

COMOSAR E-Field probe Calibration Report



Ref: CR-131-1-09-SATB-B

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Date: 2010/05/11

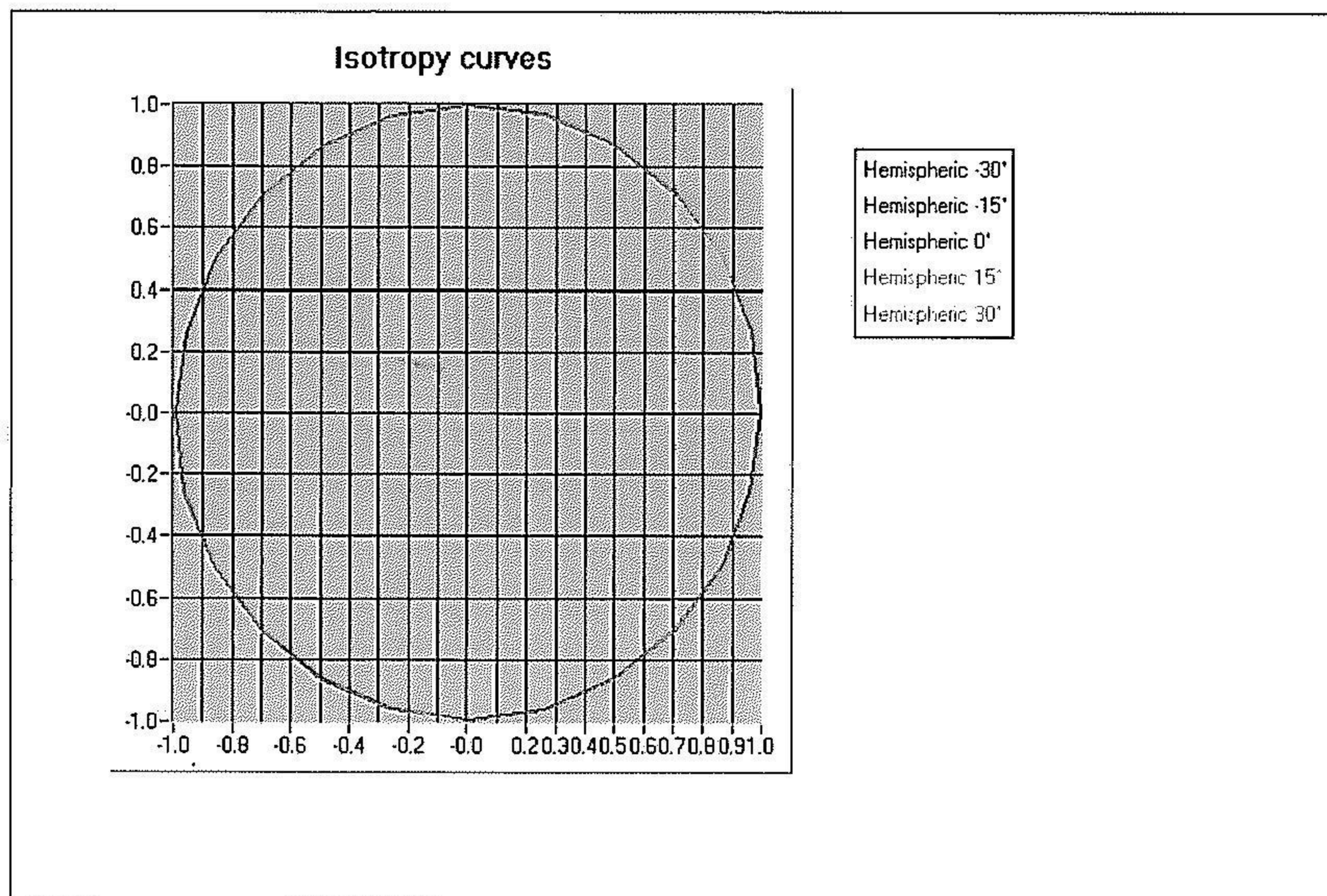
Calibration coefficients for the three dipoles in CW:

Sensitivity in liquid:

Liquid	Epsilon	Sigma (S/m)	CF dipole 1 (W.kg-1 (mV)-1)	CF dipole 2 (W.kg-1 (mV)-1)	CF dipole 3 (W.kg-1 (mV)-1)
Head	41.24	0.94	22.06	22.01	30.16
Body	55.69	1.00	21.56	21.36	29.10

B. Isotropy.

- Axial isotropy: 0.029 dB
- Hemispherical isotropy: 0.030 dB



C. Linearity.

- Linearity: 0.04 dB

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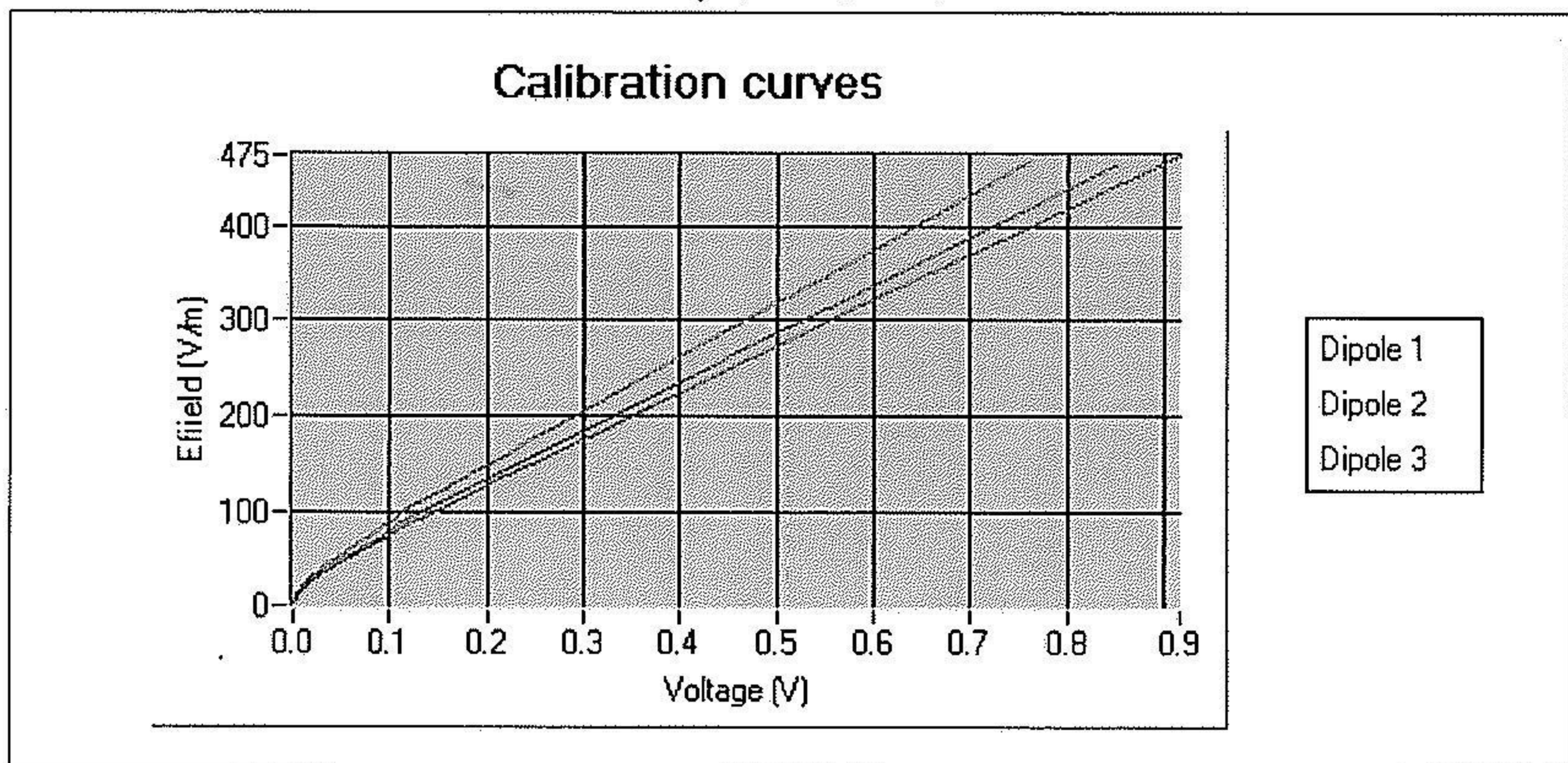
3. Calibration at 1747.00 MHz

A. Calibration parameters.

Label	1800
Epsilon	38.58
Sigma	1.33 S/m
Temperature	21°C
Cable loss	0.18 dB
Coupler loss	20.22 dB
Waveguide S11	-13.13 dB
Low limit detection	0.833 V/m (0.92 mW/kg)

Calibration curves $e_i=f(V)$ ($i=1,2,3$) allow to obtain E-field value using the formula:

$$E = \sqrt{E_1^2 + E_2^2 + E_3^2}$$



The following tables represent the calibration curves linearization by curve segment in CW signal.

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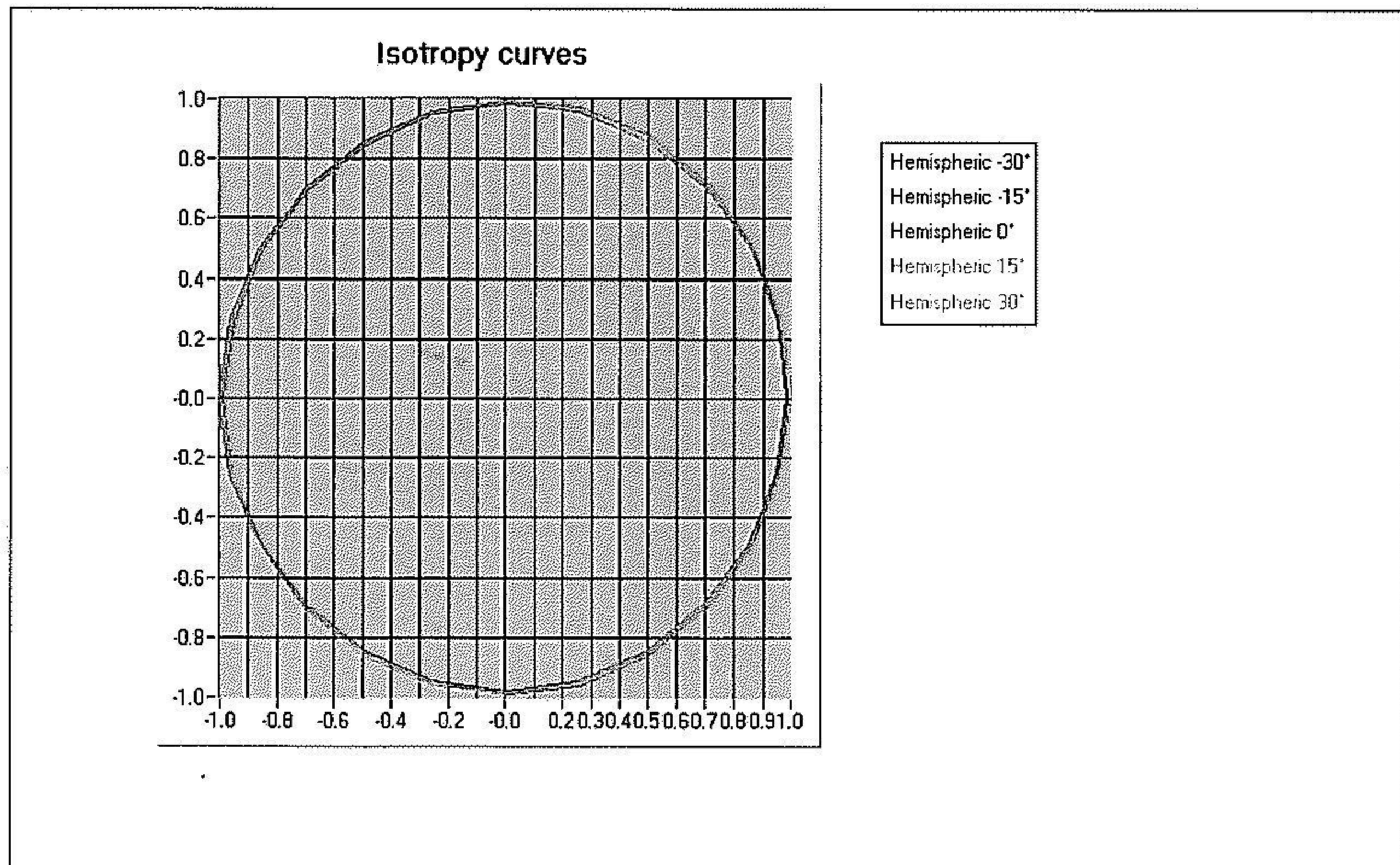
Calibration coefficients for the three dipoles in CW:

Sensitivity in liquid:

Liquid	Epsilon	Sigma (S/m)	CF dipole 1 (W.kg-1 (mV)-1)	CF dipole 2 (W.kg-1 (mV)-1)	CF dipole 3 (W.kg-1 (mV)-1)
Head	38.56	1.33	37.12	38.56	50.42
Body	51.99	1.49	36.66	37.99	49.66

B. Isotropy.

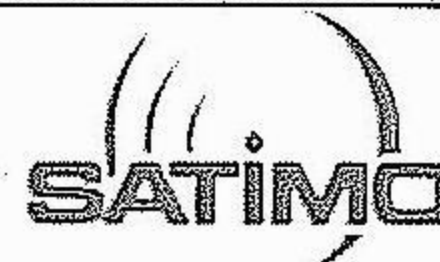
- Axial isotropy: 0.050 dB
- Hemispherical isotropy: 0.076 dB



C. Linearity.

- Linearity: 0.03 dB

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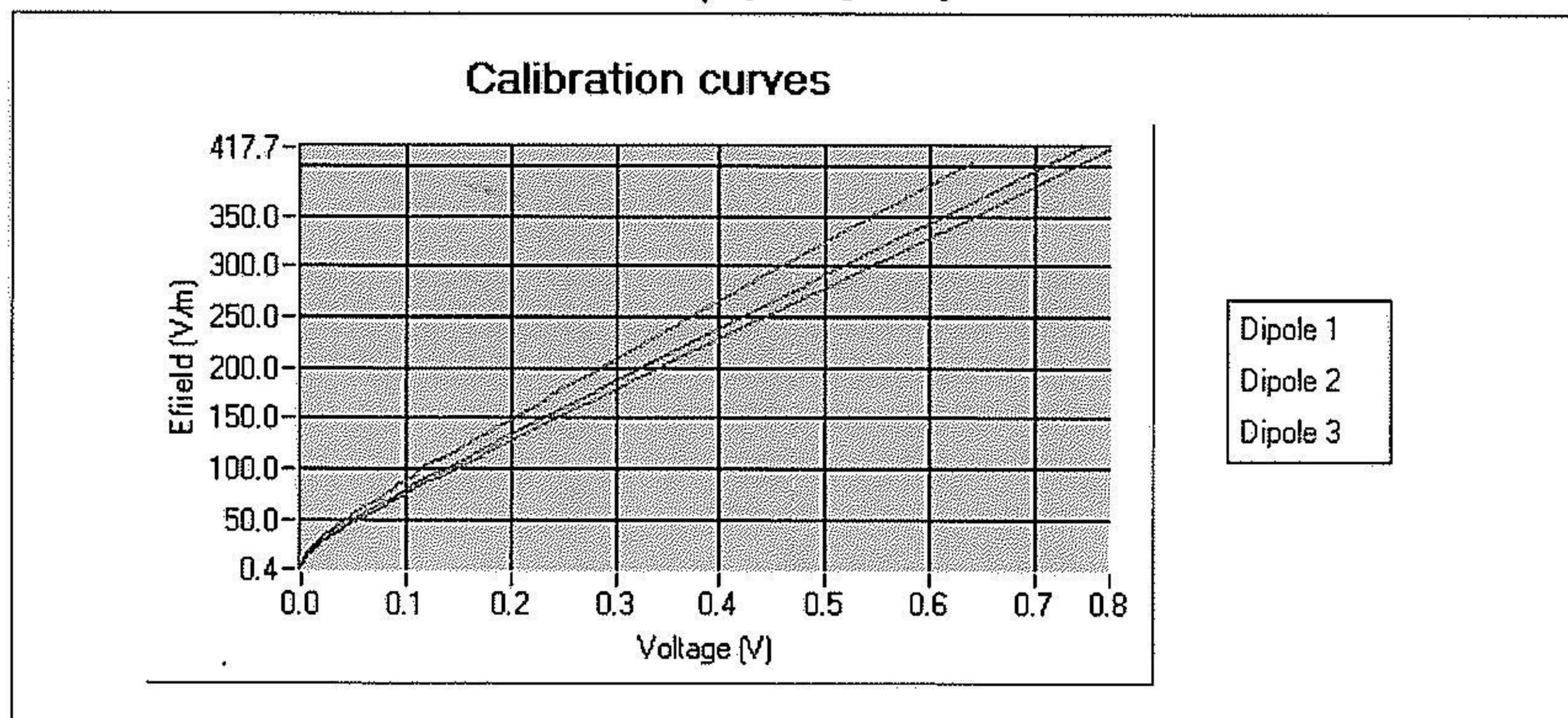
4. Calibration at 1880.00 MHz

A. Calibration parameters.

Label	1900
Epsilon	38.33
Sigma	1.44 S/m
Temperature	21°C
Cable loss	0.19 dB
Coupler loss	21.14 dB
Waveguide S11	-26.91 dB
Low limit detection	0.797 V/m (0.91 mW/kg)

Calibration curves $e_i=f(V)$ ($i=1,2,3$) allow to obtain E-field value using the formula:

$$E = \sqrt{E_1^2 + E_2^2 + E_3^2}$$



The following tables represent the calibration curves linearization by curve segment in CW signal.