

Intermec Technologies FCC ID: EHARFID915PCC-6

Generic Twin Phantom; Flat Section; Position: (270°,270°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Cube 5x5x7

SAR (1g): 0.932 mW/g

Body SAR - Front of PC - 3.0cm Separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

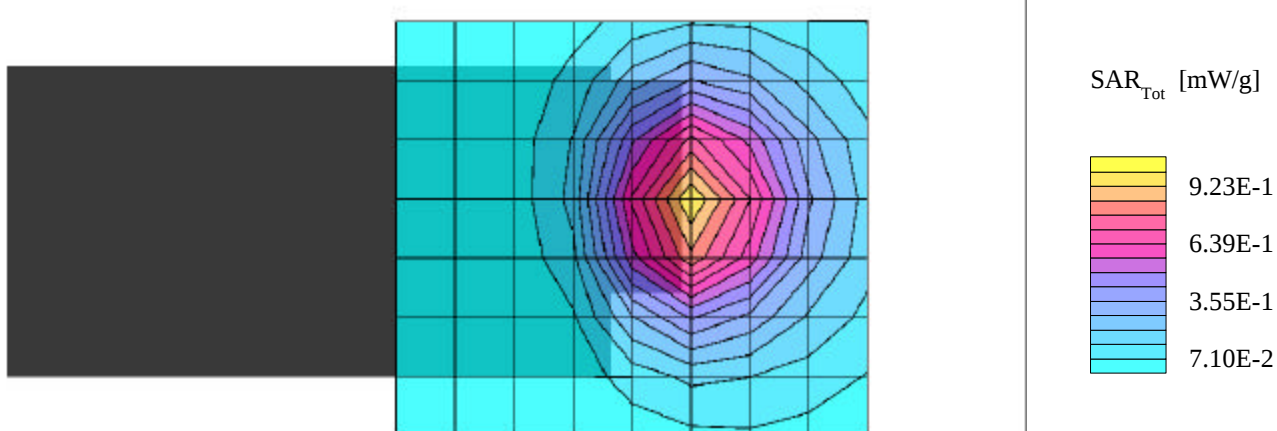
Antenna #2 FRAC0111

Unmodulated Carrier

Channel 40 [915.000 MHz]

Conducted Power: 30.70 dBm

Date Tested: May 29, 2001



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Generic Twin Phantom; Flat Section; Position: (270°,270°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Cube 5x5x7

SAR (1g): 0.586 mW/g

Body SAR - Front of PC - 3.0cm Separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

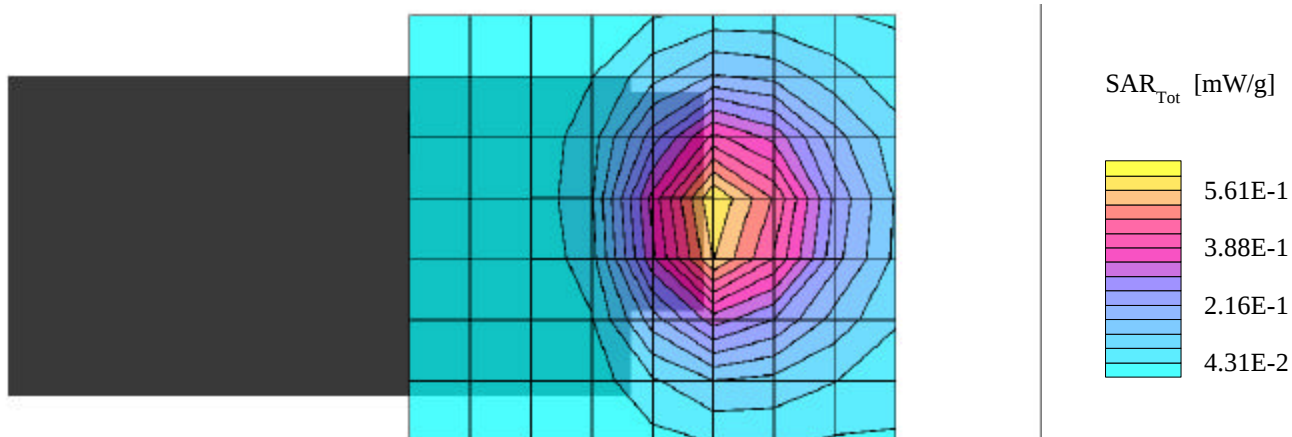
Antenna #2 FRAC0111

Unmodulated Carrier

Channel 73 [927.375 MHz]

Conducted Power: 30.20 dBm

Date Tested: May 29, 2001



Intermec Technologies FCC ID: EHARFID915PCC-6

Generic Twin Phantom; Flat Section; Position: (90°,90°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0;

Cube 5x5x7

SAR (1g): 1.17 mW/g

Body SAR - Back of PC - 2.0cm Separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

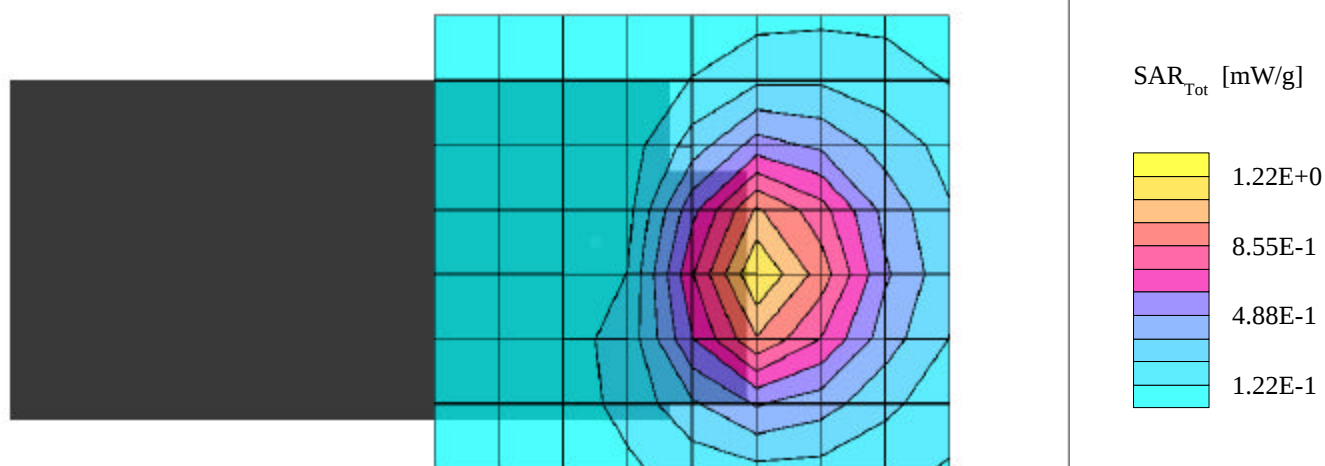
Antenna #2 FRAC0111

Unmodulated Carrier

Channel 7 [902.625 MHz]

Conducted Power: 31.10 dBm

Date Tested: May 29, 2001



Intermec Technologies FCC ID: EHARFID915PCC-6

Generic Twin Phantom; Flat Section; Position: (90°,90°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Cube 5x5x7

SAR (1g): 0.721 mW/g

Body SAR - Back of PC - 2.0cm Separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

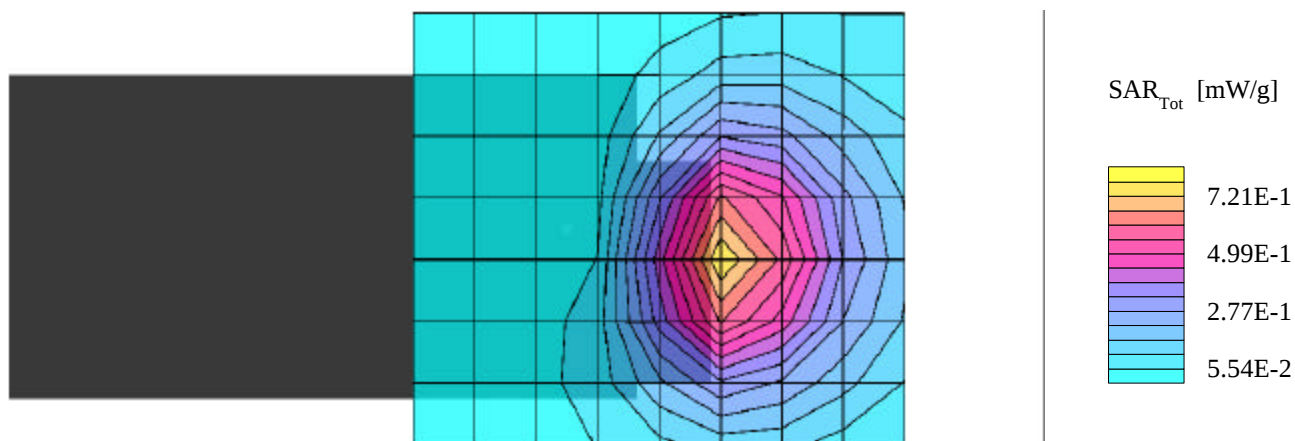
Antenna #2 FRAC0111

Unmodulated Carrier

Channel 40 [915.000 MHz]

Conducted Power: 30.70 dBm

Date Tested: May 29, 2001



Intermec Technologies FCC ID: EHARFID915PCC-6

Generic Twin Phantom; Flat Section; Position: (90°,90°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Cube 5x5x7

SAR (1g): 0.458 mW/g

Body SAR - Back of PC - 2.0cm Separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

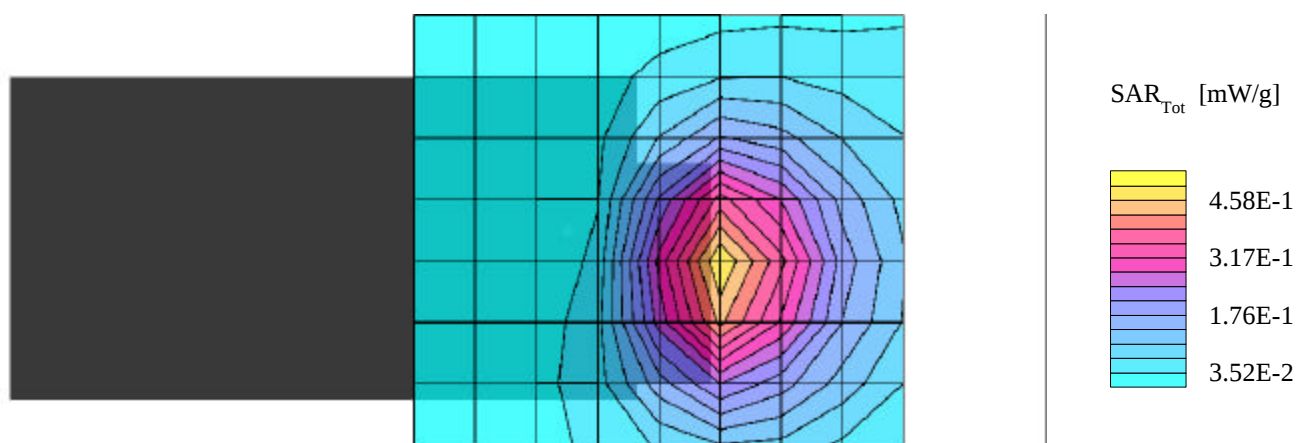
Antenna #2 FRAC0111

Unmodulated Carrier

Channel 73 [927.375 MHz]

Conducted Power: 30.20 dBm

Date Tested: May 29, 2001



Intermec Technologies FCC ID: EHARFID915PCC-6

Generic Twin Phantom; Flat Section; Position: (270°,270°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Cube 5x5x7

SAR (1g): 0.514 mW/g

Body SAR - Left Side of PC - 0cm Separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

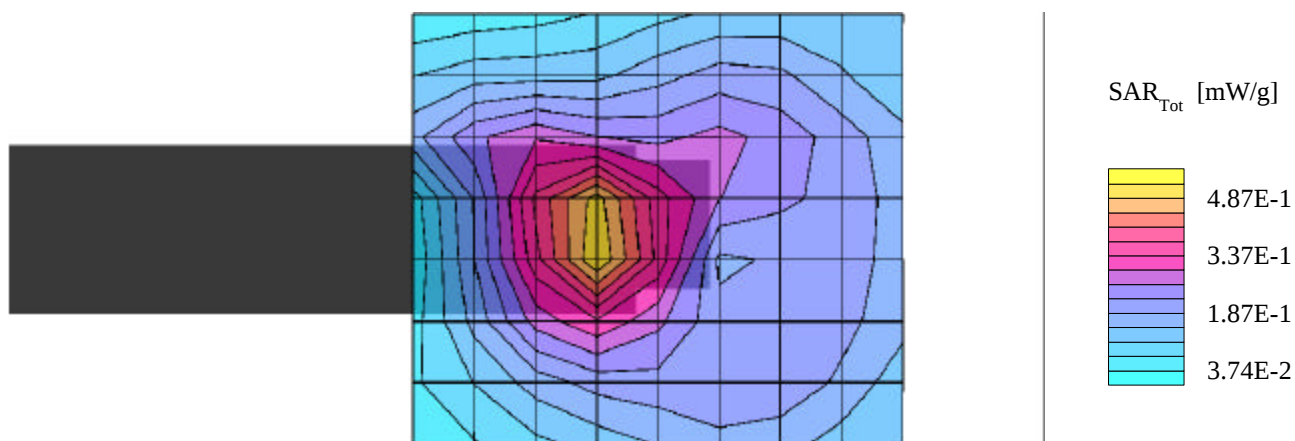
Antenna #2 FRAC0111

Unmodulated Carrier

Channel 7 [902.625 MHz]

Conducted Power: 31.10 dBm

Date Tested: May 29, 2001



Intermec Technologies FCC ID: EHARFID915PCC-6

Generic Twin Phantom; Flat Section; Position: (270°,270°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Cube 5x5x7

SAR (1g): 0.332 mW/g

Body SAR - Left Side of PC - 0cm Separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

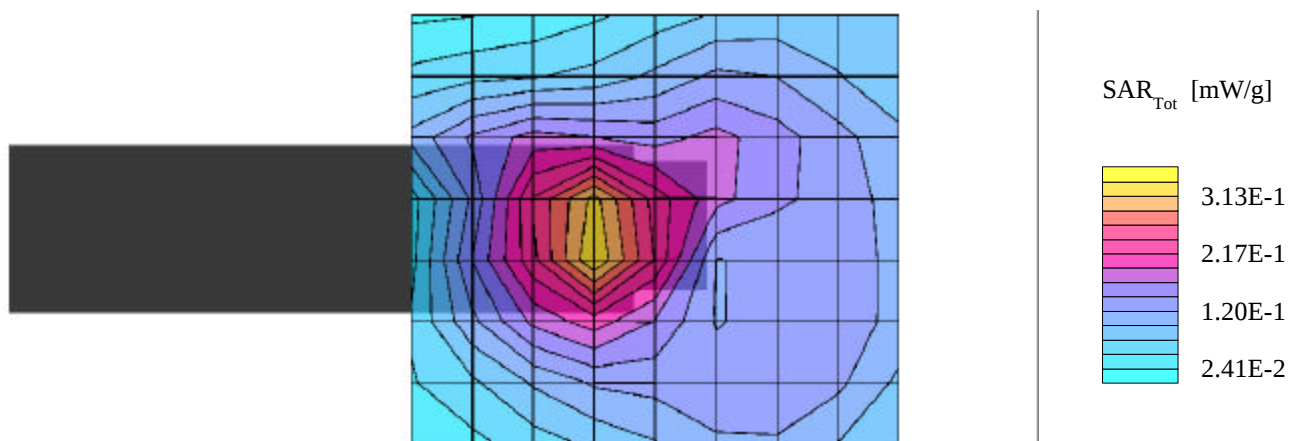
Antenna #2 FRAC0111

Unmodulated Carrier

Channel 40 [915.000 MHz]

Conducted Power: 30.70 dBm

Date Tested: May 29, 2001



Intermec Technologies FCC ID: EHARFID915PCC-6

Generic Twin Phantom; Flat Section; Position: (270°,270°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Cube 5x5x7

SAR (1g): 0.218 mW/g

Body SAR - Left Side of PC - 0cm Separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

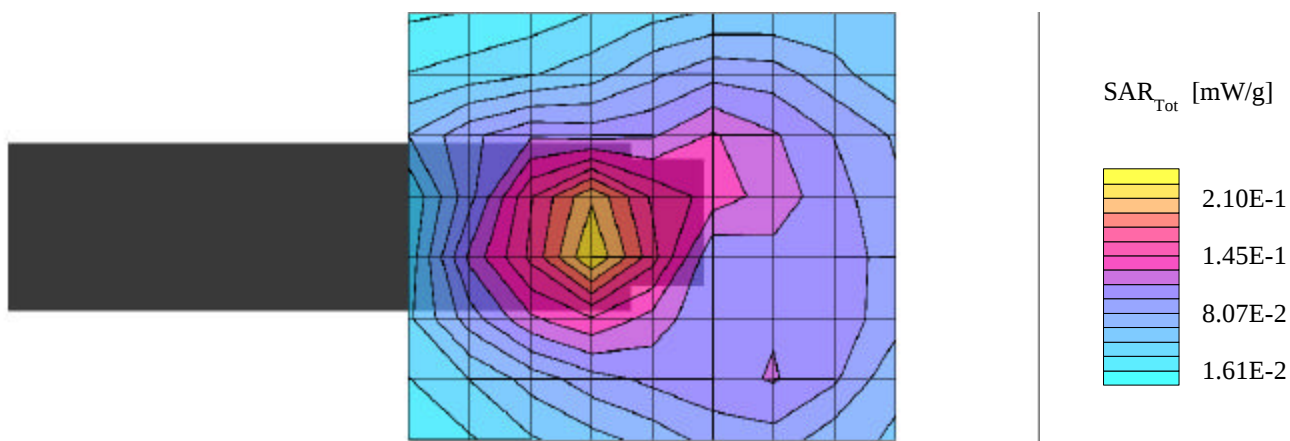
Antenna #2 FRAC0111

Unmodulated Carrier

Channel 73 [927.375 MHz]

Conducted Power: 30.20 dBm

Date Tested: May 29, 2001



Intermec Technologies FCC ID: EHARFID915PCC-6

Generic Twin Phantom; Flat Section; Position: (270°,270°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Cube 5x5x7

SAR (1g): 0.380 mW/g

Body SAR - Right Side of PC - 0cm Separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

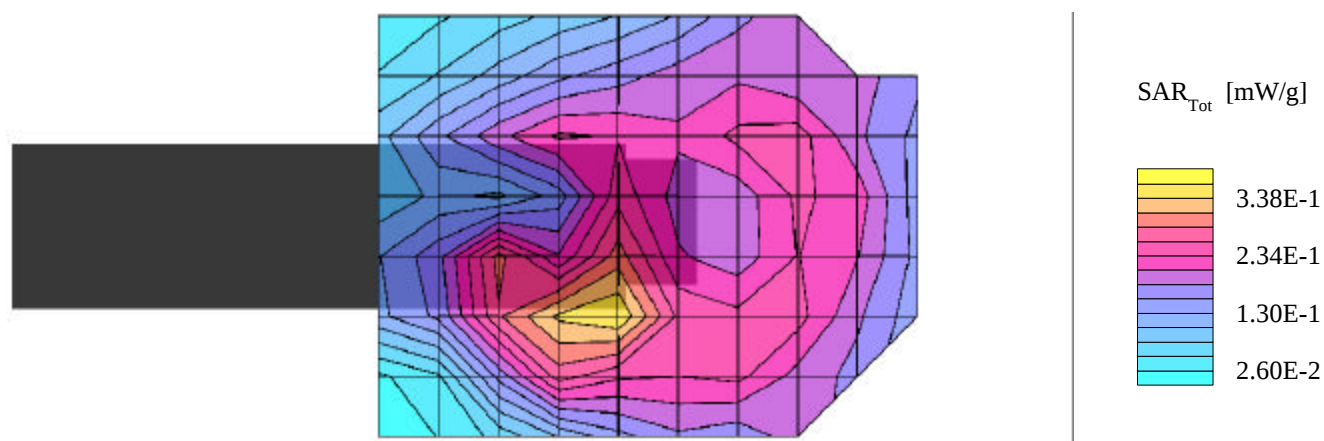
Antenna #2 FRAC0111

Unmodulated Carrier

Channel 7 [902.625 MHz]

Conducted Power: 31.10 dBm

Date Tested: May 29, 2001



Intermec Technologies FCC ID: EHARFID915PCC-6

Generic Twin Phantom; Flat Section; Position: (270°,270°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Cube 5x5x7

SAR (1g): 0.268 mW/g

Body SAR - Right Side of PC - 0cm Separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

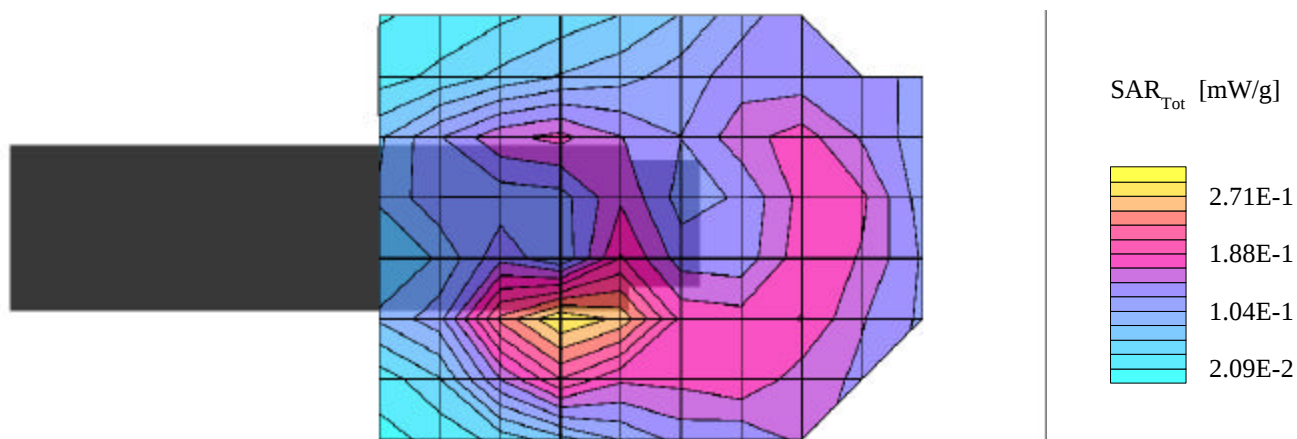
Antenna #2 FRAC0111

Unmodulated Carrier

Channel 40 [915.000 MHz]

Conducted Power: 30.70 dBm

Date Tested: May 29, 2001



Intermec Technologies FCC ID: EHARFID915PCC-6

Generic Twin Phantom; Flat Section; Position: (270°,270°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Cube 5x5x7

SAR (1g): 0.292 mW/g

Body SAR - Right Side of PC - 0cm Separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

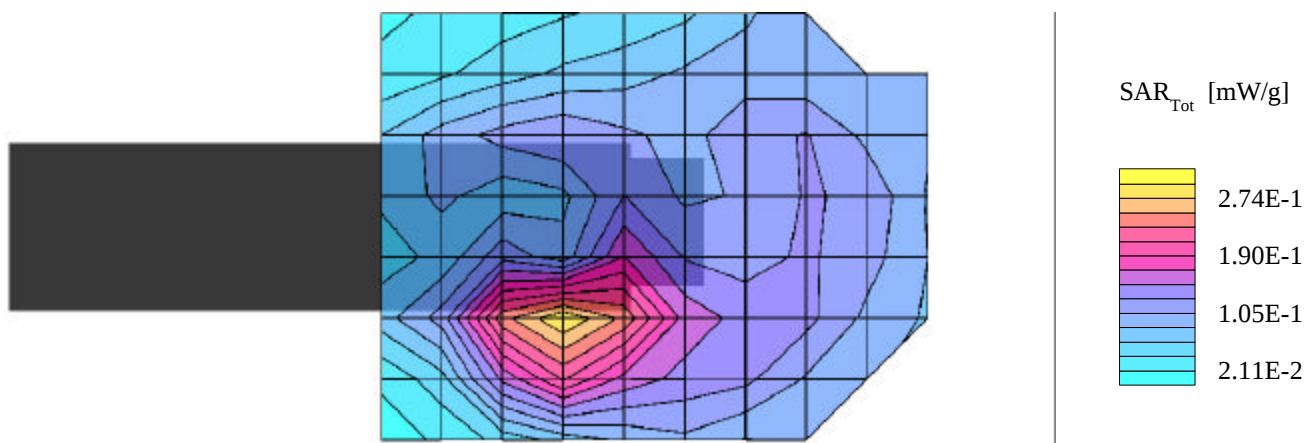
Antenna #2 FRAC0111

Unmodulated Carrier

Channel 73 [927.375 MHz]

Conducted Power: 30.20 dBm

Date Tested: May 29, 2001



Intermec Technologies FCC ID:EHARFID915PCC-6

Generic Twin Phantom; Flat Section; Position: (270°,270°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Cube 5x5x7

SAR (1g): 1.12 mW/g

Body SAR - Antenna Side of PC - 5.0cm separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

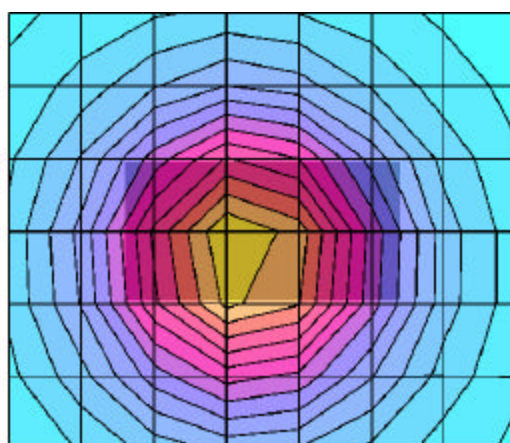
Antenna #2 FRAC0111

Unmodulated Carrier

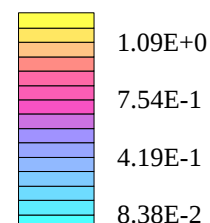
Low Channel 7 [902.625 MHz]

Conducted Power: 31.10 dBm

Date Tested: May 29, 2001



SAR_{Tot} [mW/g]



Intermec Technologies FCC ID:EHARFID915PCC-6

Generic Twin Phantom; Flat Section; Position: (90°,90°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Cube 5x5x7

SAR (1g): 0.628 mW/g

Body SAR - Antenna Side of PC - 5.0cm separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

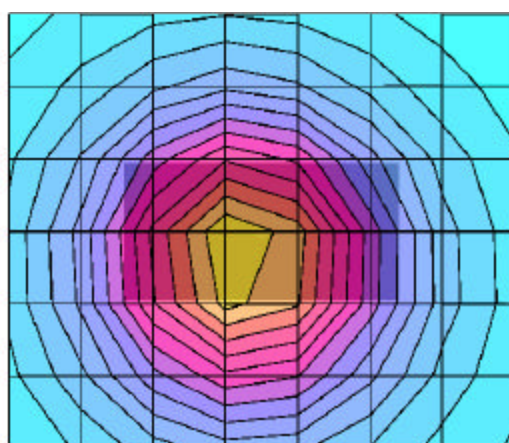
Antenna #2 FRAC0111

Unmodulated Carrier

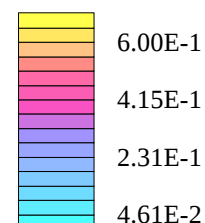
Mid Channel 40 [915.000 MHz]

Conducted Power: 30.70 dBm

Date Tested: May 29, 2001



SAR_{Tot} [mW/g]



Intermec Technologies FCC ID:EHARFID915PCC-6

Generic Twin Phantom; Flat Section; Position: (90°,90°)

Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0

Muscle 900MHz: $\sigma = 0.97$ mho/m $\epsilon_r = 56.1$ $\rho = 1.00$ g/cm³

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Cube 5x5x7

SAR (1g): 0.385 mW/g

Body SAR - Antenna Side of PC - 5.0cm separation

FHSS PCMCIA Card in Handheld PC

Model: RFID 915 PC Card-6

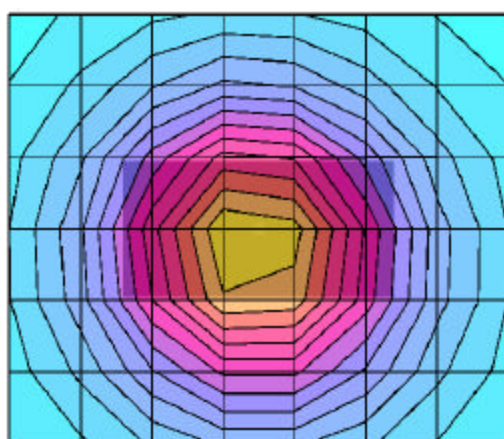
Antenna #2 FRAC0111

Unmodulated Carrier

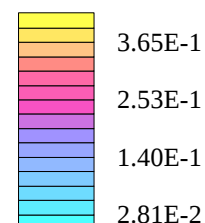
High Channel 73 [927.375 MHz]

Conducted Power: 30.20 dBm

Date Tested: May 29, 2001



SAR_{Tot} [mW/g]

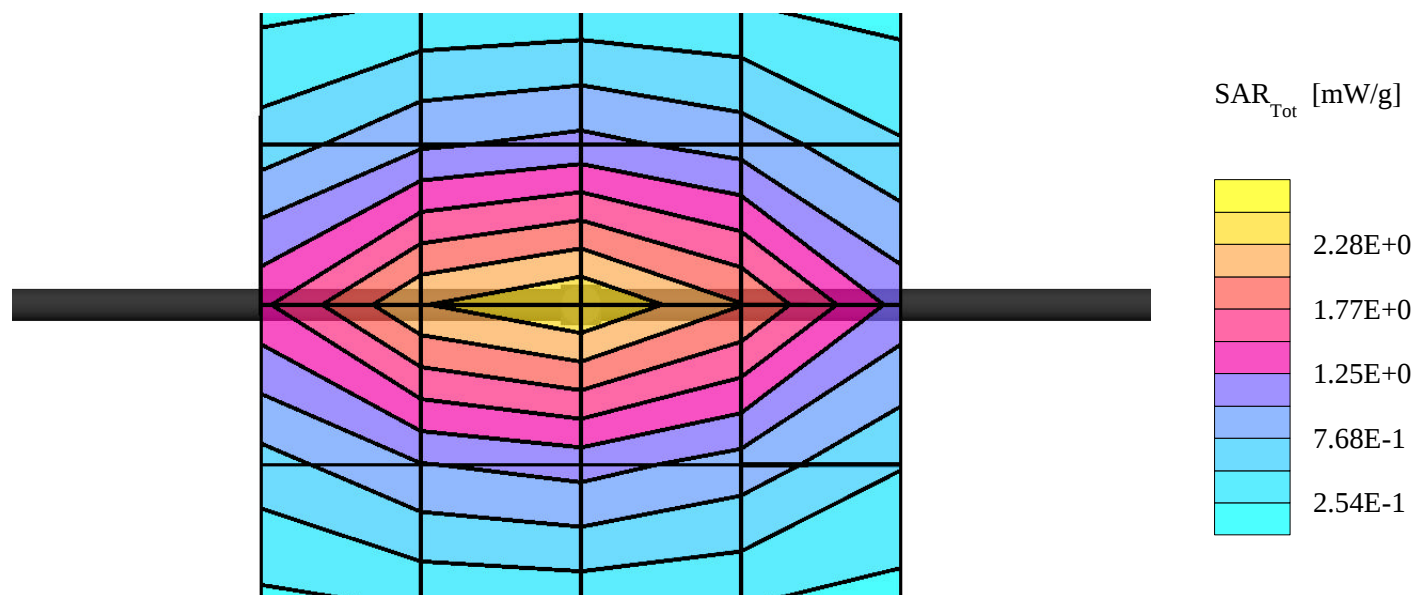


APPENDIX B - DIPOLE VALIDATION

Dipole 900 MHz

Generic Twin Phantom; Flat Section; Position: (90°,90°);
Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0;
Brain 900 MHz: $\sigma = 0.83$ mho/m $\epsilon_r = 43.6$ $\rho = 1.00$ g/cm³
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Cubes (2)
SAR (1g): 2.32 mW/g $\pm$ 0.03 dB, SAR (10g): 1.49 mW/g $\pm$ 0.02 dB

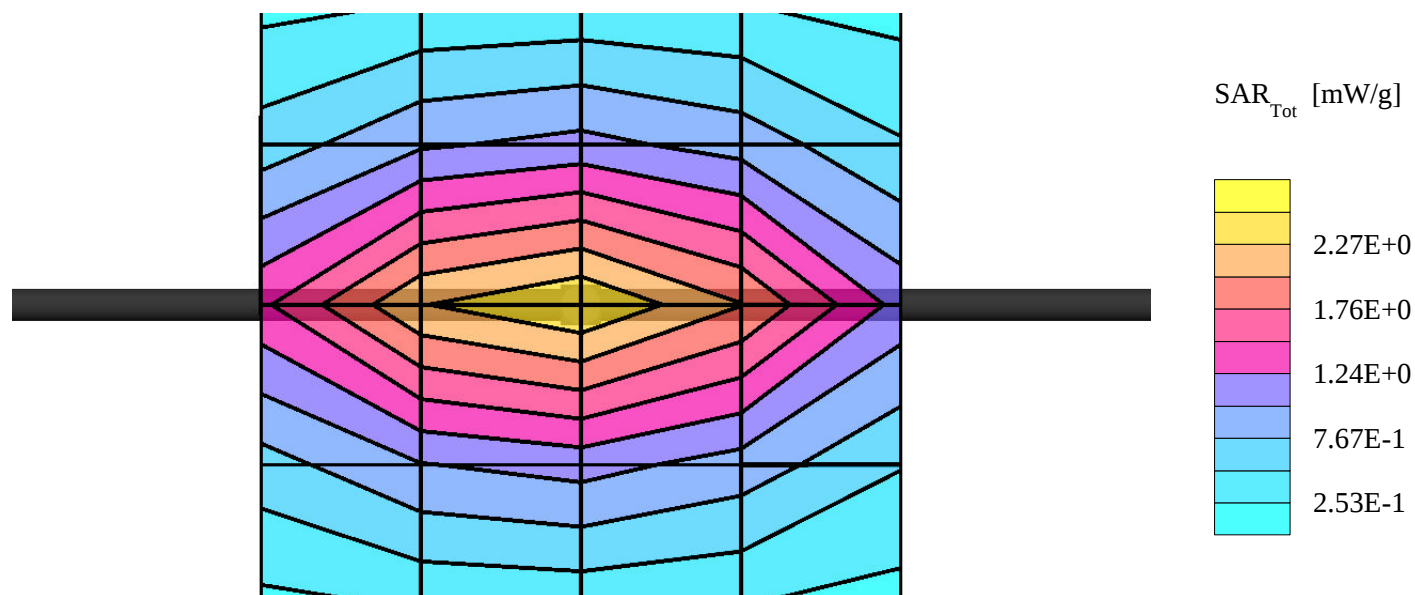
Date Tested: May 28, 2001



Dipole 900 MHz

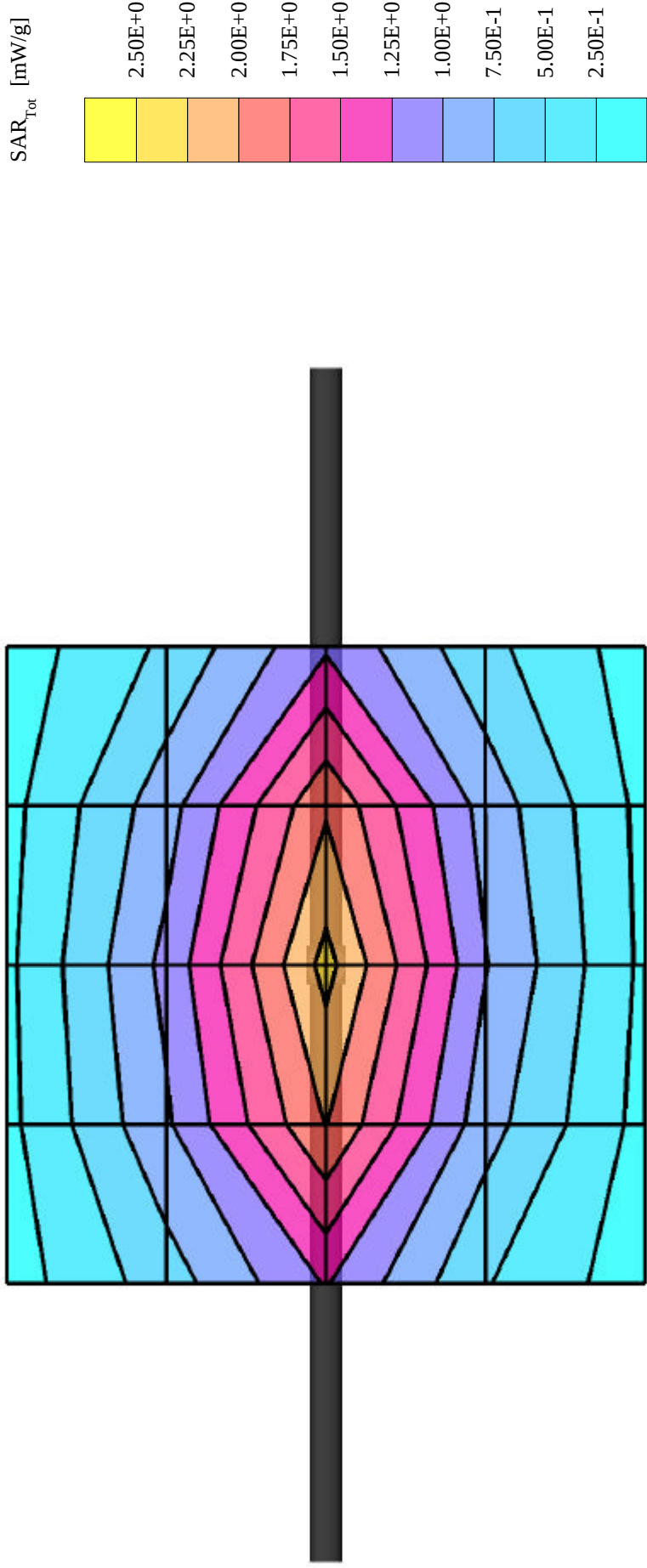
Generic Twin Phantom; Flat Section; Position: (90°,90°);
Probe: ET3DV6 - SN1387; ConvF(6.34,6.34,6.34); Crest factor: 1.0;
Brain 900 MHz: $\sigma = 0.83$ mho/m $\epsilon_r = 43.6$ $\rho = 1.00$ g/cm³
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Cubes (2)
SAR (1g): 2.31 mW/g $\pm$ 0.03 dB, SAR (10g): 1.48 mW/g $\pm$ 0.02 dB

Date Tested: May 29, 2001



Validation Dipole D900V2 SN:052, d = 15mm

Frequency: 900 MHz; Antenna Input Power: 250 [mW]
Generic Twin Phantom; Flat Section; Grid Spacing: Dx = 20.0, Dy = 20.0, Dz = 10.0
Probe: ET3DV5 - SN1342/DAE3; ConvF(5.71,5.71,5.71); Brain 900 MHz: $\sigma = 0.86 \text{ mho/m}$ $\epsilon_r = 43.6$ $\rho = 1.00 \text{ g/cm}^3$
Cubes (2): Peak: 3.44 mW/g $\pm 0.05 \text{ dB}$, SAR (1g): 2.29 mW/g $\pm 0.05 \text{ dB}$, SAR (10g): 1.51 mW/g $\pm 0.05 \text{ dB}$, (Worst-case extrapolation)
Penetration depth: 13.0 (12.3, 14.0) [mm]
Powerdrift: 0.00 dB



APPENDIX C - PROBE CALIBRATION

Probe ET3DV6

SN:1387

Manufactured:	September 21, 1999
Last calibration:	September 22, 1999

Calibrated for System DASY3

DASY3 - Parameters of Probe: ET3DV6 SN:1387

Sensitivity in Free Space

NormX	1.55 $\mu\text{V}/(\text{V}/\text{m})^2$
NormY	1.65 $\mu\text{V}/(\text{V}/\text{m})^2$
NormZ	1.64 $\mu\text{V}/(\text{V}/\text{m})^2$

Diode Compression

DCP X	98 mV
DCP Y	98 mV
DCP Z	98 mV

Sensitivity in Tissue Simulating Liquid

Brain **450 MHz** $\epsilon_r = 48 \pm 5\%$ $s = 0.50 \pm 10\% \text{ mho/m}$

ConvF X	6.76 extrapolated	Boundary effect:	
ConvF Y	6.76 extrapolated	Alpha	0.30
ConvF Z	6.76 extrapolated	Depth	2.52

Brain **900 MHz** $\epsilon_r = 42.5 \pm 5\%$ $s = 0.86 \pm 10\% \text{ mho/m}$

ConvF X	6.34 $\pm 7\%$ (k=2)	Boundary effect:	
ConvF Y	6.34 $\pm 7\%$ (k=2)	Alpha	0.47
ConvF Z	6.34 $\pm 7\%$ (k=2)	Depth	2.25

Brain **1500 MHz** $\epsilon_r = 41 \pm 5\%$ $s = 1.32 \pm 10\% \text{ mho/m}$

ConvF X	5.78 interpolated	Boundary effect:	
ConvF Y	5.78 interpolated	Alpha	0.69
ConvF Z	5.78 interpolated	Depth	1.88

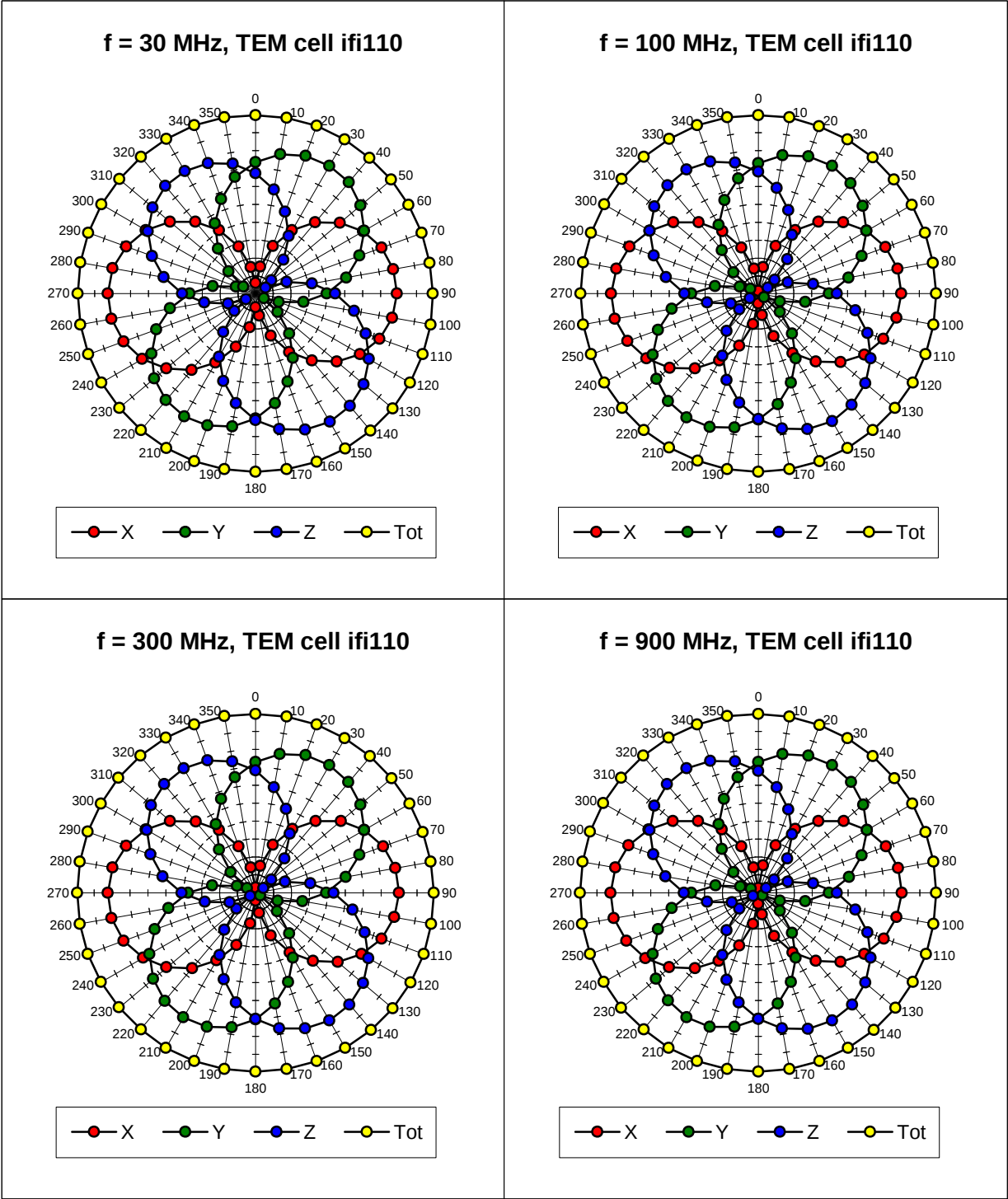
Brain **1800 MHz** $\epsilon_r = 41 \pm 5\%$ $s = 1.69 \pm 10\% \text{ mho/m}$

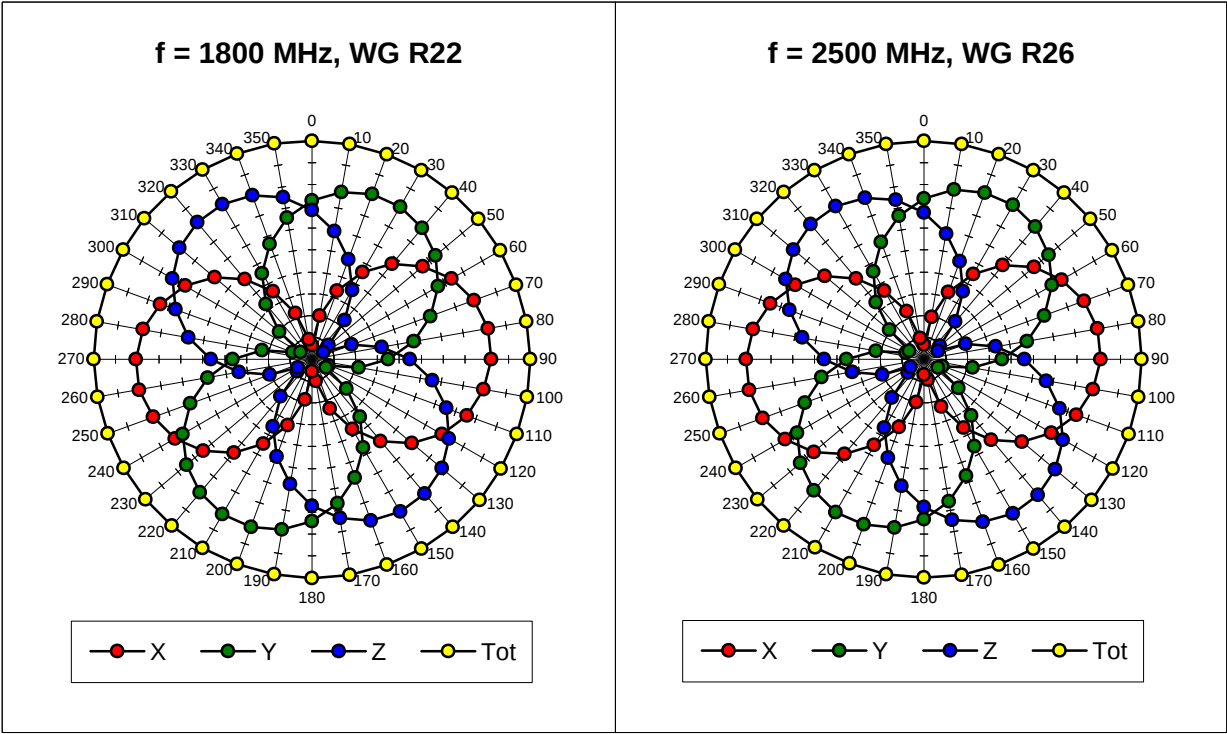
ConvF X	5.50 $\pm 7\%$ (k=2)	Boundary effect:	
ConvF Y	5.50 $\pm 7\%$ (k=2)	Alpha	0.81
ConvF Z	5.50 $\pm 7\%$ (k=2)	Depth	1.70

Sensor Offset

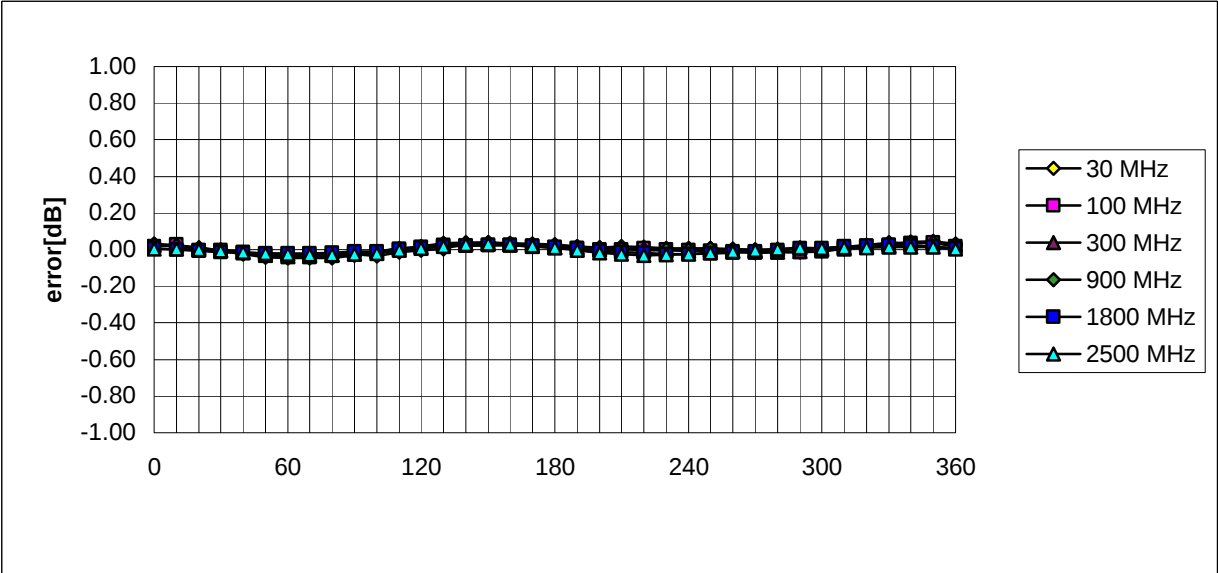
Probe Tip to Sensor Center	2.7	mm
Optical Surface Detection	1.6 $\pm$ 0.2	mm

Receiving Pattern (f) , q = 0°

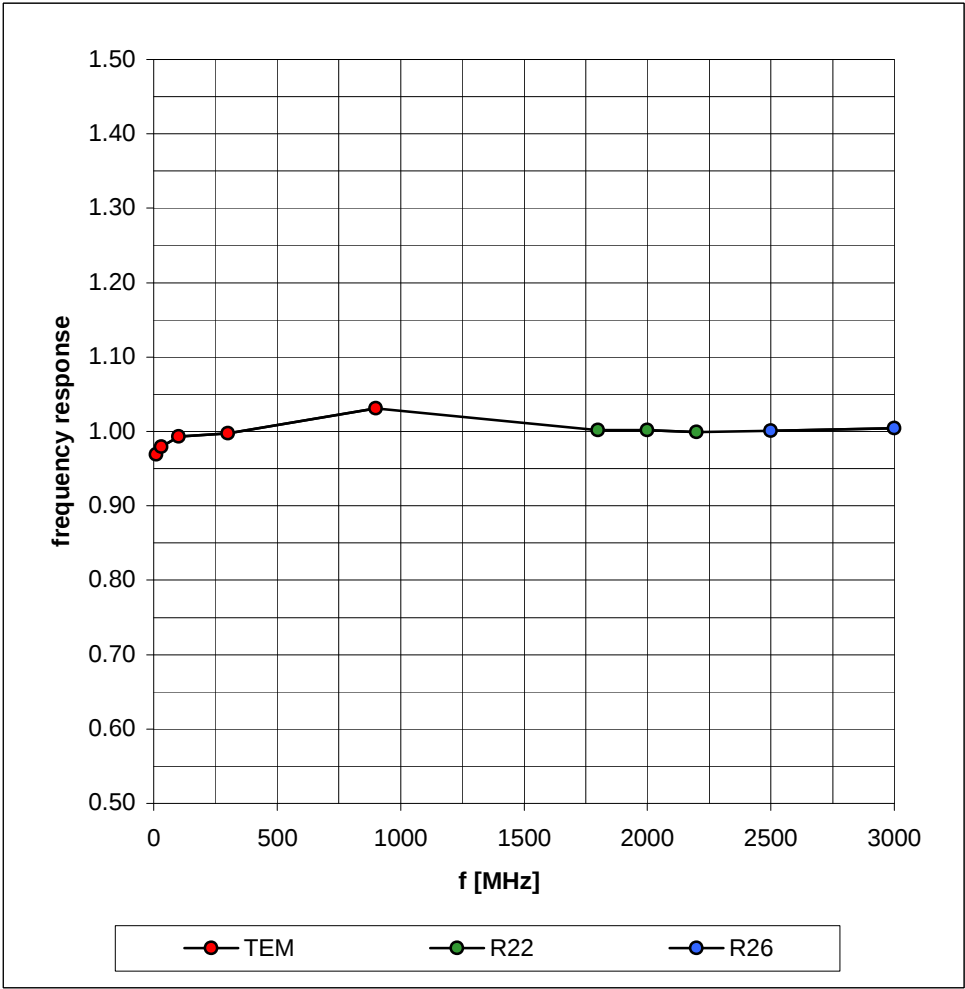




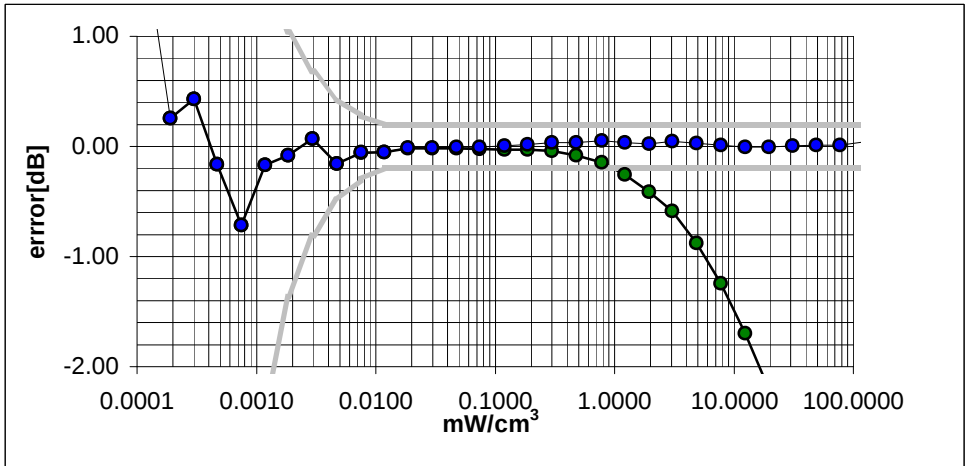
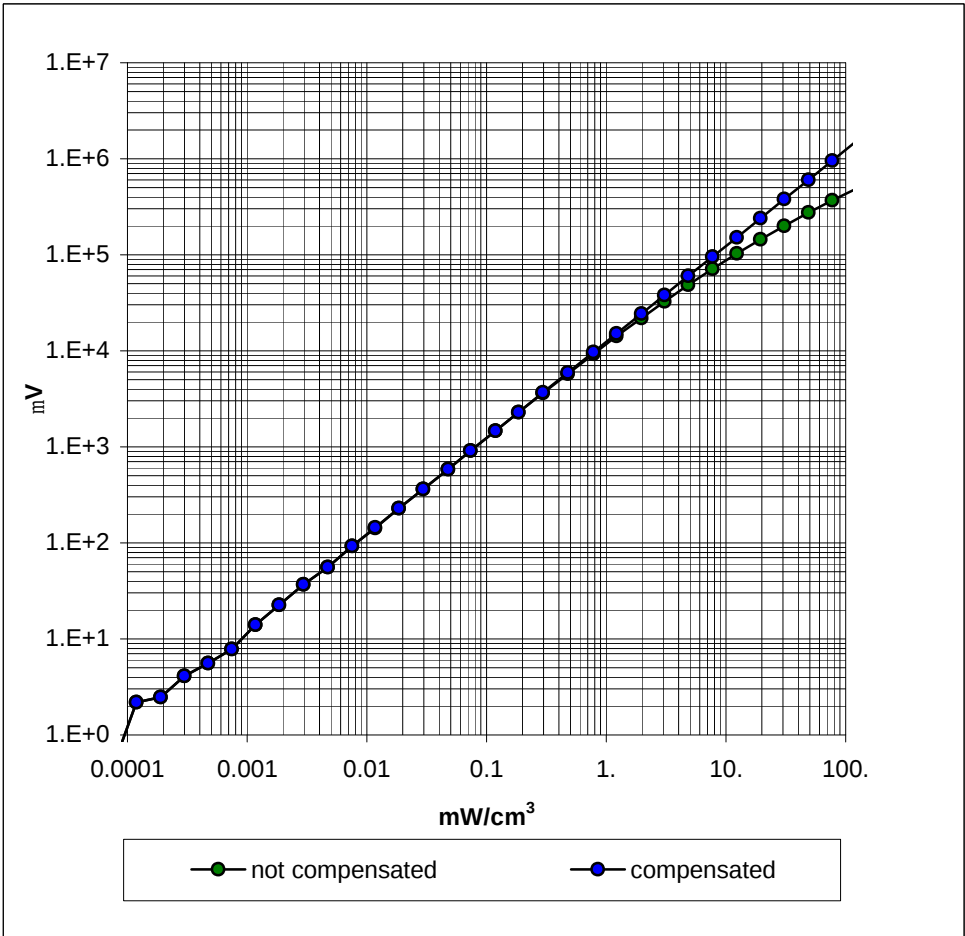
Isotropy Error (f), q = 0°



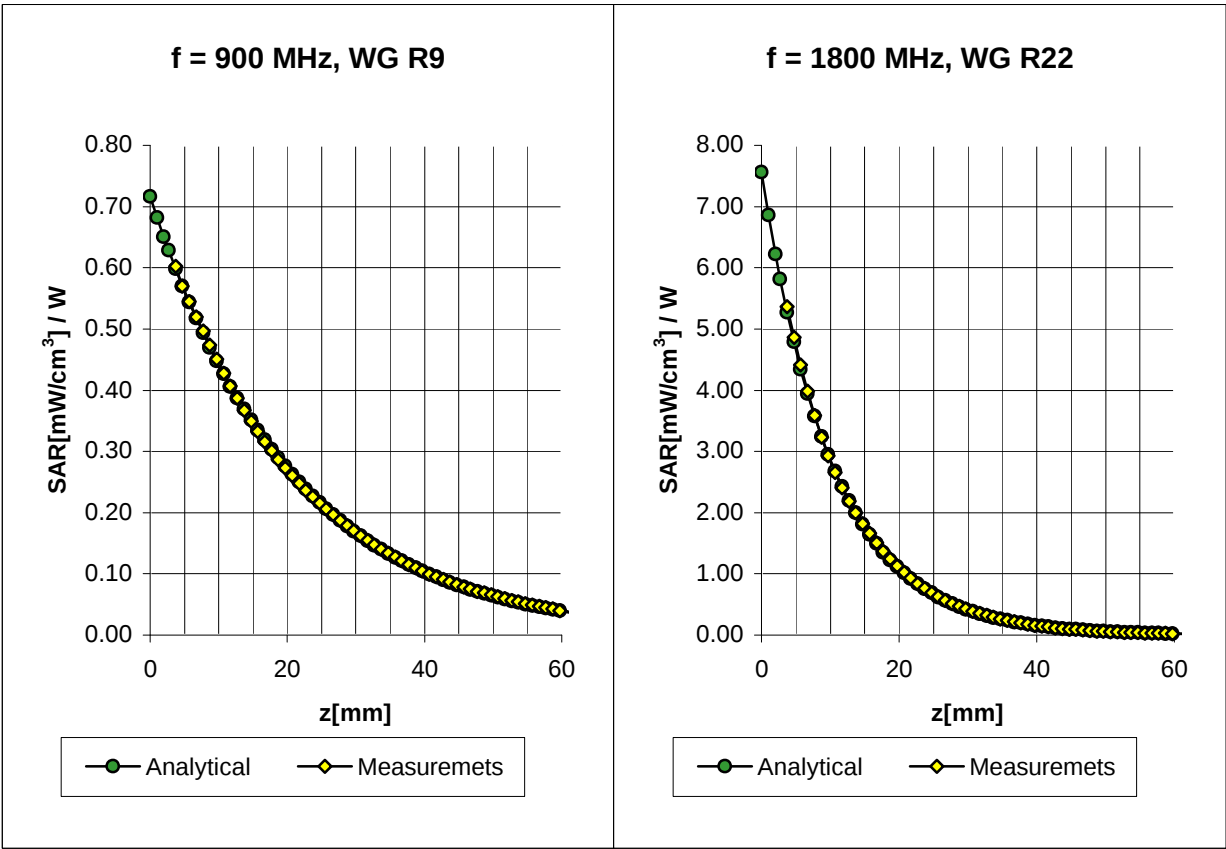
Frequency Response of E-Field
(TEM-Cell:ifi110, Waveguide R22, R26)



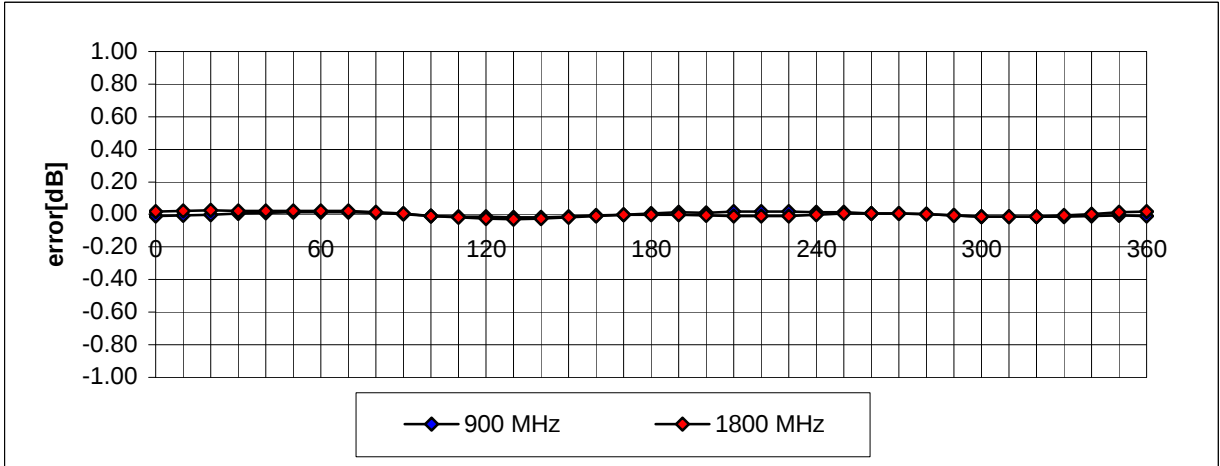
Dynamic Range f(SAR_{brain})
(TEM-Cell:ifi110)



Conversion Factor Assessment

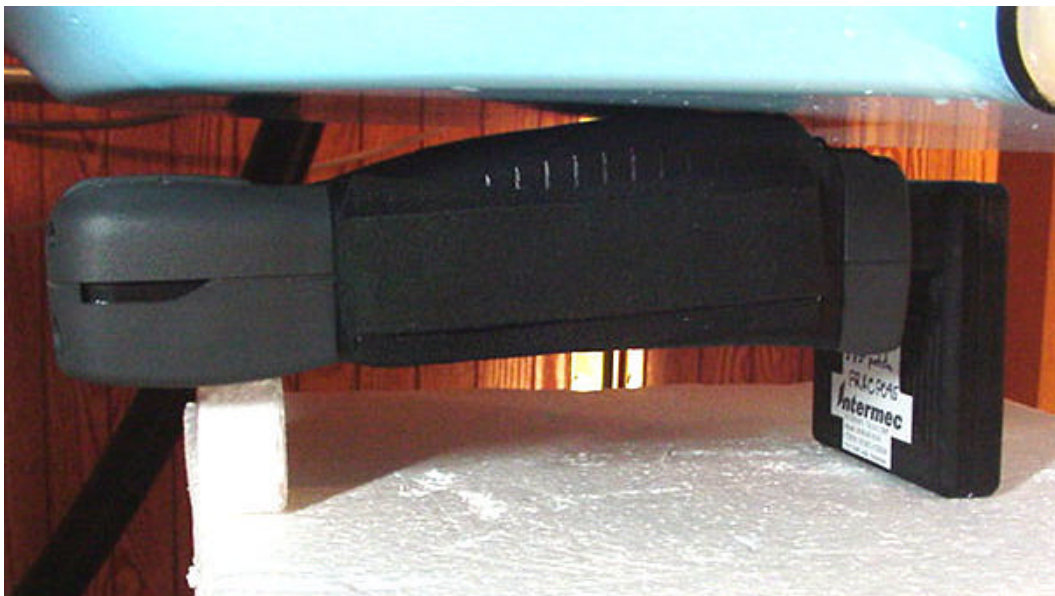


Receiving Pattern (f) (in brain tissue, z = 5 mm)



APPENDIX D - SAR TEST SETUP PHOTOGRAPHS

HAND & BODY SAR TEST SETUP PHOTOGRAPHS
Back of Handheld PC with 0.0cm Separation Distance
Antenna #1 (FRACP095 Fractal Patch)



HAND & BODY SAR TEST SETUP PHOTOGRAPHS
Left Side of Handheld PC with 0.0cm Separation Distance
Antenna #1 (FRACP095 Fractal Patch)



HAND & BODY SAR TEST SETUP PHOTOGRAPHS
Right Side of Handheld PC with 0.0cm Separation Distance
Antenna #1 (FRACP095 Fractal Patch)



BODY SAR TEST SETUP PHOTOGRAPHS
Antenna Side of Handheld PC with 2.5cm Separation Distance
Antenna #1 (FRACP095 Fractal Patch)



BODY SAR TEST SETUP PHOTOGRAPHS
Front of Handheld PC with 1.0cm Separation Distance
Antenna #1 (FRACP095 Fractal Patch)



BODY SAR TEST SETUP PHOTOGRAPHS
Front of Handheld PC with 3.0cm Separation Distance
Antenna #2 (FRAC0111 Fractal Dipole)



BODY SAR TEST SETUP PHOTOGRAPHS
Back of Handheld PC with 2.0cm Separation Distance
Antenna #2 (FRAC0111 Fractal Dipole)



HAND & BODY SAR TEST SETUP PHOTOGRAPHS
Left Side of Handheld PC with 0.0cm Separation Distance
Antenna #2 (FRAC0111 Fractal Dipole)



HAND & BODY SAR TEST SETUP PHOTOGRAPHS
Right Side of Handheld PC with 0.0cm Separation Distance
Antenna #2 (FRAC0111 Fractal Dipole)



BODY SAR TEST SETUP PHOTOGRAPHS
Antenna Side of Handheld PC with 5.0cm Separation Distance
Antenna #2 (FRAC0111 Fractal Dipole)

