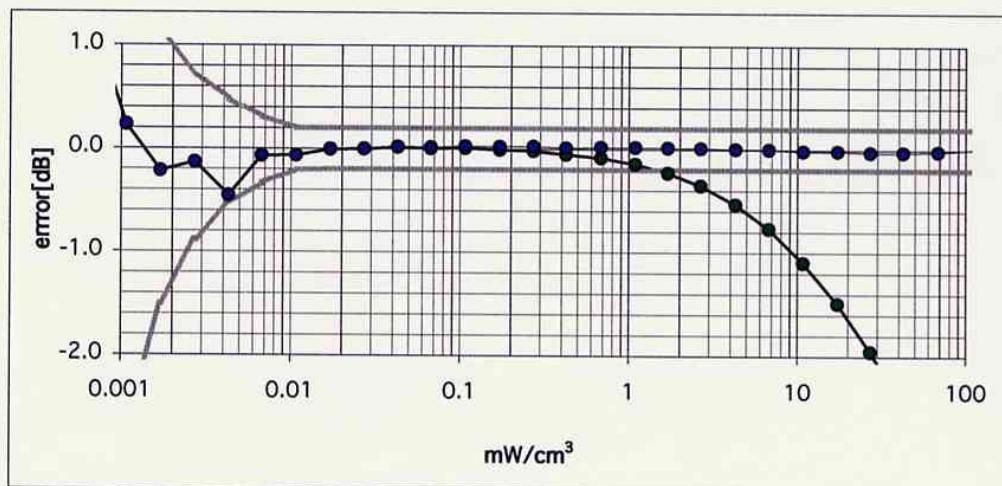
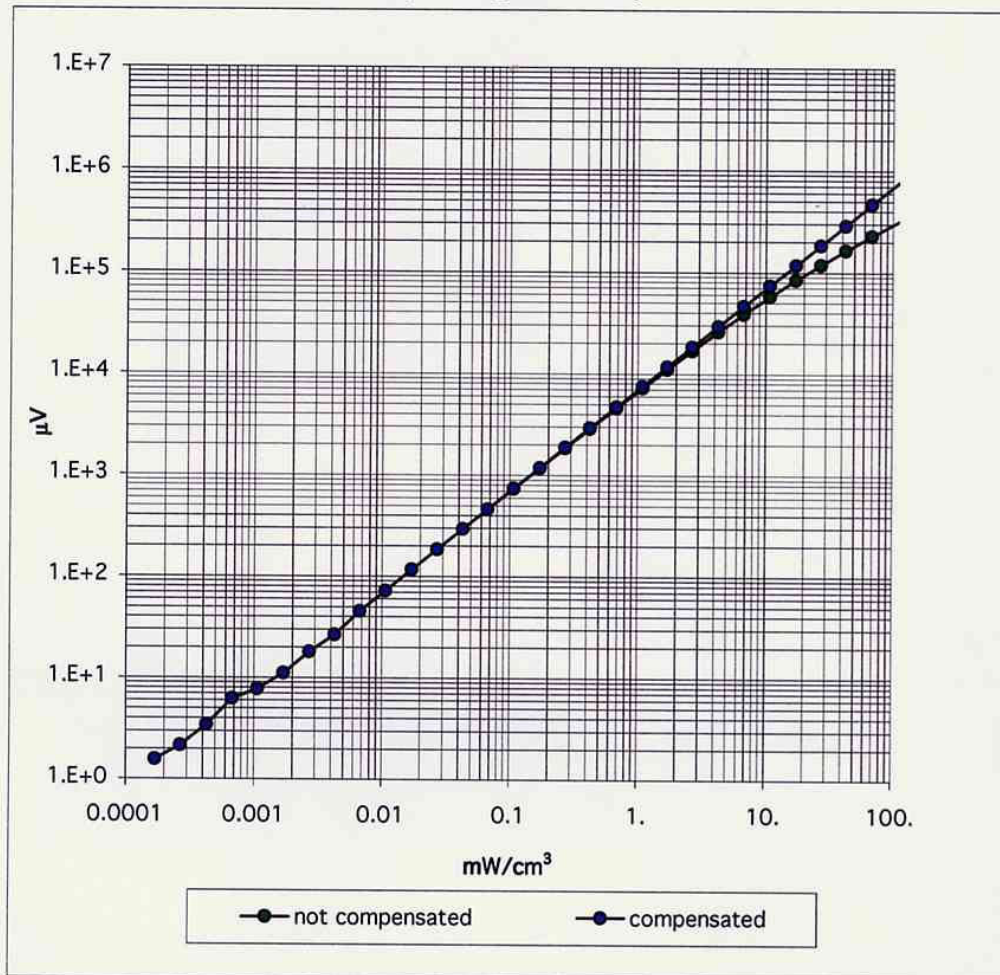
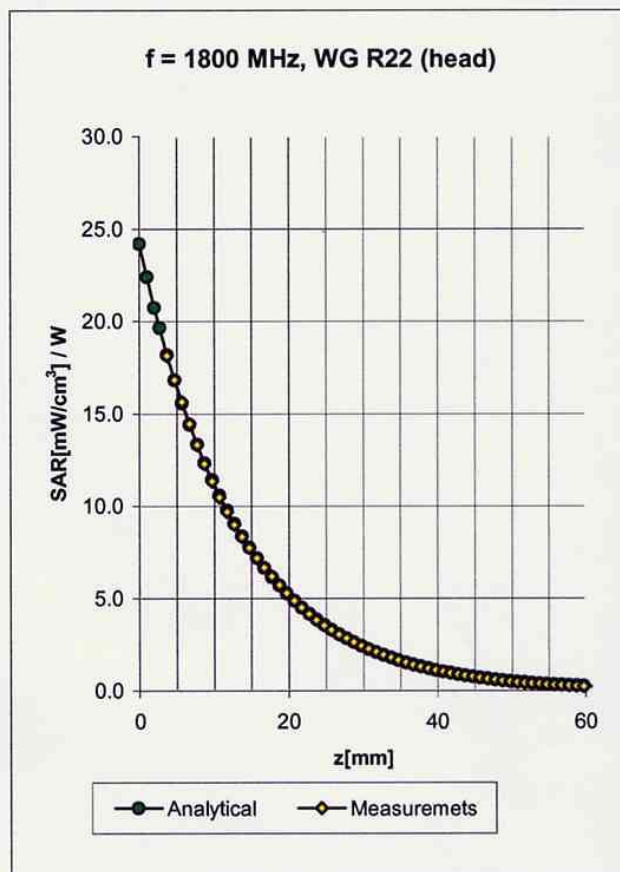
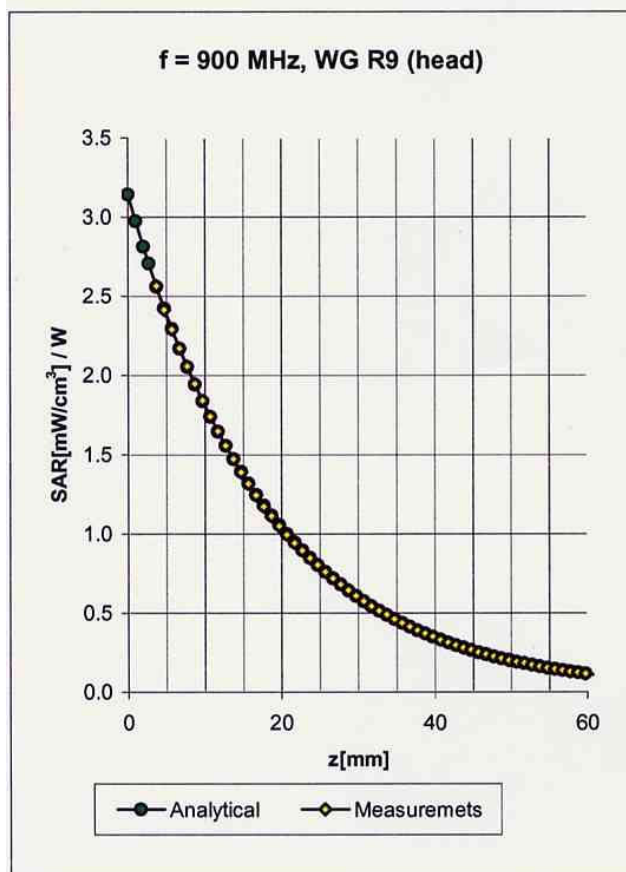


Dynamic Range f(SAR_{brain})

(Waveguide R22)



Conversion Factor Assessment



Head 900 MHz $\epsilon_r = 41.5 \pm 5\%$ $\sigma = 0.97 \pm 5\%$ mho/m

Valid for f=800-1000 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

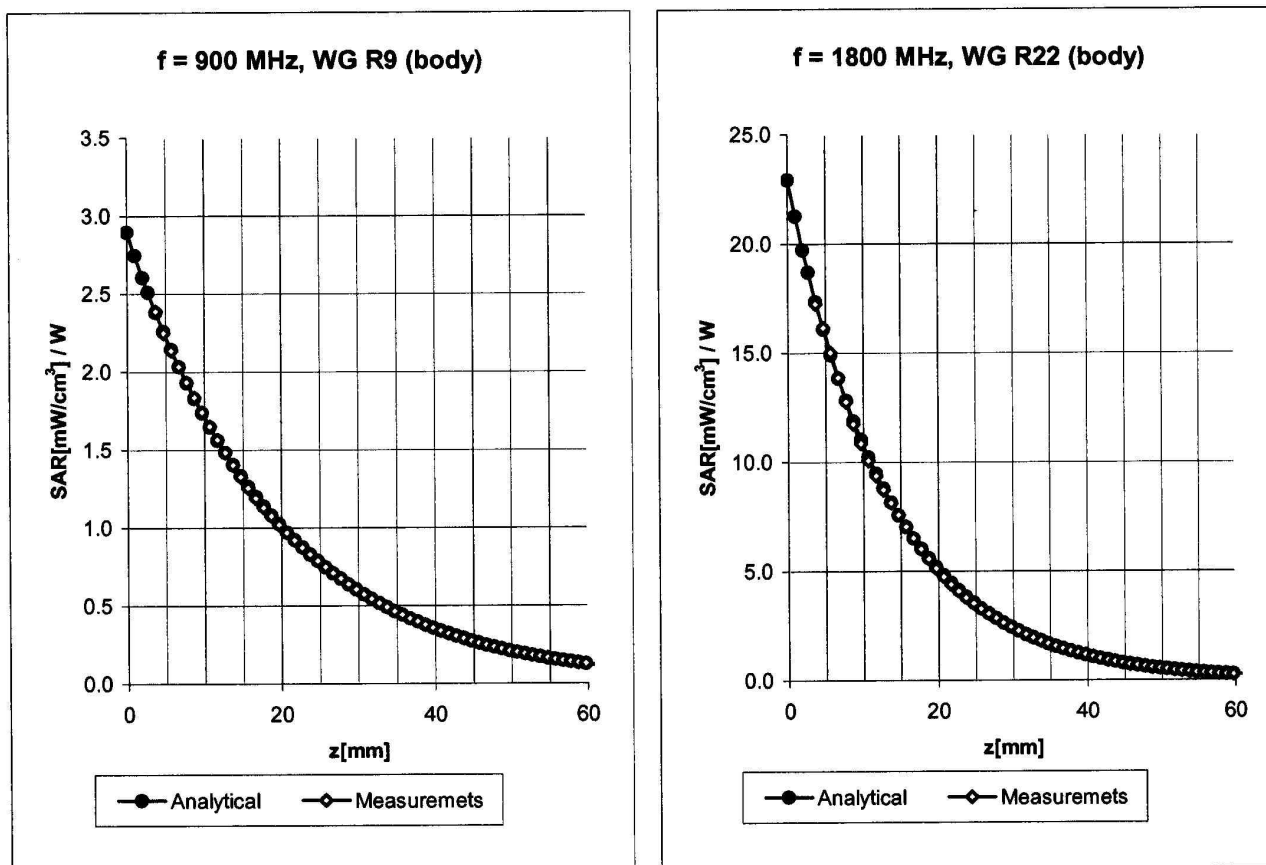
ConvF X	6.4 $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	6.4 $\pm 9.5\%$ (k=2)	Alpha	0.48
ConvF Z	6.4 $\pm 9.5\%$ (k=2)	Depth	2.13

Head 1800 MHz $\epsilon_r = 40.0 \pm 5\%$ $\sigma = 1.40 \pm 5\%$ mho/m

Valid for f=1710-1910 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

ConvF X	5.1 $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	5.1 $\pm 9.5\%$ (k=2)	Alpha	0.49
ConvF Z	5.1 $\pm 9.5\%$ (k=2)	Depth	2.70

Conversion Factor Assessment



Body 900 MHz $\epsilon_r = 55.0 \pm 5\%$ $\sigma = 1.05 \pm 5\%$ mho/m

Valid for f=800-1000 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C

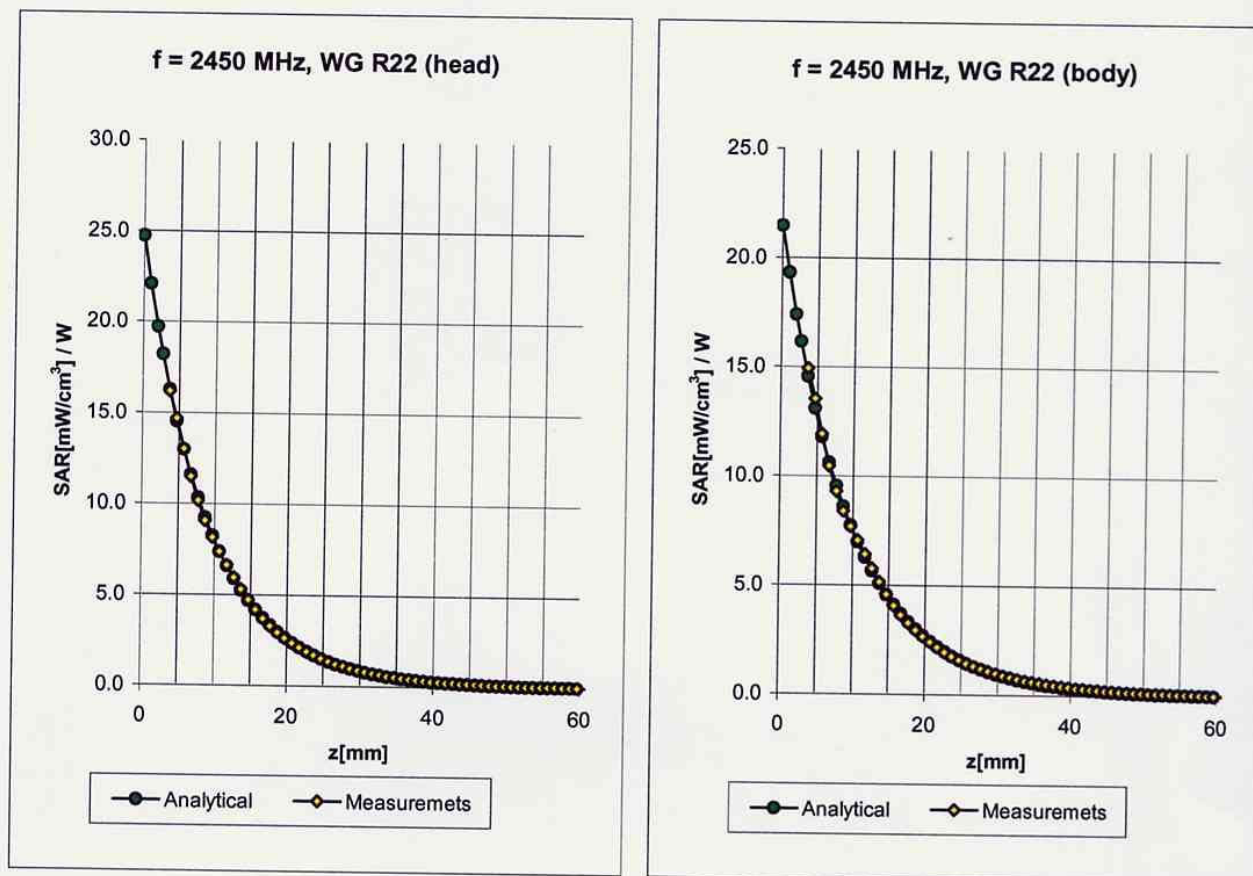
ConvF X	6.2 $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	6.2 $\pm 9.5\%$ (k=2)	Alpha	0.40
ConvF Z	6.2 $\pm 9.5\%$ (k=2)	Depth	2.57

Body 1800 MHz $\epsilon_r = 53.3 \pm 5\%$ $\sigma = 1.52 \pm 5\%$ mho/m

Valid for f=1710-1910 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C

ConvF X	4.8 $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	4.8 $\pm 9.5\%$ (k=2)	Alpha	0.54
ConvF Z	4.8 $\pm 9.5\%$ (k=2)	Depth	2.76

Conversion Factor Assessment



Head 2450 MHz $\epsilon_r = 39.2 \pm 5\%$ $\sigma = 1.80 \pm 5\%$ mho/m

Valid for f=2400-2500 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X

ConvF X	4.7 $\pm$ 8.9% (k=2)	Boundary effect:	
ConvF Y	4.7 $\pm$ 8.9% (k=2)	Alpha	1.00
ConvF Z	4.7 $\pm$ 8.9% (k=2)	Depth	1.89

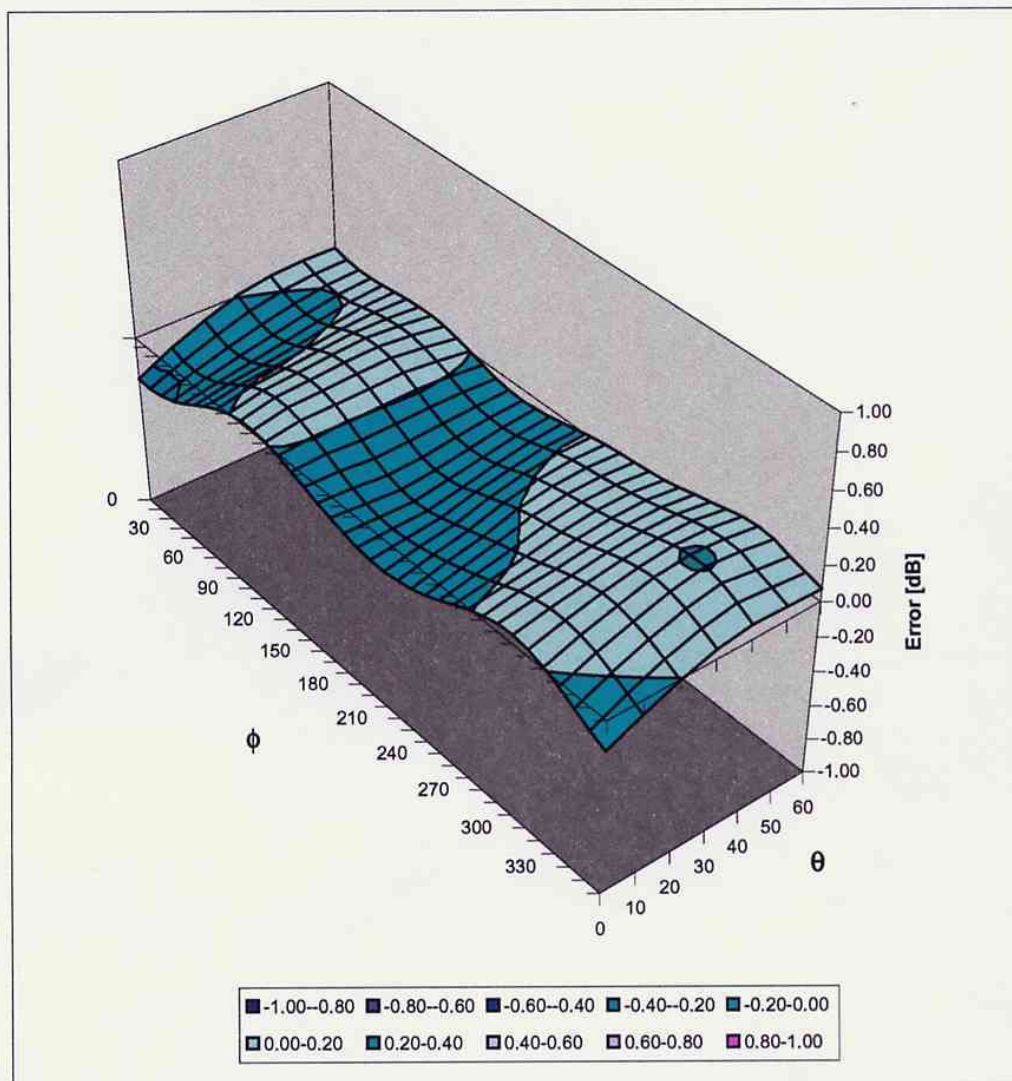
Body 2450 MHz $\epsilon_r = 52.7 \pm 5\%$ $\sigma = 1.95 \pm 5\%$ mho/m

Valid for f=2400-2500 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C

ConvF X	4.4 $\pm$ 8.9% (k=2)	Boundary effect:	
ConvF Y	4.4 $\pm$ 8.9% (k=2)	Alpha	1.21
ConvF Z	4.4 $\pm$ 8.9% (k=2)	Depth	1.59

Deviation from Isotropy in HSL

Error (θ, ϕ), $f = 900$ MHz



D3: DAE

Client

CALIBRATION CERTIFICATE

Object(s) **DAE3 - SN:579**

Calibration procedure(s) **QA CAL-06.v3**
Calibration procedure for the data acquisition unit (DAE)

Calibration date: **August 15, 2003**

Condition of the calibrated item **In Tolerance (according to the specific calibration document)**

This calibration statement documents traceability of M&TE used in the calibration procedures and conformity of the procedures with the ISO/IEC 17025 international standard.

All calibrations have been conducted in the closed laboratory facility: environment temperature 22 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date	Scheduled Calibration
Fluke Process Calibrator Type 702	SN: 6295803	3-Sep-01	Sep-03

	Name	Function	Signature
Calibrated by:	Philipp Storchenegger	Technician	
Approved by:	Fin Bomholt	R&D Director	

Date issued: August 15, 2003

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

1. Cal Lab. Incoming Inspection & Pre Test

Modification Status	Note Status here → → → →	BC
Visual Inspection	Note anomalies.....	None
		
Pre Test	Indication	Yes/No
Probe Touch	Function	Yes
Probe Collision	Function	Yes
Probe Touch&Collision	Function	Yes

2. DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1 μ V, full range = 400 mV
 Low Range: 1LSB = 61nV, full range = 4 mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range rounded to 7 digits	404.5370401	404.5593911	404.3923437
Low Range rounded to 6 digits	3.9686	3.9584	3.95
Connector Angle to be used	in DASY System 311 °		

High Range	Input	Reading in μ V	% Error
Channel X + Input	200mV	199999.6	0.00
	20mV	19998.2	-0.01
Channel X - Input	20mV	-19995.3	-0.02
Channel Y + Input	200mV	199999.8	0.00
	20mV	19998.3	-0.01
Channel Y - Input	20mV	-19993.6	-0.03
Channel Z + Input	200mV	200000.6	0.00
	20mV	19997.8	-0.01
Channel Z - Input	20mV	-19994.3	-0.03

Low Range	Input	Reading in μ V	% Error
Channel X + Input	2mV	1999.99	0.00
	0.2mV	199.66	-0.17
Channel X - Input	0.2mV	-200.21	0.11
Channel Y + Input	2mV	1999.89	-0.01
	0.2mV	199.20	-0.40
Channel Y - Input	0.2mV	-201.14	0.57
Channel Z + Input	2mV	1999.99	0.00
	0.2mV	199.18	-0.41
Channel Z - Input	0.2mV	-202.26	1.13