns**	(one direction)
Transmission factor:	**0.988**	(voltage transmission, one direction)

The dipole was positioned at the flat phantom sections according to section 1 and the distance holder was in place during impedance measurements.

Feedpoint impedance at 835 MHz:	Re{Z} = **50.9 Ω**
	Im {Z} = **-2.2 Ω**
Return Loss at 835 MHz	**-32.3 dB**

4. Measurement Conditions

The measurements were performed in the flat section of the SAM twin phantom filled with **body simulating solution** of the following electrical parameters at 835 MHz:

Relative Dielectricity	**55.5**	± 5%
Conductivity	**0.99 mho/m**	± 5%

The DASY4 System with a dosimetric E-field probe ET3DV6 (SN:1507, Conversion factor 6.13 at 835 MHz) was used for the measurements.

The dipole was mounted on the small tripod so that the dipole feedpoint was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 15mm from dipole center to the solution surface. The included distance spacer was used during measurements for accurate distance positioning.

The coarse grid with a grid spacing of 15mm was aligned with the dipole. The 7x7x7 fine cube was chosen for cube integration.
The dipole input power (forward power) was 250 mW ± 3 %. The results are normalized to 1W input power.

5. SAR Measurement with DASY4 System

Standard SAR-measurements were performed according to the measurement conditions described in section 4. The results (see figure supplied) have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR-values measured with the dosimetric probe ET3DV6 SN:1507 and applying the advanced extrapolation are:

averaged over 1 cm^3 (1 g) of tissue:	**10.1 mW/g** ± 16.8 % $(k=2)^2$
averaged over 10 cm^3 (10 g) of tissue:	**6.64 mW/g** ± 16.2 % $(k=2)^2$

6. Dipole Impedance and Return Loss

The dipole was positioned at the flat phantom sections according to section 4 and the distance holder was in place during impedance measurements.

Feedpoint impedance at 835 MHz:	Re{Z} = **47.2 Ω**
	Im {Z} = **-1.1 Ω**
Return Loss at 835 MHz	**-29.6 dB**

7. Handling

Do not apply excessive force to the dipole arms, because they might bend. Bending of the dipole arms stresses the soldered connections near the feedpoint leading to a damage of the dipole.

8. Design

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.

9. Power Test

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

[2] validation uncertainty

Date/Time: 04/20/04 12:55:03

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN454

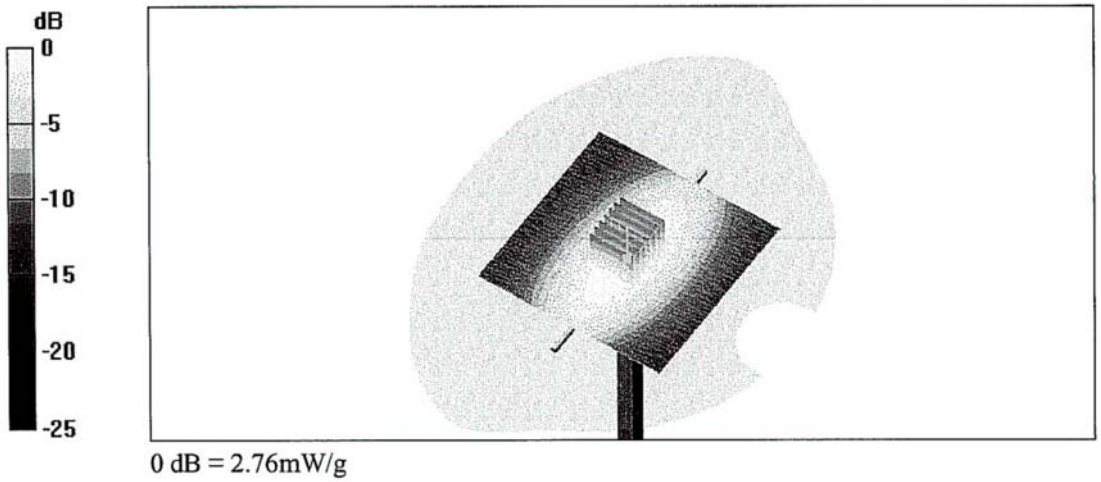
Communication System: CW-835; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL 835 MHz;
Medium parameters used: f = 835 MHz; σ = 0.94 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(6.3, 6.3, 6.3); Calibrated: 1/23/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn411; Calibrated: 11/6/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006;
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

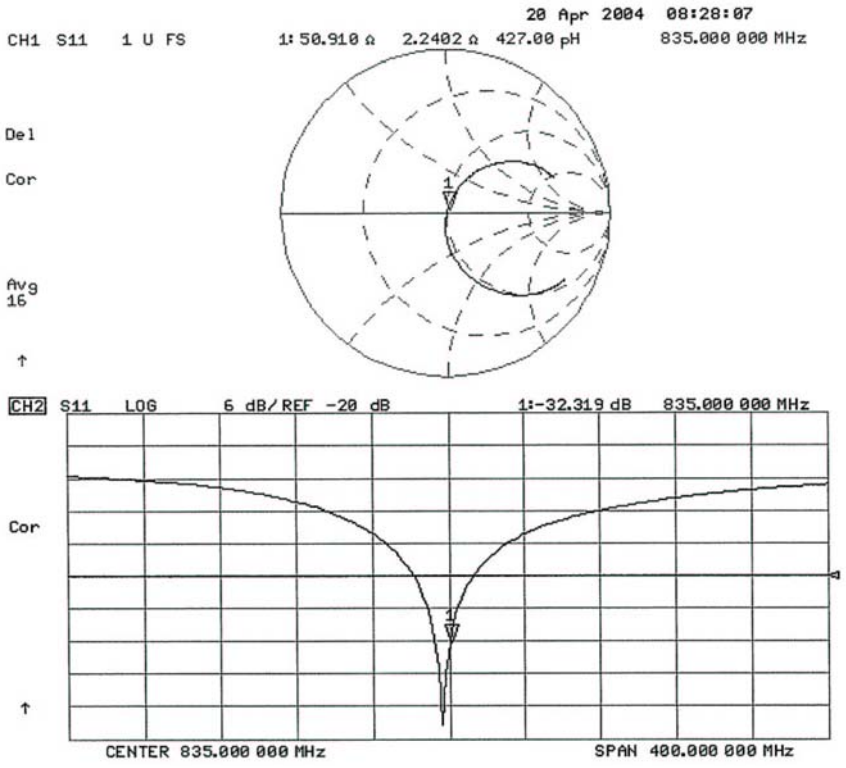
Pin = 250 mW; d = 15 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 55.5 V/m; Power Drift = -0.0 dB
Maximum value of SAR (interpolated) = 2.75 mW/g

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.5 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 2.76 mW/g
Peak SAR (extrapolated) = 3.88 W/kg
SAR(1 g) = 2.56 mW/g; SAR(10 g) = 1.66 mW/g



0 dB = 2.76mW/g

Head


20 Apr 2004 08:28:07
CH1 S11 1 U FS
1: 50.910 Ω 2.2402 Ω 427.00 pH
835.000 000 MHz
Del
Cor
Avg
16
CH2 S11 LOG 6 dB/ REF -20 dB
1:-32.319 dB 835.000 000 MHz
Cor
CENTER 835.000 000 MHz
SPAN 400.000 000 MHz

Date/Time: 04/16/04 13:28:44

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN454

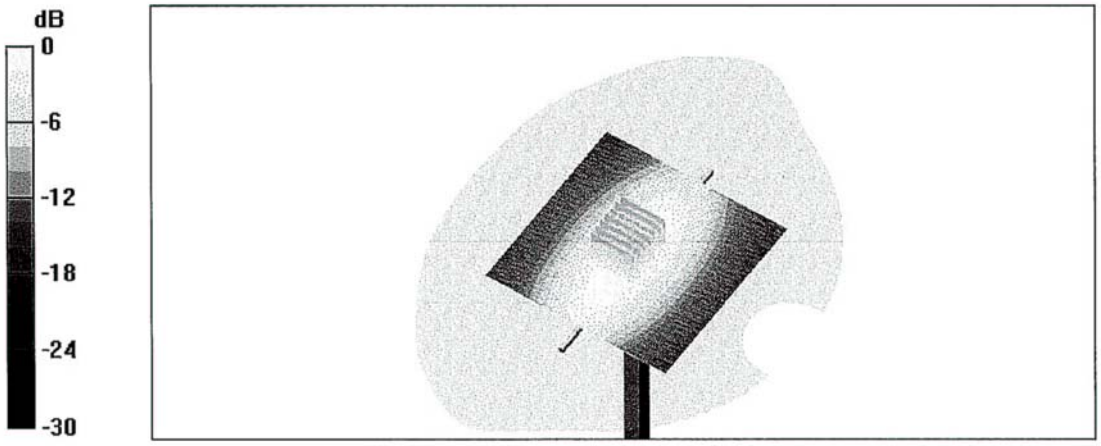
Communication System: CW-835; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: Muscle 835 MHz;
Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(6.13, 6.13, 6.13); Calibrated: 1/23/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn411; Calibrated: 11/6/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006;
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

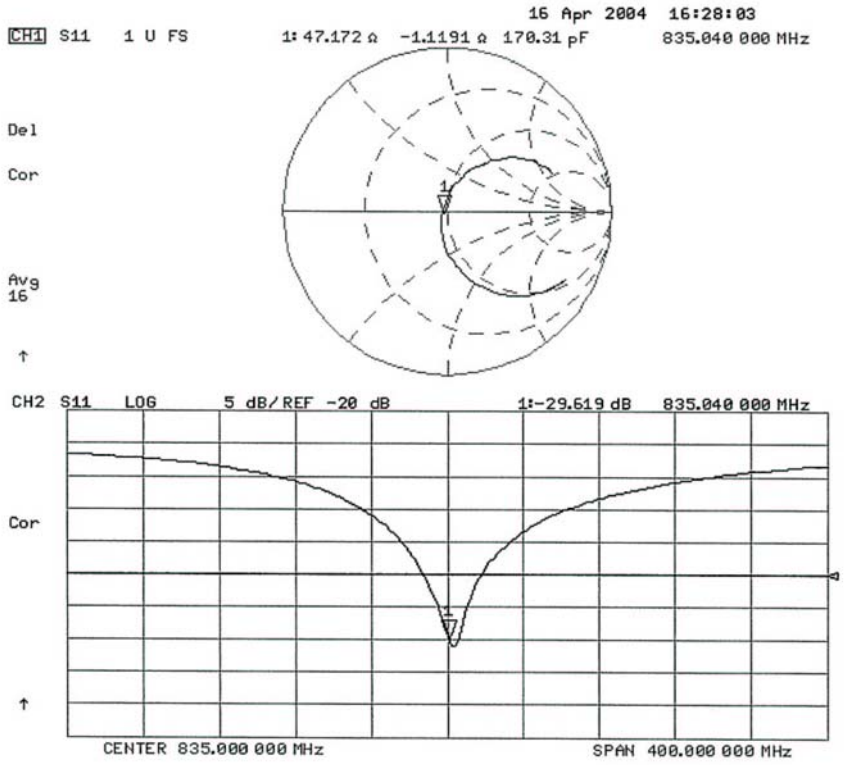
Pin = 250 mW; d = 15 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 54.2 V/m; Power Drift = 0.004 dB
Maximum value of SAR (interpolated) = 2.74 mW/g

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.2 V/m; Power Drift = 0.004 dB
Maximum value of SAR (measured) = 2.72 mW/g
Peak SAR (extrapolated) = 3.69 W/kg
SAR(1 g) = 2.52 mW/g; SAR(10 g) = 1.66 mW/g



0 dB = 2.72mW/g

Body


16 Apr 2004 16:28:03
CH1 S11 1 U FS
1: 47.172 Ω -1.1191 Ω 170.31 pF
835.040 000 MHz
Del
Cor
Avg
16
CH2 S11 LOG
5 dB/ REF -20 dB
1:-29.619 dB 835.040 000 MHz
Cor
CENTER 835.000 000 MHz
SPAN 400.000 000 MHz

039874

Schmid & Partner
Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Phone +41 1 245 97 00, Fax +41 1 245 97 79

Calibration Certificate

1900 MHz System Validation Dipole

Type:	**D1900V2**
Serial Number:	**5d016**
Place of Calibration:	**Zurich**
Date of Calibration:	**September 5, 2002**
Calibration Interval:	**24 months**

Schmid & Partner Engineering AG hereby certifies, that this device has been calibrated on the date indicated above. The calibration was performed in accordance with specifications and procedures of Schmid & Partner Engineering AG.

Wherever applicable, the standards used in the calibration process are traceable to international standards. In all other cases the standards of the Laboratory for EMF and Microwave Electronics at the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland have been applied.

Calibrated by:	N. Vetter
Approved by:	

Schmid & Partner
Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Phone +41 1 245 97 00, Fax +41 1 245 97 79

DASY

Dipole Validation Kit

Type: D1900V2

Serial: 5d016

Manufactured: June 4, 2002
Calibrated: September 5, 2002

1. Measurement Conditions

The measurements were performed in the flat section of the new SAM twin phantom filled with head simulating solution of the following electrical parameters at 1900 MHz:

Relative permitivity	**39.8**	± 5%
Conductivity	**1.46 mho/m**	± 10%

The DASY System with a dosimetric E-field probe ET3DV6 (SN:1507, conversion factor 5.2 at 1900 MHz) was used for the measurements.

The dipole feedpoint was positioned below the center marking and oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10mm from dipole center to the solution surface. The included distance holder was used during measurements for accurate distance positioning.

The coarse grid with a grid spacing of 20mm was aligned with the dipole. The 5x5x7 fine cube was chosen for cube integration. Probe isotropy errors were cancelled by measuring the SAR with normal and 90° turned probe orientations and averaging.
The dipole input power (forward power) was 250mW ± 3 %. The results are normalized to 1W input power.

2 SAR Measurement with DASY4 System

Standard SAR-measurements were performed according to the measurement conditions described in section 1. The results (see figure supplied) have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR-values measured with the dosimetric probe ET3DV6 SN:1507 and applying the advanced extrapolation are:

averaged over 1 cm^3 (1 g) of tissue:	**40.4 mW/g**
averaged over 10 cm^3 (10 g) of tissue:	**21.4 mW/g**

3. Dipole Impedance and Return Loss

The impedance was measured at the SMA-connector with a network analyzer and numerically transformed to the dipole feedpoint. The transformation parameters from the SMA-connector to the dipole feedpoint are:

Electrical delay:	**1.195 ns**	(one direction)
Transmission factor:	**0.996**	(voltage transmission, one direction)

The dipole was positioned at the flat phantom sections according to section 1 and the distance holder was in place during impedance measurements.

Feedpoint impedance at 1900 MHz:	Re{Z} = **50.9 Ω**
	Im {Z} = **4.3 Ω**
Return Loss at 1900 MHz	**- 27.2 dB**

4. Handling

Do not apply excessive force to the dipole arms, because they might bend. Bending of the dipole arms stresses the soldered connections near the feedpoint leading to a damage of the dipole.

5. Design

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.

Small end caps have been added to the dipole arms in order to improve matching when loaded according to the position as explained in Section 1. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

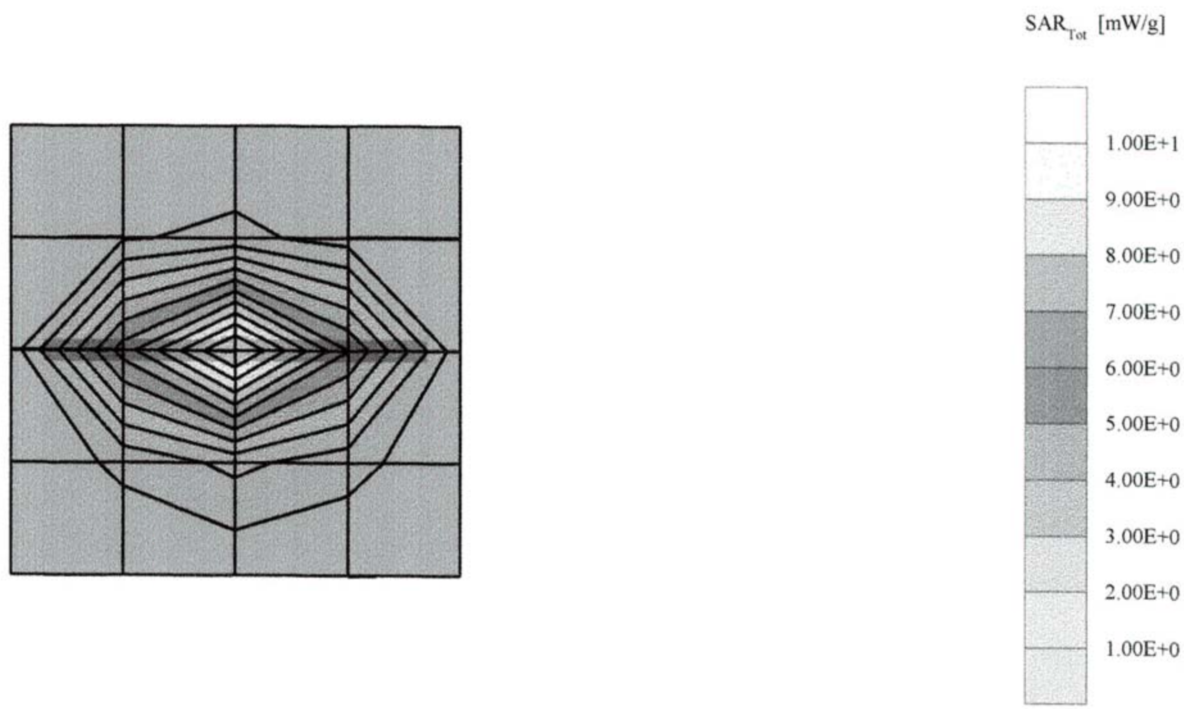
6. Power Test

After long term use with 40W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

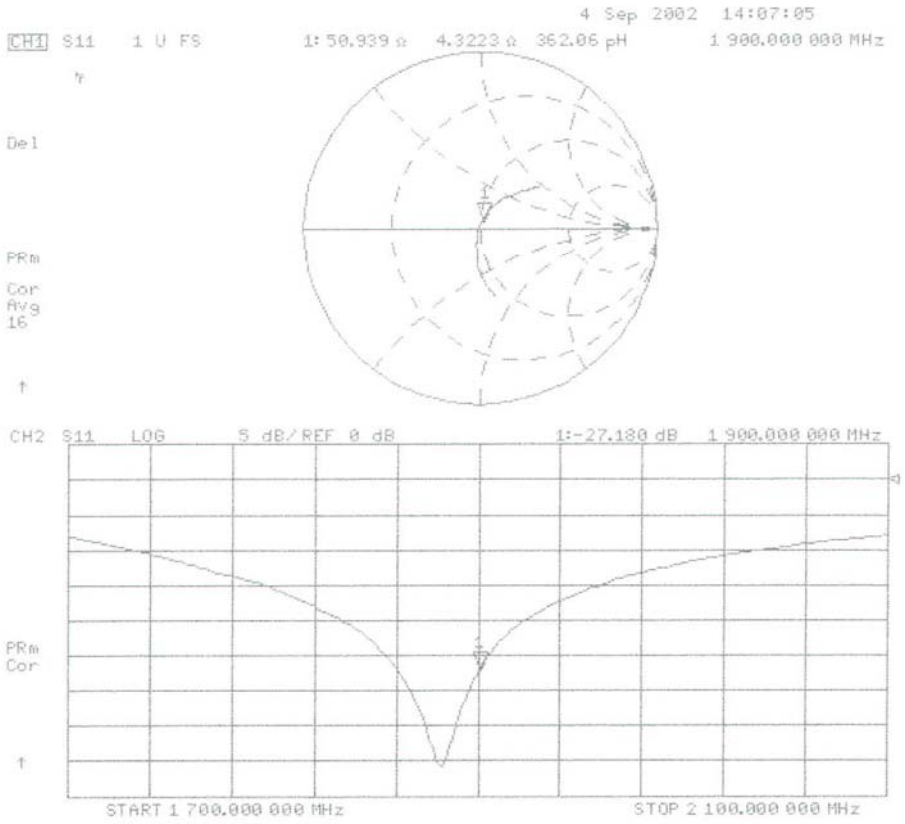
4/02

lidation Dipole D1900V2 SN5d016, d = 10 mm

uency: 1900 MHz; Antenna Input Power: 250 [mW]
1 Phantom; Flat Section; Grid Spacing: Dx = 20.0, Dy = 20.0, Dz = 10.0
ie: ET3DV6 - SN1507; ConvF(5.20,5.20,5.20) at 1900 MHz; IEEE1528 1900 MHz: σ = 1.46 mho/m ε_r = 39.8 ρ = 1.00 g/cm³
es (2): Peak: 17.9 mW/g ± 0.00 dB, SAR (1g): 10.1 mW/g ± 0.01 dB, SAR (10g): 5.36 mW/g ± 0.02 dB, (Advanced extrapolation)
tration depth: 8.7 (8.6, 8.9) [mm]
erdrift: -0.01 dB



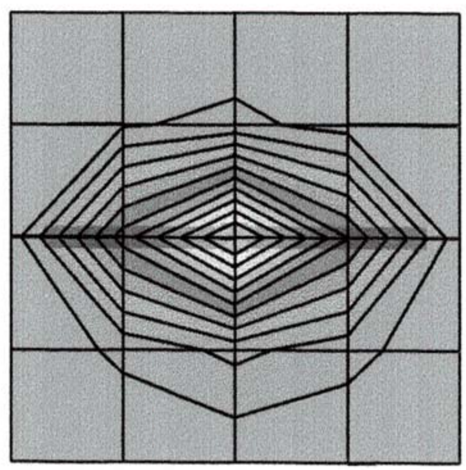
nid & Partner Engineering AG, Zurich, Switzerland


4 Sep 2002 14:07:05
CH1 S11 1 U FS
1: 50.939 Ω 4.3223 Ω 362.06 pH
1 900.000 000 MHz
Del
PRm
Cor
Avg
16
CH2 S11 LOG 5 dB/ REF 0 dB
1:-27.180 dB 1 900.000 000 MHz
PRm
Cor
START 1 700.000 000 MHz
STOP 2 100.000 000 MHz

4/02

lidation Dipole D1900V2 SN5d016, d = 10 mm

uency: 1900 MHz; Antenna Input Power: 250 [mW]
1 Phantom; Flat Section; Grid Spacing: Dx = 20.0, Dy = 20.0, Dz = 10.0
e: ET3DV6 - SN1507; ConvF(5.20,5.20,5.20) at 1900 MHz; IEEE1528 1900 MHz: σ = 1.46 mho/m ε_r = 39.8 ρ = 1.00 g/cm³
es (2): Peak: 20.7 mW/g ± 0.00 dB, SAR (1g): 11.1 mW/g ± 0.01 dB, SAR (10g): 5.72 mW/g ± 0.02 dB, (Worst-case extrapolation)
tration depth: 8.1 (7.8, 8.8) [mm]
erdrift: -0.01 dB



nid & Partner Engineering AG, Zurich, Switzerland