

# Measurement report

## cDASY6 Module WPT Measurement Report

### Device under test

Info:  
V-Coil500/3

Serial number:  
1028

Scenario:  
source calibration

### Tool info

DASY software version:  
cDASY6 Module WPT 2.6.0.5002

Probe model, serial no. and configuration date:  
MAGPy-8H3D+E3Dv2, WP000230, 2024/08/23

Software version:  
2.0.63, backend: 2.2.22

### Scan info

Center location:  
x: 2.51 mm, y: 269.64 mm, z: 36.52 mm

Dimensions:  
x: 652.0 mm, y: 652.4 mm, z: 36.7 mm

Resolution:  
x: 7.33 mm, y: 7.33 mm, z: 7.33 mm

Completed on:  
2024/11/13 02:40:51

### Measurement results

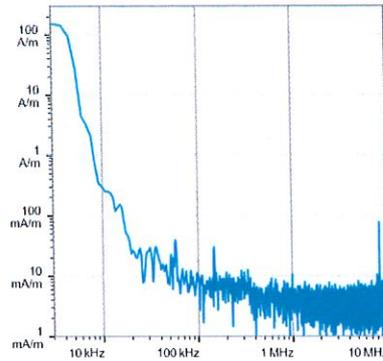
Maximum H-field [RMS]:  
MAGNITUDE: 111.86 A/m  
x: 105.43 A/m, y: 25.44 A/m, z: 27.41 A/m

Maximum H-field location relative to DUT:  
x: 201.67 mm, y: 55.00 mm, z: 8.50 mm

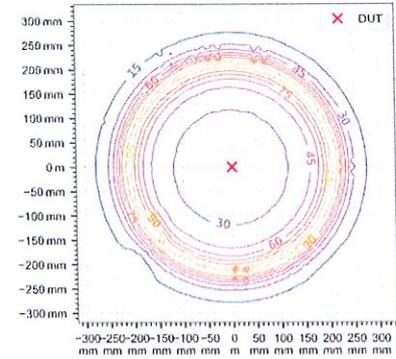
Distance to -20.0 dB boundary:  
81.00 mm

Offset relative to DUT:  
x: 0.00 m, y: 0.00 m, z: 1.00 mm

### H-field magnitude [RMS] at maximum location



### H-field magnitude [RMS] at lowest plane



### Incident fields and induced fields in the homogeneous phantom at the peak frequency ( $f = 3.00 \text{ kHz}$ , $\sigma = 0.750 \text{ S/m}$ , tissue density = $1,000 \text{ kg/m}^3$ )

Distance [mm]	Peak incident fields [RMS]	Peak $E_{ind}$ [V/m, RMS]			Peak $J_{ind}$ [ $A/m^2$ , RMS]		psSAR [mW/kg]		H-field extent		Warnings
	$H_{inc}$ [A/m]	Cube avg.	Local	Line avg.	Surface avg.	1g avg.	10g avg.	-20 dB radius [mm]	Sign	Vector potential	Boundary effect
0.00	163	0.123	0.124	0.124	0.0879	9.29e-3	7.34e-3	274	6%	50%	35%
2.00	150	0.118	0.118	0.119	0.0839	8.52e-3	6.81e-3	277	6%	50%	36%

### Compliance evaluation (Field values at the peak frequency) ( $f = 3.00 \text{ kHz}$ , )

Distance [mm]	ICNIRP 2010/2020			ICNIRP 1998			IEEE 2019			FCC			HC Code 6		
	RL [RMS]		BR [RMS]	RL [RMS]		BR [RMS]	ERL [RMS]		DRL [RMS]	MPE [RMS]		BR [RMS]	RL [RMS]		BR [RMS]
	$\rho H_{inc}$ [A/m]	$\rho E_{ind}$ [V/m]	psSAR [mW/kg]	$\rho H_{inc}$ [A/m]	$\rho J_{ind}$ [ $A/m^2$ ]	psSAR [mW/kg]	$\rho H_{inc}$ [A/m]	$\rho E_{ind}$ [V/m]	psSAR [mW/kg]	$\rho H_{inc}$ [A/m]	$\rho E_{ind}$ [V/m]	psSAR [mW/kg]	$\rho H_{inc}$ [A/m]	$\rho E_{ind}$ [V/m]	psSAR [mW/kg]
0.00	163	0.123	7.34e-3	163	0.0879	7.34e-3	163	0.124	7.34e-3	163	N/A	9.29e-3	163	0.124	9.29e-3
2.00	150	0.118	6.81e-3	150	0.0839	6.81e-3	150	0.119	6.81e-3	150	N/A	8.52e-3	150	0.118	8.52e-3

### Compliance evaluation (Exposure ratios) (ratios in dB)

Distance [mm]	ICNIRP 2010/2020			ICNIRP 1998			IEEE 2019			FCC			HC Code 6					
	RL		BR	RL		BR	ERL		DRL	MPE		BR	RL		BR			
	$\rho H_{inc}$	$\rho E_{ind}$	psSAR	$\rho H_{inc}$	$\rho J_{ind}$	psSAR	$\rho H_{inc}$	$\rho E_{ind}$	psSAR	$\rho H_{inc}$	$\rho E_{ind}$	psSAR	$\rho H_{inc}$	$\rho E_{ind}$	psSAR			
0.00	NS	N/A	-10.3	N/A	30.3	23.3	N/A	-0.96	N/A	-15.0	N/A	5.17	N/A	N/A	5.17	N/A	-10.3	N/A
2.00	17.1	N/A	-10.7	N/A	29.5	22.9	N/A	-1.69	N/A	-15.4	N/A	4.44	N/A	N/A	4.44	N/A	-10.7	N/A

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Multilateral Agreement for the recognition of calibration certificates

Client **WSCT  
Shenzhen**

Certificate No. **V-Coil50/400-1034\_Oct24**

**CALIBRATION CERTIFICATE**

Object **V-Coil50/400V2 - SN: 1034**

Calibration procedure(s) **QA CAL-47.v13  
Calibration Procedure for WPT Verification & Validation Sources**

Calibration date: **October 31, 2024**

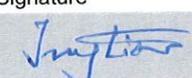
This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
MAGPy-8H3D+E3D/DAS	SN: 3090/3078	22-Aug-24 (MAGPy-8H3D-3090_Aug24)	Aug-25

Secondary Standards	ID #	Check Date (in house)	Scheduled Check

Calibrated by: **Jingtian Xi** (Name) **Project Leader** (Function)  (Signature)

Approved by: **Sven Kühn** (Name) **Technical Manager** (Function)  (Signature)

Issued: November 13, 2024

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accreditation No.: **SCS 0108**

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Multilateral Agreement for the recognition of calibration certificates

### Glossary:

WPT                      wireless power transfer  
V&V                      verification & validation

### Calibration is Performed According to the Following Standards:

- Internal procedure QA CAL-47 Calibration procedure for WPT verification & validation sources from 3 kHz to 10 MHz
- IEC/IEEE 63164, "Assessment methods of the human exposure to electric and magnetic fields from wireless power transfer systems – Models, instrumentation, measurement and computational methods and procedures (Frequency range 3 kHz to 30 MHz)", draft standard, 2023

### Additional Documentation:

- a) cDASY6/DASY8 Module WPT Manual

### Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* The V&V source is switched on for at least 30 minutes.
- *Source Positioning:* The V&V source is placed in the center of the UniPV1 phantom such that the source surface is parallel to phantom surface. The probe location used for DUT teaching is the top center of the coil (marked on the source casing). The probe distance is verified using mechanical gauges placed on the source surface.
- *H-field distribution:* H-field is measured in the volume above the V&V source in a rectilinear grid with a uniform grid step of 7.33 mm.

### Calibrated Quantity

- Spatial peak of H-field (RMS value) at  $d$  mm from the DUT surface (extrapolated from measurements)

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

<b>Software version</b>	cDASY6 Module WPT	2.6.0.5002
	Notebook GUI	2.6.0.9
	Sim4Life	8.0.1
<b>Scan setup</b>	Grid dimensions	x: 125 mm, y: 125 mm, z: 36.7 mm
	Grid resolutions	dx, dy, dz: 7.33 mm
<b>Nominal frequency</b>	400 kHz	

## Calibrated Quantities

<b>Distance (relative to source surface) (mm)</b>	<b>Peak H-field (A/m)</b>	<b>Uncertainty (k=2) (dB)</b>
0	284	1.13
2	249	1.13

## Appendix (Additional assessments outside the scope of SCS 0108)

### Peak values of induced fields<sup>1</sup>

Distance (relative to source surface) (mm)	Induced peak current density, 1cm <sup>2</sup> area avg. (A/m <sup>2</sup> )	Induced peak E-field (V/m)			peak spatial SAR (mW/kg)	
		2mm cube avg.	Local	5mm line avg.	1g avg.	10g avg.
0	2.83	4.46	4.57	4.58	7.87	3.91
2	2.41	3.86	3.97	3.98	5.76	2.90

### Voltage measurement

Total voltage (V)	Voltages at harmonics (dBc)
0.416	Highest harmonic: -32.1 2 <sup>nd</sup> highest harmonic: -45.6

<sup>1</sup> determined for a virtual half-space phantom with tissue properties  $\epsilon_r = 55$ ,  $\sigma = 0.75$  S/m,  $\rho = 1000$  kg/m<sup>3</sup> and a 2 mm thick phantom shell

# Measurement report

## cDASY6 Module WPT Measurement Report

### Device under test

Info:  
V-Coil50/400

Serial number:  
1034

Scenario:  
source calibration

### Tool info

DASY software version:  
cDASY6 Module WPT 2.6.0.5002

Probe model, serial no. and configuration date:  
MAGPy-8H3D+E3Dv2, WP000230, 2024/08/23

Software version:  
2.0.63, backend: 2.2.22

### Scan info

Center location:  
x: -186.14 mm, y: -319.40 mm, z: 36.78 mm

Dimensions:  
x: 125.0 mm, y: 124.0 mm, z: 36.6 mm

Resolution:  
x: 7.33 mm, y: 7.33 mm, z: 7.33 mm

Completed on:  
2024/10/31 17:22:41

### Measurement results

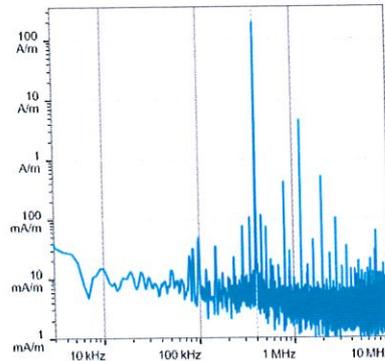
Maximum H-field [RMS]:  
MAGNITUDE: 137.50 A/m  
x: 28.23 A/m, y: 14.12 A/m, z: 133.83 A/m

Maximum H-field location relative to DUT:  
x: -3.67 mm, y: 3.67 mm, z: 8.50 mm

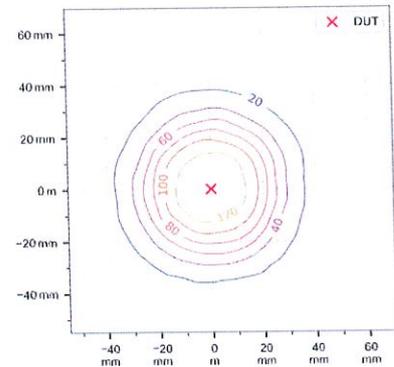
Distance to -20.0 dB boundary:  
39.49 mm

Offset relative to DUT:  
x: 0.00 m, y: 0.00 m, z: 1.00 mm

### H-field magnitude [RMS] at maximum location



### H-field magnitude [RMS] at lowest plane



### Incident fields and induced fields in the homogeneous phantom at the peak frequency (f = 400.00 kHz, $\sigma = 0.750$ S/m, tissue density = 1.000 kg/m<sup>3</sup>)

Distance [mm]	Peak incident fields [RMS] H <sub>inc</sub> [A/m]	Peak E <sub>ind</sub> [V/m, RMS]			Peak J <sub>ind</sub> [A/m <sup>2</sup> , RMS] Surface avg.	psSAR [mW/kg]		H-field extent -20 dB radius [mm]	Warnings		
		Cube avg.	Local	Line avg.		1g avg.	10g avg.		Sign	Vector potential	Boundary effect
0.00	284	4.46	4.57	4.58	2.83	7.87	3.91	38.9	1%	8%	23%
2.00	249	3.86	3.97	3.98	2.41	5.76	2.90	39.2	1%	8%	26%

### Compliance evaluation (Field values at the peak frequency) (f=400.00 kHz,)

Distance [mm]	ICNIRP 2010/2020			ICNIRP 1998			IEEE 2019			FCC			HC Code 6		
	RL [RMS]		BR [RMS]	RL [RMS]		BR [RMS]	ERL [RMS]		DRL [RMS]	MPE [RMS]	BR [RMS]		RL [RMS]		BR [RMS]
	pH <sub>inc</sub> [A/m]	pE <sub>ind</sub> [V/m]	psSAR [mW/kg]	pH <sub>inc</sub> [A/m]	pJ <sub>ind</sub> [A/m <sup>2</sup> ]	psSAR [mW/kg]	pH <sub>inc</sub> [A/m]	pE <sub>ind</sub> [V/m]	psSAR [mW/kg]	pH <sub>inc</sub> [A/m]	pE <sub>ind</sub> [V/m]	psSAR [mW/kg]	pH <sub>inc</sub> [A/m]	pE <sub>ind</sub> [V/m]	psSAR [mW/kg]
0.00	284	4.46	3.91	284	2.83	3.91	284	4.58	3.91	284	N/A	7.87	284	4.57	7.87
2.00	249	3.86	2.90	249	2.41	2.90	249	3.98	2.90	249	N/A	5.76	249	3.97	5.76

### Compliance evaluation (Exposure ratios) (ratios in dB)

Distance [mm]	ICNIRP 2010/2020			ICNIRP 1998			IEEE 2019			FCC			HC Code 6					
	RL		BR	RL		BR	ERL		DRL	MPE	BR		RL		BR			
	pH <sub>inc</sub>	pE <sub>ind</sub>	psSAR	pH <sub>inc</sub>	pJ <sub>ind</sub>	psSAR	pH <sub>inc</sub>	pE <sub>ind</sub>	psSAR	pH <sub>inc</sub>	pE <sub>ind</sub>	psSAR	pH <sub>inc</sub>	pE <sub>ind</sub>	psSAR	psSAR		
	NS	TH	NS	TH	N/A	NS	TH	NS	TH	N/A	N/A	TH	NS	TH	NS	TH		
0.00	22.6	27.3	-21.7	-27.1	43.8	11.0	-27.1	4.81	9.88	-25.2	-27.1	44.8	N/A	-23.1	9.97	43.8	-21.5	-23.1
2.00	21.5	26.1	-22.9	-28.4	42.7	9.58	-28.4	3.67	8.73	-26.5	-28.4	43.7	N/A	-24.4	8.83	42.7	-22.7	-24.4

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Multilateral Agreement for the recognition of calibration certificates

Client **WSCT**  
**Shenzhen**

Certificate No. **V-Coil350/85-1035\_Nov24**

## CALIBRATION CERTIFICATE

Object **V-Coil350/85V2 - SN: 1035**

Calibration procedure(s) **QA CAL-47.v13  
Calibration Procedure for WPT Verification & Validation Sources**

Calibration date: **November 6, 2024**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
MAGPy-8H3D+E3D/DAS	SN: 3090/3078	22-Aug-24 (MAGPy-8H3D-3090_Aug24)	Aug-25
Secondary Standards	ID #	Check Date (in house)	Scheduled Check

	<b>Name</b>	<b>Function</b>	<b>Signature</b>
Calibrated by:	Jingtian Xi	Project Leader	
Approved by:	Sven Kühn	Technical Manager	

Issued: November 13, 2024

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Accreditation No.: **SCS 0108**

### Glossary:

WPT wireless power transfer  
V&V verification & validation

### Calibration is Performed According to the Following Standards:

- Internal procedure QA CAL-47 Calibration procedure for WPT verification & validation sources from 3 kHz to 10 MHz
- IEC/IEEE 63164, "Assessment methods of the human exposure to electric and magnetic fields from wireless power transfer systems – Models, instrumentation, measurement and computational methods and procedures (Frequency range 3 kHz to 30 MHz)", draft standard, 2023

### Additional Documentation:

- a) cDASY6/DASY8 Module WPT Manual

### Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* The V&V source is switched on for at least 30 minutes.
- *Source Positioning:* The V&V source is placed in the center of the UniPV1 phantom such that the source surface is parallel to phantom surface. The probe location used for DUT teaching is the top center of the coil (marked on the source casing). The probe distance is verified using mechanical gauges placed on the source surface.
- *H-field distribution:* H-field is measured in the volume above the V&V source in a rectilinear grid with a uniform grid step of 7.33 mm.

### Calibrated Quantity

- Spatial peak of H-field (RMS value) at  $d$  mm from the DUT surface (extrapolated from measurements)

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

<b>Software version</b>	cDASY6 Module WPT	2.6.0.5002
	Notebook GUI	2.6.0.9
	Sim4Life	8.0.1
<b>Scan setup</b>	Grid dimensions	x: 477 mm, y: 389 mm, z: 36.7 mm
	Grid resolutions	dx, dy, dz: 7.33 mm
<b>Nominal frequency</b>	85 kHz	

## Calibrated Quantities

<b>Distance (relative to source surface) (mm)</b>	<b>Peak H-field (A/m)</b>	<b>Uncertainty (k=2) (dB)</b>
0	208	1.13
2	189	1.13

## Appendix (Additional assessments outside the scope of SCS 0108)

### Peak values of induced fields<sup>1</sup>

Distance (relative to source surface) (mm)	Induced peak current density, 1cm <sup>2</sup> area avg. (A/m <sup>2</sup> )	Induced peak E-field (V/m)			peak spatial SAR (mW/kg)	
		2mm cube avg.	Local	5mm line avg.	1g avg.	10g avg.
0	2.36	3.36	3.40	3.41	6.51	4.82
2	2.22	3.16	3.19	3.20	5.81	4.36

### Voltage measurement

Total voltage (V)	Voltages at harmonics (dBc)
0.407	Highest harmonic: -41.1 2 <sup>nd</sup> highest harmonic: -48.2

<sup>1</sup> determined for a virtual half-space phantom with tissue properties  $\epsilon_r = 55$ ,  $\sigma = 0.75$  S/m,  $\rho = 1000$  kg/m<sup>3</sup> and a 2 mm thick phantom shell

# Measurement report

## cDASY6 Module WPT Measurement Report

### Device under test

Info:  
V-Coil350/85

Serial number:  
1035

Scenario:  
source calibration

### Tool info

DASY software version:  
cDASY6 Module WPT 2.6.0.5002

Probe model, serial no. and configuration date:  
MAGPy-8H3D+E3Dv2, WP000230, 2024/08/23

Software version:  
2.0.63, backend: 2.2.22

### Scan info

Center location:  
x: -48.08 mm, y: -119.84 mm, z: 36.74 mm

Dimensions:  
x: 477.0 mm, y: 388.8 mm, z: 36.7 mm

Resolution:  
x: 7.33 mm, y: 7.33 mm, z: 7.33 mm

Completed on:  
2024/11/06 18:58:08

### Measurement results

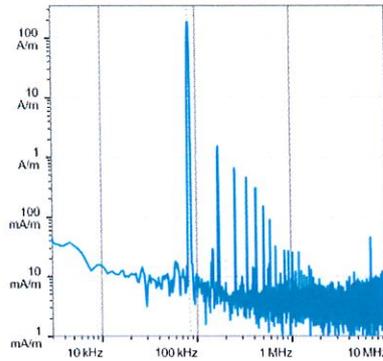
Maximum H-field [RMS]:  
MAGNITUDE: 135.93 A/m  
x: 118.90 A/m, y: 31.23 A/m, z: 57.99 A/m

Maximum H-field location relative to DUT:  
x: 157.67 mm, y: 25.67 mm, z: 8.50 mm

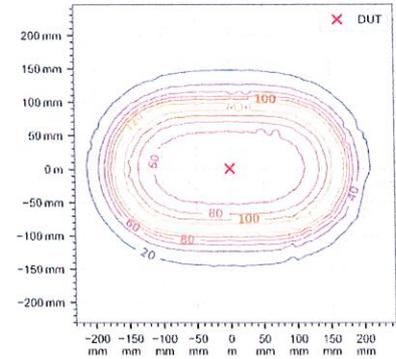
Distance to -20.0 dB boundary:  
62.66 mm

Offset relative to DUT:  
x: 0.00 m, y: 0.00 m, z: 1.00 mm

### H-field magnitude [RMS] at maximum location



### H-field magnitude [RMS] at lowest plane



### Incident fields and induced fields in the homogeneous phantom at the peak frequency (f = 85.00 kHz, $\sigma = 0.750 \text{ S/m}$ , tissue density = $1,000 \text{ kg/m}^3$ )

Distance [mm]	Peak incident fields [RMS] H <sub>inc</sub> [A/m]	Peak E <sub>ind</sub> [V/m, RMS]			Peak J <sub>ind</sub> [A/m <sup>2</sup> , RMS] Surface avg.	psSAR [mW/kg]		H-field extent -20 dB radius [mm]	Warnings		
		Cube avg.	Local	Line avg.		1g avg.	10g avg.		Sign	Vector potential	Boundary effect
0.00	208	3.36	3.40	3.41	2.36	6.51	4.82	181	1%	90%	36%
2.00	189	3.16	3.19	3.20	2.22	5.81	4.36	183	1%	90%	38%

### Compliance evaluation (Field values at the peak frequency) (f=85.00 kHz, )

Distance [mm]	ICNIRP 2010/2020			ICNIRP 1998			IEEE 2019			FCC			HC Code 6		
	RL [RMS]		BR [RMS]	RL [RMS]		BR [RMS]	ERL [RMS]	DRL [RMS]		MPE [RMS]	BR [RMS]		RL [RMS]		BR [RMS]
	pH <sub>inc</sub>	pE <sub>ind</sub>	psSAR	pH <sub>inc</sub>	pJ <sub>ind</sub>	psSAR	pH <sub>inc</sub>	pE <sub>ind</sub>	psSAR	pH <sub>inc</sub>	pE <sub>ind</sub>	psSAR	pH <sub>inc</sub>	pE <sub>ind</sub>	psSAR
0.00	208	3.36	4.82	208	2.36	4.82	208	3.41	4.82	208	N/A	6.51	208	3.40	6.51
2.00	189	3.16	4.36	189	2.22	4.36	189	3.20	4.36	189	N/A	5.81	189	3.19	5.81

### Compliance evaluation (Exposure ratios) (ratios in dB)

Distance [mm]	ICNIRP 2010/2020			ICNIRP 1998			IEEE 2019			FCC			HC Code 6					
	RL		BR	RL		BR	ERL	DRL		MPE	BR		RL		BR			
	pH <sub>inc</sub>	pE <sub>ind</sub>	psSAR	pH <sub>inc</sub>	pJ <sub>ind</sub>	psSAR	pH <sub>inc</sub>	pE <sub>ind</sub>	psSAR	pH <sub>inc</sub>	pE <sub>ind</sub>	psSAR	pH <sub>inc</sub>	pE <sub>ind</sub>	psSAR			
0.00	19.9	N/A	-10.7	N/A	32.4	22.9	N/A	2.1	N/A	-14.4	N/A	7.26	N/A	N/A	7.26	N/A	-10.6	N/A
2.00	19.1	N/A	-11.2	N/A	31.6	22.3	N/A	1.3	N/A	-14.9	N/A	6.46	N/A	N/A	6.46	N/A	-11.1	N/A

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