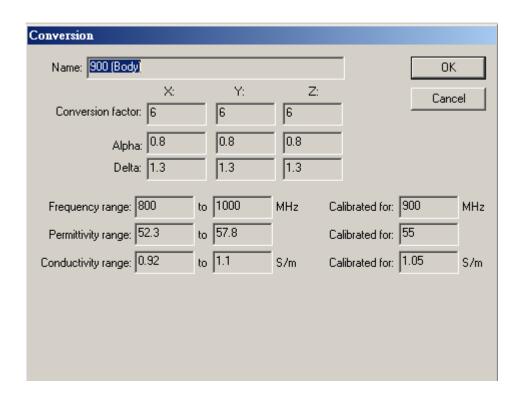


#### Probe Calibrated: 1/9/2008

#### 1. Body Conversion

The test frequencies are properly matched as this is a cellular band. The probe calibration for permittivity and conductivity is within +/-5%, were the probe calibrated centre frequency at 900MHz has permittivity and conductivity of 55.0 and 1.05 respectively. At the probe extreme frequencies the following are true: at 800 MHz the permittivity and conductivity are 52.3 and 0.92 respectively. At 1000 MHz the permittivity and conductivity are 57.8 and 1.1 respectively. The probe was calibrated at these parameters in order to cover the frequency range 800 MHz to 1000 MHz.



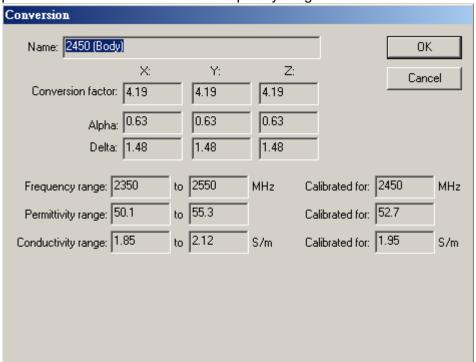


The test frequencies are properly matched as this is a PCS band. The probe calibration for permittivity and conductivity is within +/-5%, were the probe calibrated centre frequency at 1810MHz has permittivity and conductivity of 53.3 and 1.52 respectively. At the probe extreme frequencies the following are true: at 1710 MHz the permittivity and conductivity are 50.6 and 1.38 respectively. At 1910 MHz the permittivity and conductivity are 56.0 and 1.6 respectively. The probe was calibrated at these parameters in order to cover the frequency range 1710 MHz to 1910 MHz.

Conversion			
Name: 1810 (Body)			OK
X:	Y:	Z:	Cancel
Conversion factor: 4.95	4.95	4.95	
Alpha: 0.96	0.96	0.96	
Delta: 1.12	1.12	1.12	
Frequency range: 1710	to 1910		Calibrated for: 1810 MHz
Permittivity range: 50.6	to  56	C	Calibrated for: 53.3
Conductivity range: 1.38	to 1.6	S/m C	Calibrated for: 1.52 S/m



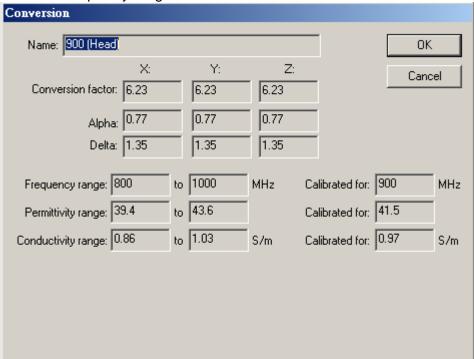
The test frequencies are properly matched as this is a WLAN (2.4GHz) band. The probe calibration for permittivity and conductivity is within +/-5%, were the probe calibrated centre frequency at 2450MHz has permittivity and conductivity of 52.7 and 1.95 respectively. At the probe extreme frequencies the following are true: at 2350 MHz the permittivity and conductivity are 50.1 and 1.85 respectively. At 2550 MHz the permittivity and conductivity are 55.3 and 2.12 respectively. The probe was calibrated at these parameters in order to cover the frequency range 2350 MHz to 2550 MHz.





#### 2. Head Conversion

The test frequencies are properly matched as this is a cellular band. The probe calibration for permittivity and conductivity is within +/-5%, were the probe calibrated centre frequency at 900MHz has permittivity and conductivity of 41.5 and 0.97 respectively. At the probe extreme frequencies the following are true: at 800 MHz the permittivity and conductivity are 39.4 and 0.86 respectively. At 1000 MHz the permittivity and conductivity are 43.6 and 1.03 respectively. The probe was calibrated at these parameters in order to cover the frequency range 800 MHz to 1000 MHz



The test frequencies are properly matched as this is a PCS band. The probe calibration for permittivity and conductivity is within +/-5%, were the probe calibrated centre frequency at 1810MHz has permittivity and conductivity of 40.0 and 1.40 respectively. At the probe extreme frequencies the following are true: at 1710 MHz the permittivity and conductivity are 38.0 and 1.29 respectively. At 1910 MHz the permittivity and conductivity are 42.0 and 1.47 respectively. The probe was calibrated at these parameters in order to cover the frequency range 1710 MHz to 1910 MHz.



Conversion			
Name: 1810 (Head)			OK
X:	Y:	Z:	Cancel
Conversion factor: 5.11	5.11	5.11	
Alpha: 0.89	0.89	0.89	
Delta: 1.24	1.24	1.24	
Frequency range: 1710	to 1910	MHz (	Calibrated for: 1810 MHz
Permittivity range: 38	to 42	- (	Calibrated for: 40
Conductivity range: 1.29	to 1.47	S/m (	Calibrated for: 1.4 S/m

The test frequencies are properly matched as this is a WLAN (2.4GHz) band. The probe calibration for permittivity and conductivity is within +/-5%, were the probe calibrated centre frequency at 2450MHz has permittivity and conductivity of 39.2 and 1.80 respectively. At the probe extreme frequencies the following are true: at 2350 MHz the permittivity and conductivity are 37.2 and 1.71 respectively. At 2550 MHz the permittivity and conductivity are 41.2 and 1.93 respectively. The probe was calibrated at these parameters in order to cover the frequency range 2350 MHz to 2550 MHz.

Conversion			
Name: 2450 (Head)			ОК
X: Conversion factor: 4,54	Y: 4.54	Z: 4.54	Cancel
Alpha: 0.63	0.63	0.63	
Delta: 1.52	1.52	1.52	
Frequency range: 2350	to 2550	MHz Ca	alibrated for: 2450 MHz
Permittivity range: 37.2	to 41.2	Ca	alibrated for: 39.2
Conductivity range: 1.71	to 1.93	S/m Ca	alibrated for: 1.8 S/m



The target permittivity and conductivity which is within the calibrated range of the probe parameter. The following parameters are declared in the probe calibration certificate on pare 8: The system manufacturer has carried out addition steps as detailed on page 4 of KDB450824. This is detailed in the calibration certificates. The measured SAR values in the report are all below 10% of the SAR limit.

f [MHz]	Validity [MHz] <sup>C</sup>	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
450	± 50 / ± 100	Head	43.5 ± 5%	0.87 ± 5%	0.40	2.04	6.99 ± 13.3% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.28	3.16	5.88 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.71	2.18	4.80 ± 11.0% (k=2)
2000	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.76	2.12	4.48 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.73	2.44	4.26 ± 11.8% (k=2)
450	± 50 / ± 100	Body	56.7 ± 5%	0.94 ± 5%	0.33	2.02	7.32 ± 13.3% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.38	2.54	5.63 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	$1.52 \pm 5\%$	0.91	2.06	4.40 ± 11.0% (k=2)
2000	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.81	2.06	4.10 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.68	2.68	3.84 ± 11.8% (k=2)

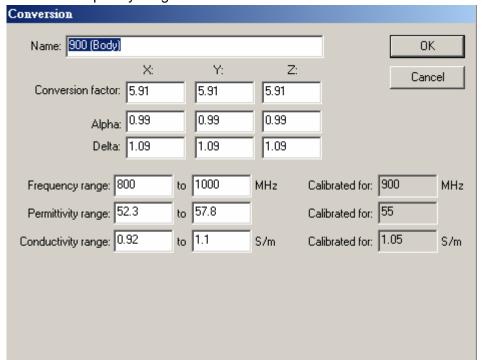
 $<sup>^{\</sup>text{C}}$  The validity of  $\pm$  100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.



#### Probe Calibrated: 1/20/2009

#### 1. Body Conversion

The test frequencies are properly matched as this is a cellular band. The probe calibration for permittivity and conductivity is within +/-5%, were the probe calibrated centre frequency at 900MHz has permittivity and conductivity of 55.0 and 1.05 respectively. At the probe extreme frequencies the following are true: at 800 MHz the permittivity and conductivity are 52.3 and 0.92 respectively. At 1000 MHz the permittivity and conductivity are 57.8 and 1.1 respectively. The probe was calibrated at these parameters in order to cover the frequency range 800 MHz to 1000 MHz.



The test frequencies are properly matched as this is a PCS band. The probe calibration for permittivity and conductivity is within +/-5%, were the probe calibrated centre frequency at 1810MHz has permittivity and conductivity of 53.3 and 1.52 respectively. At the probe extreme frequencies the following are true: at 1710 MHz the permittivity and conductivity are 50.6 and 1.38 respectively. At 1910 MHz the permittivity and conductivity are 56.0 and 1.6 respectively. The probe was calibrated at these parameters in order to cover the frequency range 1710 MHz to 1910 MHz.



Conversion			
Name: [1810 (Body)]			OK
X:	Y:	Z:	Cancel
Conversion factor: 4.92	4.92	4.92	Carico
Alpha: 0.44	0.44	0.44	
Delta: 1.53	1.53	1.53	
Frequency range: 1710	to 1910	MHz Ca	alibrated for: 1810 MHz
Permittivity range: 50.6	to 56	Ca	alibrated for: 53.3
Conductivity range: 1.38	to 1.6	S/m Ca	alibrated for: 1.52 S/m

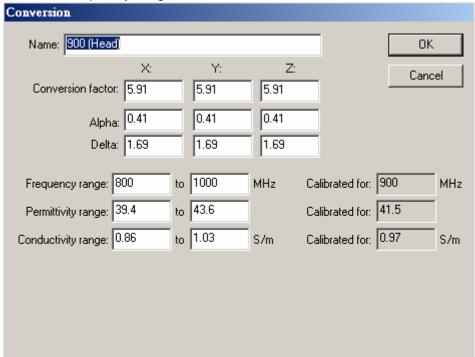
The test frequencies are properly matched as this is a WLAN (2.4GHz) band. The probe calibration for permittivity and conductivity is within +/-5%, were the probe calibrated centre frequency at 2450MHz has permittivity and conductivity of 52.7 and 1.95 respectively. At the probe extreme frequencies the following are true: at 2350 MHz the permittivity and conductivity are 50.1 and 1.85 respectively. At 2550 MHz the permittivity and conductivity are 55.3 and 2.12 respectively. The probe was calibrated at these parameters in order to cover the frequency range 2350 MHz to 2550 MHz.

Conversion			
Name: 2450 (Body)			OK
X:	Y:	Z:	Cancel
Conversion factor: 4.23	4.23	4.23	
Alpha: 0.64	0.64	0.64	
Delta: 1.3	1.3	1.3	
- 10050	. lorro		
Frequency range: 2350	to 2550	MHz C	alibrated for: 2450 MHz
Permittivity range: 50.1	to 55.3	С	alibrated for: 52.7
Conductivity range: 1.85	to 2.12	S/m C	alibrated for: 1.95 S/m



#### 2. Head Conversion

The test frequencies are properly matched as this is a cellular band. The probe calibration for permittivity and conductivity is within +/-5%, were the probe calibrated centre frequency at 900MHz has permittivity and conductivity of 41.5 and 0.97 respectively. At the probe extreme frequencies the following are true: at 800 MHz the permittivity and conductivity are 39.4 and 0.86 respectively. At 1000 MHz the permittivity and conductivity are 43.6 and 1.03 respectively. The probe was calibrated at these parameters in order to cover the frequency range 800 MHz to 1000 MHz



The test frequencies are properly matched as this is a PCS band. The probe calibration for permittivity and conductivity is within +/-5%, were the probe calibrated centre frequency at 1810MHz has permittivity and conductivity of 40.0 and 1.40 respectively. At the probe extreme frequencies the following are true: at 1710 MHz the permittivity and conductivity are 38.0 and 1.29 respectively. At 1910 MHz the permittivity and conductivity are 42.0 and 1.47 respectively. The probe was calibrated at these parameters in order to cover the frequency range 1710 MHz to 1910 MHz.



Conversion					
Name: 1810 (Head	Ì				0K
Conversion factor:	X: 5.04	Y: 5.04	Z: 5.04		Cancel
Alpha: Delta:		0.39	0.39		
Frequency range: 17		to 1910	MHz	Calibrated for:	1810 MHz
Permittivity range: 38 Conductivity range: 1.		to 42	S/m	Calibrated for:	

The test frequencies are properly matched as this is a WLAN (2.4GHz) band. The probe calibration for permittivity and conductivity is within +/-5%, were the probe calibrated centre frequency at 2450MHz has permittivity and conductivity of 39.2 and 1.80 respectively. At the probe extreme frequencies the following are true: at 2350 MHz the permittivity and conductivity are 37.2 and 1.71 respectively. At 2550 MHz the permittivity and conductivity are 41.2 and 1.93 respectively. The probe was calibrated at these parameters in order to cover the frequency range 2350 MHz to 2550 MHz.

Conversion			
Name: 2450 (Head)			OK OK
X: Conversion factor: 4.59	Y: 4.59	Z: 4.59	Cancel
Alpha: 0.36	0.36	0.36	
Delta: 2.44	2.44	2.44	
Frequency range: 2350	to 2550	MHz Ca	alibrated for: 2450 MHz
Permittivity range: 37.2	to 41.2	Ca	alibrated for: 39.2
Conductivity range: 1.71	to 1.93	S/m Ca	alibrated for: 1.8 S/m



The target permittivity and conductivity which is within the calibrated range of the probe parameter. The following parameters are declared in the probe calibration certificate on pare 8: The system manufacturer has carried out addition steps as detailed on page 4 of KDB450824. This is detailed in the calibration certificates. The measured SAR values in the report are all below 10% of the SAR limit. Probe Calibrated: 1/9/2008

f [MHz]	Validity [MHz] <sup>c</sup>	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	$0.97 \pm 5\%$	0.77	1.35	6.23	± 11.0% (k=2)
1810	± 50 / ± 100	Head	$40.0 \pm 5\%$	$1.40 \pm 5\%$	0.89	1.24	5.11	± 11.0% (k=2)
2000	± 50 / ± 100	Head	$40.0 \pm 5\%$	$1.40\pm5\%$	0.66	1.48	4.84	± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.63	1.52	4.54	± 11.8% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.80	1.30	6.00	± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.96	1.12	4.95	± 11.0% (k=2)
2000	± 50 / ± 100	Body	53.3 ± 5%	$1.52 \pm 5\%$	0.76	1.29	4.55	± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.63	1.48	4.19	± 11.8% (k=2)

#### Probe Calibrated: 1/20/2009

f [MHz]	Validity [MHz] <sup>C</sup>	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
450	± 50 / ± 100	Head	43.5 ± 5%	0.87 ± 5%	0.32	1.49	6.25 ± 13.3% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.41	1.69	5.91 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.39	2.06	5.04 ± 11.0% (k=2)
2000	± 50 / ± 100	Head	$40.0 \pm 5\%$	1.40 ± 5%	0.28	2.95	4.88 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.36	2.44	4.59 ± 11.0% (k=2)
450	± 50 / ± 100	Body	56.7 ± 5%	$0.94 \pm 5\%$	0.24	1.23	6.75 ± 13.3% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	$1.05 \pm 5\%$	0.99	1.09	5.91 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	$53.3 \pm 5\%$	1.52 ± 5%	0.44	1.53	4.92 ± 11.0% (k=2)
2000	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.35	1.78	4.77 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.64	1.30	4.23 ± 11.0% (k=2)



The measurement within the required frequency interval satisfy an expanded probe calibration uncertainty (k=2) <= 15% for all measurement conditions. Please refer to SAR report for probe and dipole calibration certificates produce by the system manufacturer.

DASY - Para		0.00. =00.	- 10 0	
Sensitivity in Free	e Space <sup>A</sup>		Diode (	Compression <sup>B</sup>
NormX	1.24 ± 10.1%	$\mu V/(V/m)^2$	DCP X	89 mV
NormY	1.25 ± 10.1%	$\mu V/(V/m)^2$	DCP Y	93 mV
NormZ	1.24 ± 10.1%	$\mu V/(V/m)^2$	DCP Z	98 mV
Sensitivity in Tiss	ue Simulating Li	quid (Convers	sion Factors	)
Please see Page 8.				
Boundary Effect				
TSL 90	0 MHz Typical SA	AR gradient: 5 % p	er mm	
Sensor Center	to Phantom Surface Di	stance	3.0 mm	4.0 mm
SAR <sub>be</sub> [%]	Without Correction A	Jgorithm	11.0	6.8
SAR <sub>be</sub> [%]	With Correction Algo	rithm	0.8	0.5
TSL 181	0 MHz Typical SA	AR gradient: 10 %	per mm	
Sensor Center	to Phantom Surface Di	stance	3.0 mm	4.0 mm
SAR <sub>be</sub> [%]	Without Correction A	Jgorithm	11.5	7.2
SAR <sub>be</sub> [%]	With Correction Algo	rithm	0.3	0.6
Sensor Offset				
Probe Tip to Se	ensor Center		2.0 mm	



ES3DV3 SN:3150

January 20, 2009

#### DASY - Parameters of Probe: ES3DV3 SN:3150

Sensitivity in Fre	Diode C	ompression <sup>B</sup>		
NormX	1.25 ± 10.1%	$\mu V/(V/m)^2$	DCP X	93 mV
NormY	1.26 ± 10.1%	$\mu V/(V/m)^2$	DCP Y	95 mV
NormZ	1.25 ± 10.1%	$\mu V/(V/m)^2$	DCP Z	94 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

#### Boundary Effect

TSL	900 MHz	Typical SAR gradient: 5 % per	mm

Sensor Center to Phantom Surface Distance		3.0 mm	4.0 mn
SAR <sub>be</sub> [%]	Without Correction Algorithm	9.9	6.5
SAR <sub>te</sub> [%]	With Correction Algorithm	0.8	0.4

TSL 1810 MHz Typical SAR gradient: 10 % per mm

Sensor Center to Phantom Surface Distance		3.0 mm	4.0 mm
SAR <sub>be</sub> [%]	Without Correction Algorithm	11.5	7.6
SAR <sub>te</sub> [%]	With Correction Algorithm	0.8	0.5

#### Sensor Offset

Probe Tip to Sensor Center

2.0 mm

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%.