



Appendix G - Analysis of Effective Frequency Interval of Probe

The probe calibrated frequency intervals are 900, 1750, 1950 and 2450 MHz for ET3DV6 sn1788 probe, and 900, 1810, 2300, 2600, 3500, 5200, 5300, 5500, 5600, 5800 MHz for EX3DV3 sn3514 probe, and the device test frequency intervals are 835, 1800 and 1900 MHz. Though the probe calibrated frequency intervals are not properly matched with the device test frequency intervals, the probe calibration report is valid and the probe is suitable for the SAR test on this device. The analysis is as below.

According to KDB450824, as measurements exceeding ± 50 MHz for the frequency > 300 MHz, should follow the additional steps based on the following conditions.

1. the actual tissue dielectric parameters used for the probe calibration are available
2. the nominal tissue dielectric parameters are specified for the probe calibration data

Because the nominal tissue dielectric parameters are specified in our probe calibration report, we will follow the condition 2 to verify its effectiveness.

The list of permittivity and conductivity at the calibrated centre frequency are as follow:

Frequency (MHz)	Type	Permittivity	Conductivity
900	Head	41.5	0.97
	Body	55.0	1.05
1750	Head	40.1	1.37
	Body	53.4	1.49
1810	Head	40.0	1.40
	Body	53.3	1.52
1950	Head	40.0	1.40
	Body	53.3	1.52



<For Probe ET3DV6 sn1788>

Conversion		Conversion	
Name: 900 (Head)	OK	Name: 900 (Body)	OK
X: Y: Z:	Cancel	X: Y: Z:	Cancel
Conversion factor: 6.55 6.55 6.55		Conversion factor: 6.34 6.34 6.34	
Alpha: 0.44 0.44 0.44		Alpha: 0.5 0.5 0.5	
Delta: 2.65 2.65 2.65		Delta: 2.48 2.48 2.48	
Frequency range: 800 to 1000 MHz	Calibrated for: 900 MHz	Frequency range: 800 to 1000 MHz	Calibrated for: 900 MHz
Permittivity range: 39.4 to 43.6	Calibrated for: 41.5	Permittivity range: 52.3 to 57.8	Calibrated for: 55
Conductivity range: 0.86 to 1.03 S/m	Calibrated for: 0.97 S/m	Conductivity range: 0.92 to 1.1 S/m	Calibrated for: 1.05 S/m

Conversion		Conversion	
Name: 1750 (Head)	OK	Name: 1750 (Body)	OK
X: Y: Z:	Cancel	X: Y: Z:	Cancel
Conversion factor: 5.59 5.59 5.59		Conversion factor: 4.87 4.87 4.87	
Alpha: 0.68 0.68 0.68		Alpha: 0.63 0.63 0.63	
Delta: 1.98 1.98 1.98		Delta: 2.33 2.33 2.33	
Frequency range: 1650 to 1850 MHz	Calibrated for: 1750 MHz	Frequency range: 1650 to 1850 MHz	Calibrated for: 1750 MHz
Permittivity range: 38.1 to 42.1	Calibrated for: 40.1	Permittivity range: 50.7 to 56.1	Calibrated for: 53.4
Conductivity range: 1.29 to 1.47 S/m	Calibrated for: 1.37 S/m	Conductivity range: 1.38 to 1.6 S/m	Calibrated for: 1.49 S/m

Conversion		Conversion	
Name: 1950 (Head)	OK	Name: 1950 (Body)	OK
X: Y: Z:	Cancel	X: Y: Z:	Cancel
Conversion factor: 5.13 5.13 5.13		Conversion factor: 4.73 4.73 4.73	
Alpha: 0.75 0.75 0.75		Alpha: 0.74 0.74 0.74	
Delta: 1.75 1.75 1.75		Delta: 1.99 1.99 1.99	
Frequency range: 1850 to 2050 MHz	Calibrated for: 1950 MHz	Frequency range: 1850 to 2050 MHz	Calibrated for: 1950 MHz
Permittivity range: 38 to 42	Calibrated for: 40	Permittivity range: 50.6 to 56	Calibrated for: 53.3
Conductivity range: 1.33 to 1.55 S/m	Calibrated for: 1.4 S/m	Conductivity range: 1.44 to 1.69 S/m	Calibrated for: 1.52 S/m



<For Probe EX3DV3 sn3514>

Conversion		Conversion	
Name: 900 (Head)	OK	Name: 900 (Body)	OK
X: 9.31	Y: 9.31	X: 9.41	Y: 9.41
Alpha: 0.45	0.45	Alpha: 0.42	0.42
Delta: 0.76	0.76	Delta: 0.76	0.76
Frequency range: 800 to 1000 MHz	Calibrated for: 900 MHz	Frequency range: 800 to 1000 MHz	Calibrated for: 900 MHz
Permittivity range: 39.4 to 43.6	Calibrated for: 41.5	Permittivity range: 52.3 to 57.8	Calibrated for: 55
Conductivity range: 0.86 to 1.03 S/m	Calibrated for: 0.97 S/m	Conductivity range: 0.92 to 1.1 S/m	Calibrated for: 1.05 S/m

Conversion		Conversion	
Name: 1810 (Head)	OK	Name: 1810 (Body)	OK
X: 8.16	Y: 8.16	X: 8.18	Y: 8.18
Alpha: 0.6	0.6	Alpha: 0.85	0.85
Delta: 0.63	0.63	Delta: 0.56	0.56
Frequency range: 1710 to 1910 MHz	Calibrated for: 1810 MHz	Frequency range: 1710 to 1910 MHz	Calibrated for: 1810 MHz
Permittivity range: 38 to 42	Calibrated for: 40	Permittivity range: 50.6 to 56	Calibrated for: 53.3
Conductivity range: 1.29 to 1.47 S/m	Calibrated for: 1.4 S/m	Conductivity range: 1.38 to 1.6 S/m	Calibrated for: 1.52 S/m

The list of target permittivity and conductivity are shown as follow, which is within the parameter range of the probe.

Frequency (MHz)	Type	Permittivity	Conductivity
835	Head	41.5	0.90
	Body	55.2	0.97
1800 & 1900	Head	40.0	1.40
	Body	53.3	1.52



The following parameters are declared in the probe calibration certificate on page 8:

<For Probe ET3DV6 sn1788>

f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.44	2.65	6.55 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.68	1.98	5.59 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.75	1.75	5.13 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.80	1.45	4.68 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.50	2.48	6.34 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.63	2.33	4.87 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.74	1.99	4.73 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.94	1.75	3.98 ± 11.0% (k=2)

^c The validity of ± 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.

Certificate No: ET3-1788_Sep08 Page 8 of 9



ET3DV6 SN:1788

September 23, 2008

DASY - Parameters of Probe: ET3DV6 SN:1788**Sensitivity in Free Space^A****Diode Compression^B**

NormX	1.73 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP X	95 mV
NormY	1.59 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP Y	98 mV
NormZ	1.72 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP Z	91 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		3.7 mm	4.7 mm
SAR _{be} [%]	Without Correction Algorithm	10.6	6.8
SAR _{be} [%]	With Correction Algorithm	0.8	0.3

TSL 1750 MHz Typical SAR gradient: 10 % per mm

Sensor Center to Phantom Surface Distance		3.7 mm	4.7 mm
SAR _{be} [%]	Without Correction Algorithm	8.8	4.9
SAR _{be} [%]	With Correction Algorithm	0.7	0.6

Sensor OffsetProbe Tip to Sensor Center **2.7 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%.

^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).^B Numerical linearization parameter: uncertainty not required.

<For Probe EX3DV3 sn3514>

f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.45	0.76	9.31 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.60	0.63	8.16 ± 11.0% (k=2)
2300	± 50 / ± 100	Head	39.4 ± 5%	1.71 ± 5%	0.53	0.63	7.78 ± 11.0% (k=2)
2600	± 50 / ± 100	Head	39.0 ± 5%	1.96 ± 5%	0.16	2.19	7.34 ± 11.0% (k=2)
3500	± 50 / ± 100	Head	37.9 ± 5%	2.91 ± 5%	0.50	0.86	6.89 ± 13.1% (k=2)
5200	± 50 / ± 100	Head	36.0 ± 5%	4.66 ± 5%	0.40	1.70	4.78 ± 13.1% (k=2)
5300	± 50 / ± 100	Head	35.9 ± 5%	4.76 ± 5%	0.40	1.70	4.40 ± 13.1% (k=2)
5500	± 50 / ± 100	Head	35.6 ± 5%	4.96 ± 5%	0.40	1.70	4.22 ± 13.1% (k=2)
5600	± 50 / ± 100	Head	35.5 ± 5%	5.07 ± 5%	0.40	1.70	4.13 ± 13.1% (k=2)
5800	± 50 / ± 100	Head	35.3 ± 5%	5.27 ± 5%	0.40	1.70	4.13 ± 13.1% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.42	0.76	9.41 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.85	0.56	8.18 ± 11.0% (k=2)
2300	± 50 / ± 100	Body	52.8 ± 5%	1.85 ± 5%	0.18	4.17	7.60 ± 11.0% (k=2)
2600	± 50 / ± 100	Body	52.5 ± 5%	2.16 ± 5%	0.34	1.14	7.20 ± 11.0% (k=2)
3500	± 50 / ± 100	Body	51.3 ± 5%	3.31 ± 5%	0.53	0.81	6.40 ± 13.1% (k=2)
5200	± 50 / ± 100	Body	49.0 ± 5%	5.30 ± 5%	0.45	1.75	4.29 ± 13.1% (k=2)
5300	± 50 / ± 100	Body	48.9 ± 5%	5.42 ± 5%	0.45	1.75	3.94 ± 13.1% (k=2)
5500	± 50 / ± 100	Body	48.6 ± 5%	5.65 ± 5%	0.45	1.75	3.88 ± 13.1% (k=2)
5600	± 50 / ± 100	Body	48.5 ± 5%	5.77 ± 5%	0.45	1.75	3.89 ± 13.1% (k=2)
5800	± 50 / ± 100	Body	48.2 ± 5%	6.00 ± 5%	0.45	1.75	3.85 ± 13.1% (k=2)

^c The validity of ± 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.

Certificate No: EX3-3514 Jan09

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EX3DV3 SN:3514

January 21, 2009

DASY - Parameters of Probe: EX3DV3 SN:3514

Sensitivity in Free Space^A

Diode Compression^B

NormX	0.66 ± 10.1%	$\mu V/(V/m)^2$	DCP X	91 mV
NormY	0.70 ± 10.1%	$\mu V/(V/m)^2$	DCP Y	94 mV
NormZ	0.60 ± 10.1%	$\mu V/(V/m)^2$	DCP Z	95 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	2.0 mm	3.0 mm
SAR _{be} [%] Without Correction Algorithm	7.7	4.4
SAR _{be} [%] With Correction Algorithm	0.8	0.3

TSL 1810 MHz Typical SAR gradient: 10 % per mm

Sensor Center to Phantom Surface Distance	2.0 mm	3.0 mm
SAR _{be} [%] Without Correction Algorithm	6.2	3.4
SAR _{be} [%] With Correction Algorithm	0.7	0.3

Sensor Offset

Probe Tip to Sensor Center 1.0 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%.

^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).

^B Numerical linearization parameter: uncertainty not required.



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

In this report, the measured SAR values are all below 10% of the SAR limit.

The measured fluid dielectric parameters for 835 MHz, 1800MHz and 1900 MHz, for SAR test were all within $\pm 5\%$ of the 835 MHz, 1800 MHz and 1900 MHz target value.

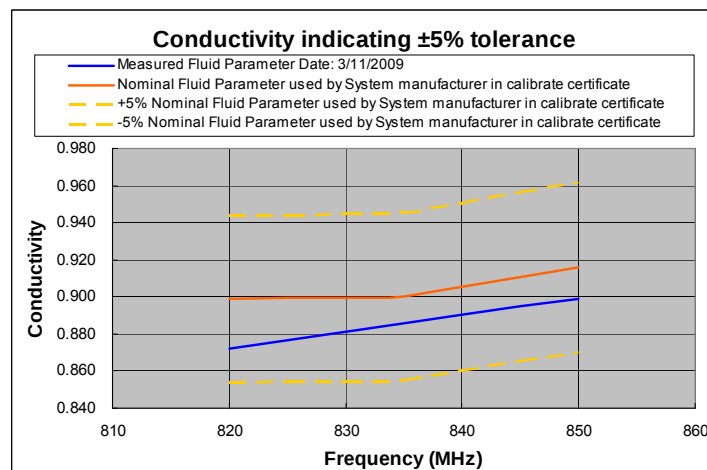
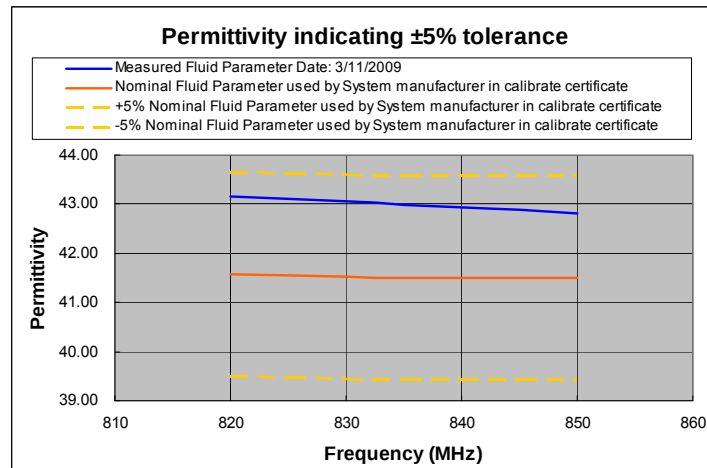
According to the following plots, the tissue dielectric parameter measured for routine measurements at 835 MHz body SAR, and 1800 MHz head and body SAR were less than the target ϵ_r , and higher than the target σ .

However, for 835 MHz head SAR, and 1900 MHz head and body SAR, the measured σ is not higher than the target σ for the whole frequency range. Therefore, the worst SAR was compensated with respect to $+5\%$ tolerance in ϵ_r , and -5% tolerance in σ to reduce SAR underestimation.



<For GSM850 Head SAR, Measurement Date: Mar. 11, 2009>

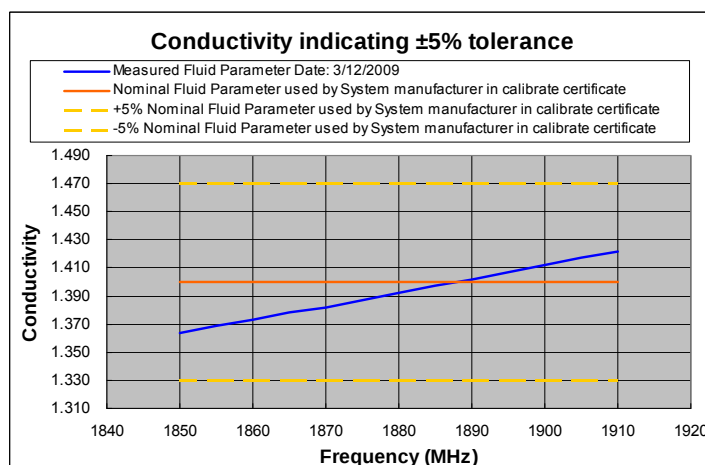
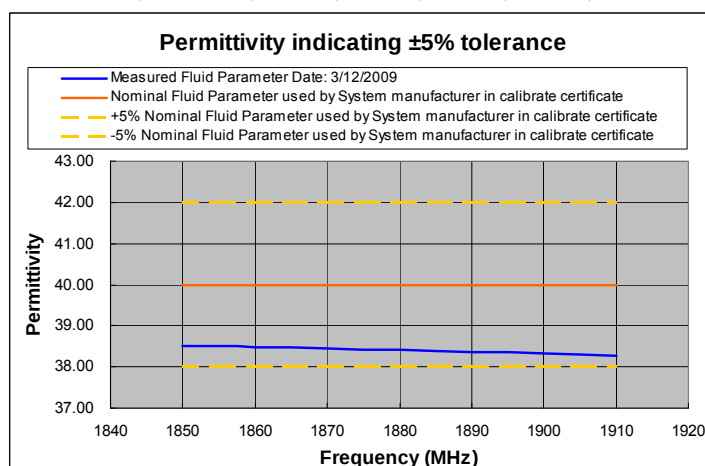
Frequency (MHz)	Measured Fluid Parameter Date: 3/11/2009		Nominal Fluid Parameter used by System manufacturer in calibrate certificate	
	ϵ_r	σ	ϵ_r	σ
820	43.17	0.872	41.58	0.90
825	43.11	0.877	41.55	0.90
830	43.05	0.881	41.53	0.90
835	42.99	0.886	41.50	0.90
840	42.93	0.890	41.50	0.91
845	42.88	0.895	41.50	0.91
850	42.82	0.899	41.50	0.92





<For GSM1900 and WCDMA Band II Head SAR, Measurement Date: Mar. 12, 2009>

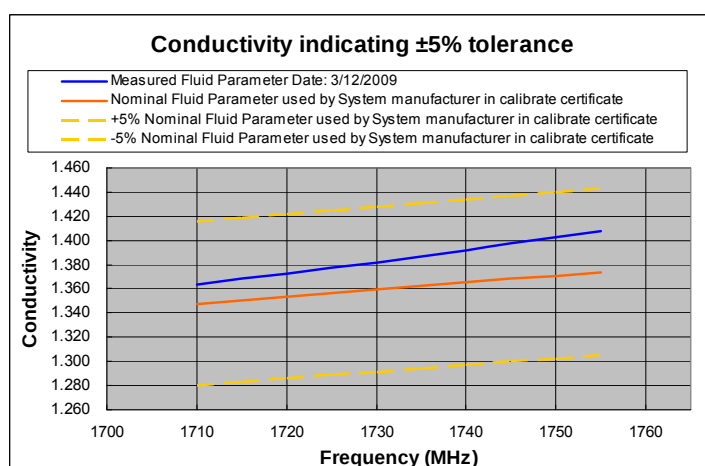
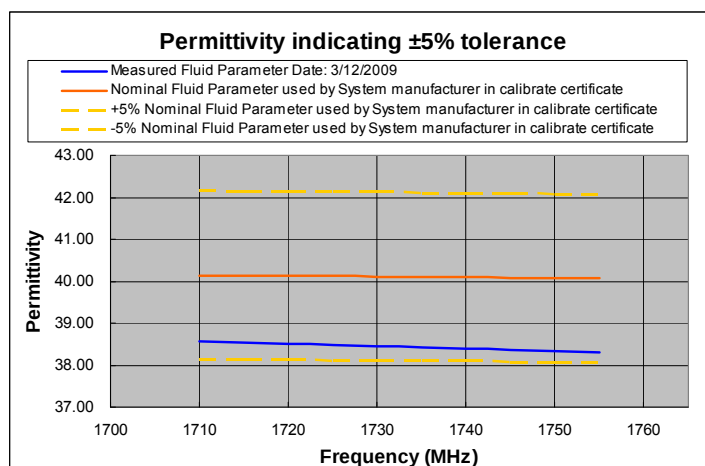
Frequency (MHz)	Measured Fluid Parameter Date: 3/12/2009		Nominal Fluid Parameter used by System manufacturer in calibrate certificate	
	ϵ_r	σ	ϵ_r	σ
1850	38.51	1.364	40.00	1.40
1855	38.50	1.369	40.00	1.40
1860	38.48	1.373	40.00	1.40
1865	38.47	1.378	40.00	1.40
1870	38.45	1.382	40.00	1.40
1875	38.43	1.387	40.00	1.40
1880	38.41	1.392	40.00	1.40
1885	38.39	1.397	40.00	1.40
1890	38.37	1.402	40.00	1.40
1895	38.35	1.407	40.00	1.40
1900	38.32	1.412	40.00	1.40
1905	38.29	1.417	40.00	1.40
1910	38.27	1.422	40.00	1.40





<For WCDMA Band IV Head SAR, Measurement Date: Mar. 12, 2009>

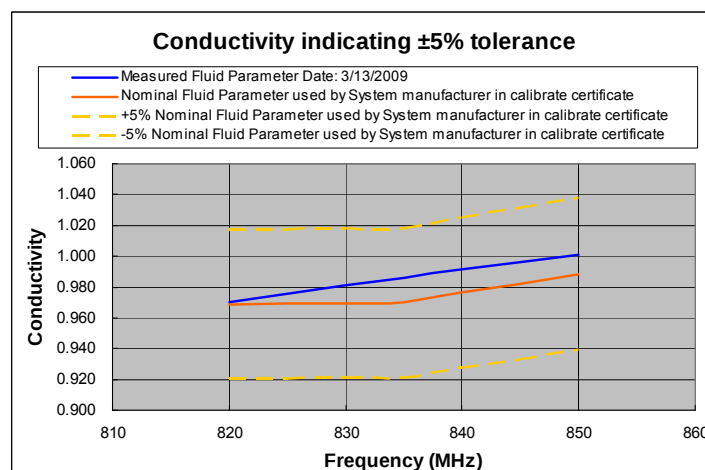
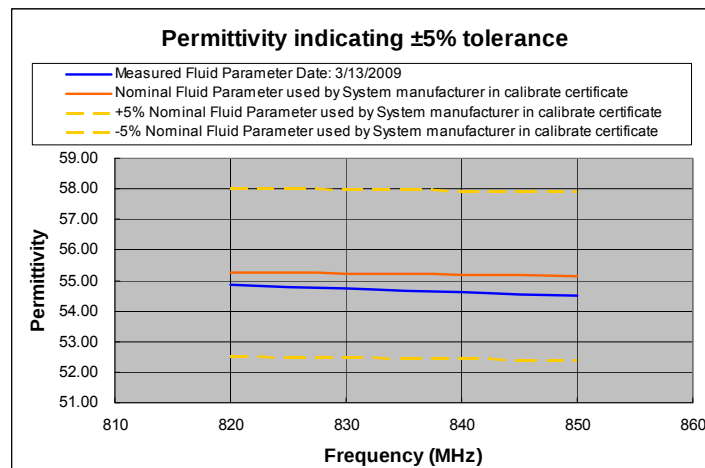
Frequency (MHz)	Measured Fluid Parameter Date: 3/12/2009		Nominal Fluid Parameter used by System manufacturer in calibrate certificate	
	ϵ_r	σ	ϵ_r	σ
1710	38.56	1.364	40.14	1.35
1715	38.54	1.369	40.13	1.35
1720	38.51	1.373	40.13	1.35
1725	38.48	1.378	40.12	1.36
1730	38.45	1.382	40.11	1.36
1735	38.42	1.387	40.10	1.36
1740	38.39	1.392	40.09	1.37
1745	38.37	1.398	40.09	1.37
1750	38.34	1.403	40.08	1.37
1755	38.31	1.408	40.07	1.37





<For GSM850 Body SAR, Measurement Date: Mar. 13, 2009>

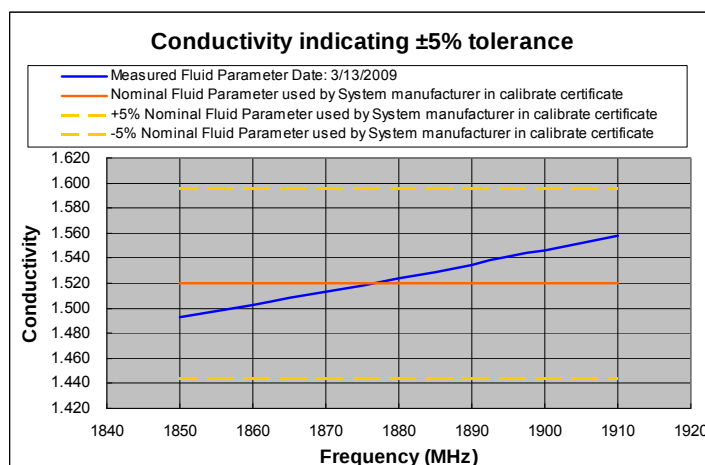
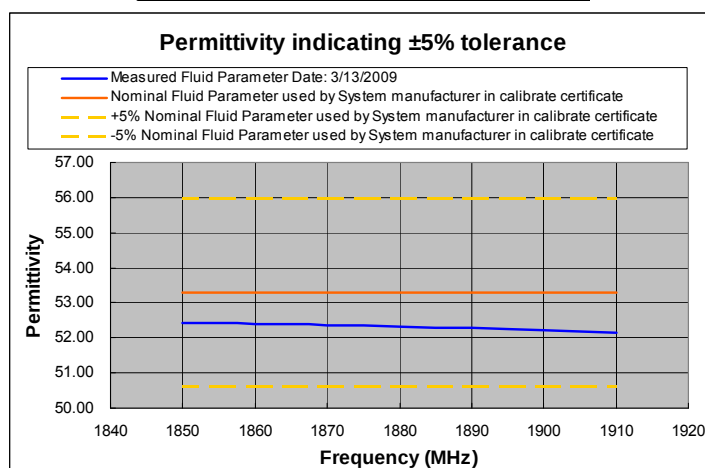
Frequency (MHz)	Measured Fluid Parameter Date: 3/13/2009		Nominal Fluid Parameter used by System manufacturer in calibrate certificate	
	ϵ_r	σ	ϵ_r	σ
820	54.85	0.971	55.26	0.97
825	54.79	0.976	55.24	0.97
830	54.75	0.981	55.22	0.97
835	54.68	0.986	55.20	0.97
840	54.61	0.991	55.18	0.98
845	54.56	0.996	55.17	0.98
850	54.52	1.001	55.15	0.99





<For GSM1900 Body SAR, Measurement Date: Mar. 13, 2009>

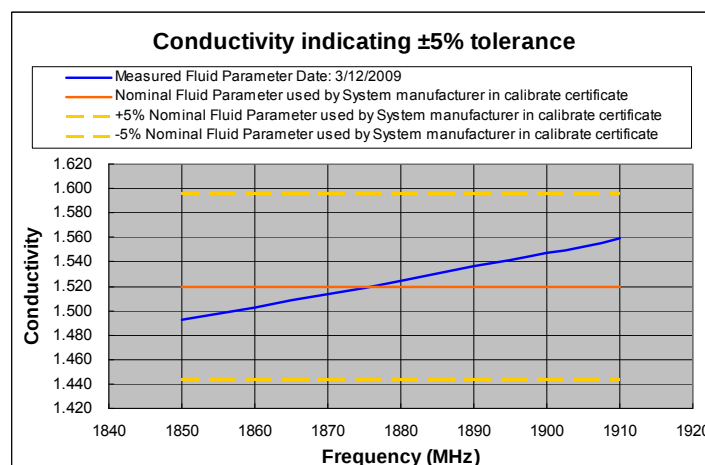
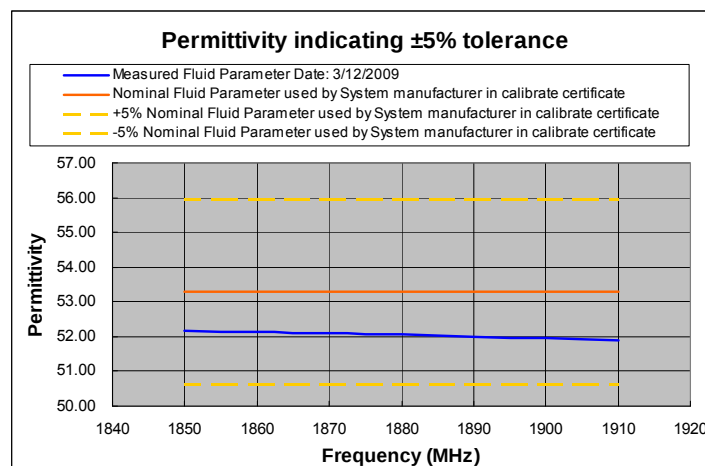
Frequency (MHz)	Measured Fluid Parameter Date: 3/13/2009		Nominal Fluid Parameter used by System manufacturer in calibrate certificate	
	ϵ_r	σ	ϵ_r	σ
1850	52.43	1.493	53.30	1.52
1855	52.42	1.498	53.30	1.52
1860	52.40	1.503	53.30	1.52
1865	52.38	1.508	53.30	1.52
1870	52.36	1.513	53.30	1.52
1875	52.34	1.518	53.30	1.52
1880	52.32	1.524	53.30	1.52
1885	52.29	1.529	53.30	1.52
1890	52.27	1.535	53.30	1.52
1895	52.24	1.541	53.30	1.52
1900	52.22	1.546	53.30	1.52
1905	52.19	1.552	53.30	1.52
1910	52.16	1.558	53.30	1.52





<For WCDMA Band II Body SAR, Measurement Date: Mar. 13, 2009>

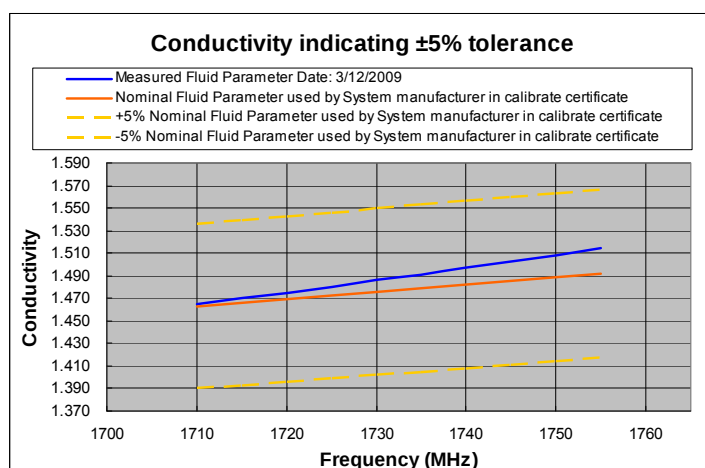
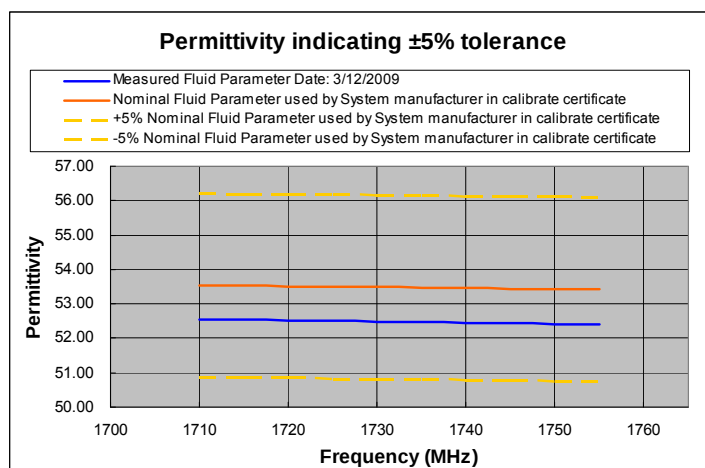
Frequency (MHz)	Measured Fluid Parameter Date: 3/12/2009		Nominal Fluid Parameter used by System manufacturer in calibrate certificate	
	ϵ_r	σ	ϵ_r	σ
1850	52.16	1.493	53.30	1.52
1855	52.15	1.498	53.30	1.52
1860	52.13	1.503	53.30	1.52
1865	52.11	1.509	53.30	1.52
1870	52.10	1.514	53.30	1.52
1875	52.07	1.519	53.30	1.52
1880	52.05	1.524	53.30	1.52
1885	52.02	1.530	53.30	1.52
1890	52.00	1.536	53.30	1.52
1895	51.97	1.541	53.30	1.52
1900	51.95	1.547	53.30	1.52
1905	51.92	1.552	53.30	1.52
1910	51.89	1.559	53.30	1.52





<For WCDMA Band IV Body SAR, Measurement Date: Mar. 12, 2009>

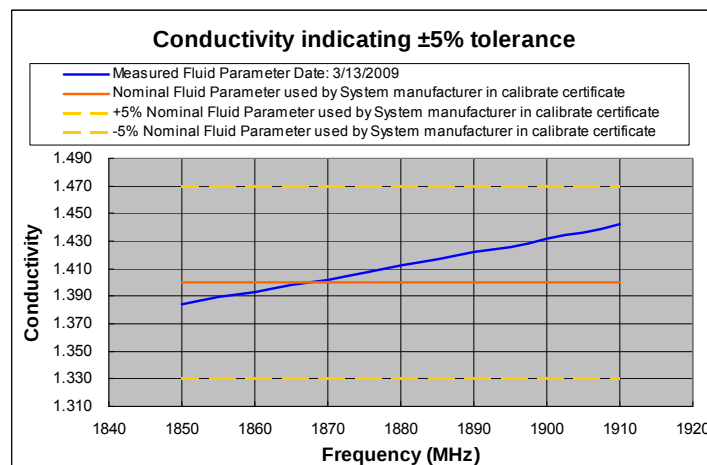
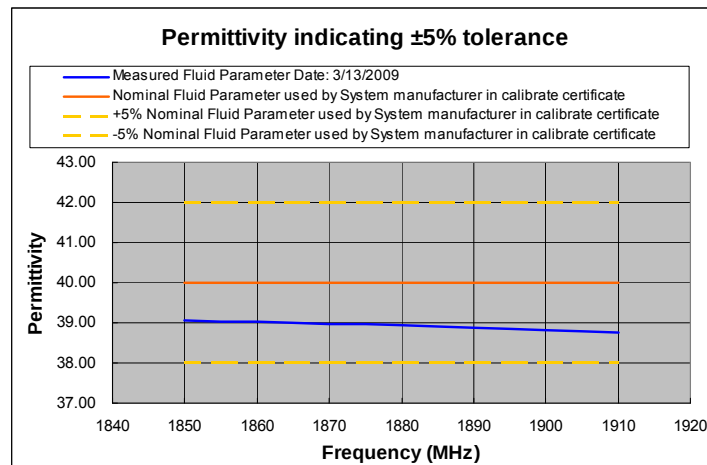
Frequency (MHz)	Measured Fluid Parameter Date: 3/12/2009		Nominal Fluid Parameter used by System manufacturer in calibrate certificate	
	ϵ_r	σ	ϵ_r	σ
1710	52.55	1.465	53.54	1.46
1715	52.53	1.470	53.52	1.47
1720	52.51	1.475	53.51	1.47
1725	52.50	1.480	53.50	1.47
1730	52.48	1.486	53.48	1.48
1735	52.46	1.491	53.47	1.48
1740	52.44	1.497	53.46	1.48
1745	52.43	1.503	53.44	1.49
1750	52.41	1.508	53.43	1.49
1755	52.40	1.514	53.42	1.49





<For Simultaneous SAR, Measurement Date: Mar. 13, 2009>

Frequency (MHz)	Measured Fluid Parameter Date: 3/13/2009		Nominal Fluid Parameter used by System manufacturer in calibrate certificate	
	ϵ_r	σ	ϵ_r	σ
1850	39.05	1.384	40.00	1.40
1855	39.03	1.389	40.00	1.40
1860	39.02	1.393	40.00	1.40
1865	39.00	1.398	40.00	1.40
1870	38.98	1.402	40.00	1.40
1875	38.96	1.407	40.00	1.40
1880	38.93	1.412	40.00	1.40
1885	38.91	1.417	40.00	1.40
1890	38.88	1.422	40.00	1.40
1895	38.85	1.426	40.00	1.40
1900	38.83	1.432	40.00	1.40
1905	38.80	1.436	40.00	1.40
1910	38.77	1.442	40.00	1.40





The list of compensated value for worst SAR is as follow.

Band	Mode	Position	Channel	SAR _{1g}		Limit	Result
GSM850	Head	Right Cheek	251	0.186		1.6	Pass
GSM1900	Head	Right Cheek	810	0.346		1.6	Pass
WCDMA Band II	Head	Right Cheek	9262	0.720		1.6	Pass
GSM1900	Body	Bottom with 1.5 cm Gap	512	0.737		1.6	Pass
WCDMA Band II	Body	Bottom with 1.5 cm Gap	9400	0.674		1.6	Pass
GSM1900	Head	Right Cheek	9262	0.699	0.715	1.6	Pass
802.11b			11	0.020			



<Compensated Value for GSM850 Head Worst SAR>

Test Laboratory: The name of your organization

Date: 2009/3/11

Right Cheek_GSM850 Ch251

DUT: 930301

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_850 Medium parameters used: $f = 849 \text{ MHz}$; $\sigma = 0.853 \text{ mho/m}$; $\epsilon_r = 45$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : 22.4 °C; Liquid Temperature : 21.4 °C

DASY4 Configuration:

- Probe: EX3DV3 - SN3514; ConvF(9.31, 9.31, 9.31); Calibrated: 2009/1/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2008/11/12
- Phantom: SAM - Front; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Ch251/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.200 mW/g

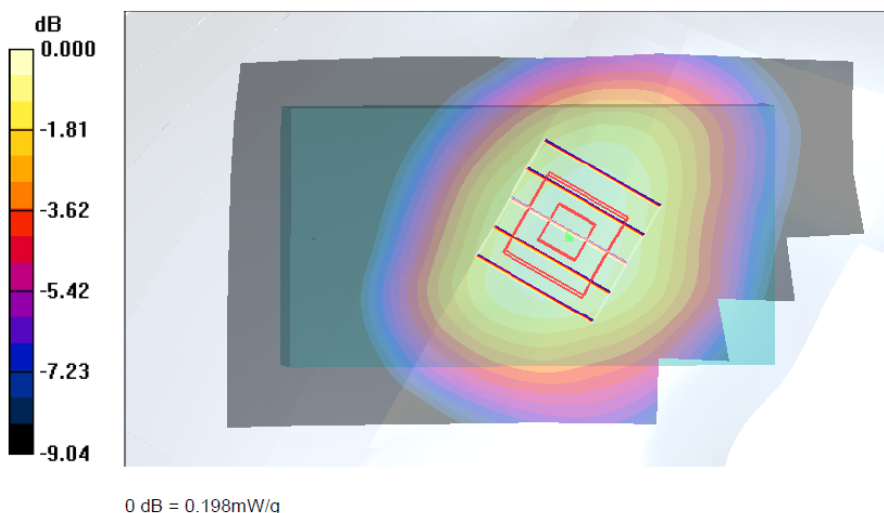
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.75 V/m; Power Drift = -0.050 dB

Peak SAR (extrapolated) = 0.228 W/kg

SAR(1 g) = 0.186 mW/g; SAR(10 g) = 0.139 mW/g

Maximum value of SAR (measured) = 0.198 mW/g





<Compensated Value for GSM1900 Head Worst SAR>

Test Laboratory: The name of your organization

Date: 2009/3/12

Right Cheek_GSM1900 Ch810

DUT: 930301

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_1900 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.35$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C; Liquid Temperature : 21.6 °C

DASY4 Configuration:

- Probe: EX3DV3 - SN3514; ConvF(8.16, 8.16, 8.16); Calibrated: 2009/1/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2008/11/12
- Phantom: SAM-Back; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Ch810/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.368 mW/g

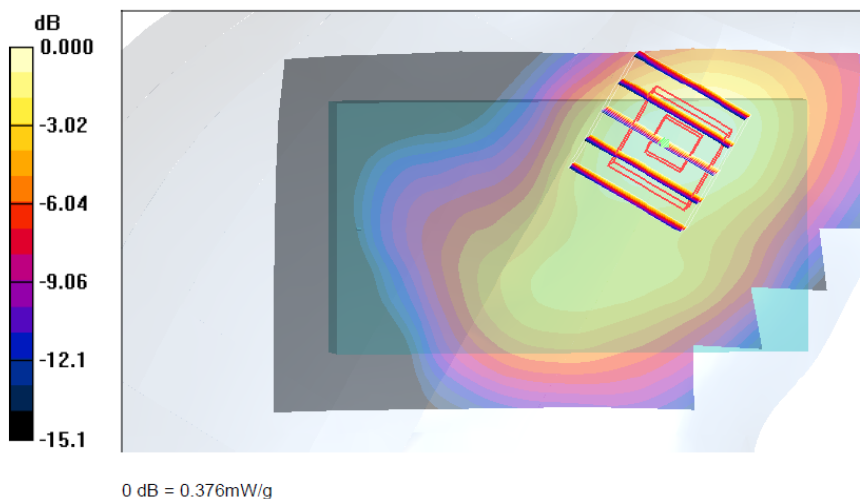
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.15 V/m; Power Drift = 0.115 dB

Peak SAR (extrapolated) = 0.553 W/kg

SAR(1 g) = 0.346 mW/g; SAR(10 g) = 0.210 mW/g

Maximum value of SAR (measured) = 0.376 mW/g



<Compensated Value for WCDMA Band II Head Worst SAR>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab

Date: 2009/3/12

Right Cheek_WCDMA1900 Ch9262

DUT: 930301

Communication System: WCDMA; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: HSL_1900 Medium parameters used: $f = 1852.4 \text{ MHz}$; $\sigma = 1.3 \text{ mho/m}$; $\epsilon_r = 40.4$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : 22.6 °C; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: EX3DV3 - SN3514; ConvF(8.16, 8.16, 8.16); Calibrated: 2009/1/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2008/11/12
- Phantom: SAM-Back; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Ch9262/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.787 mW/g

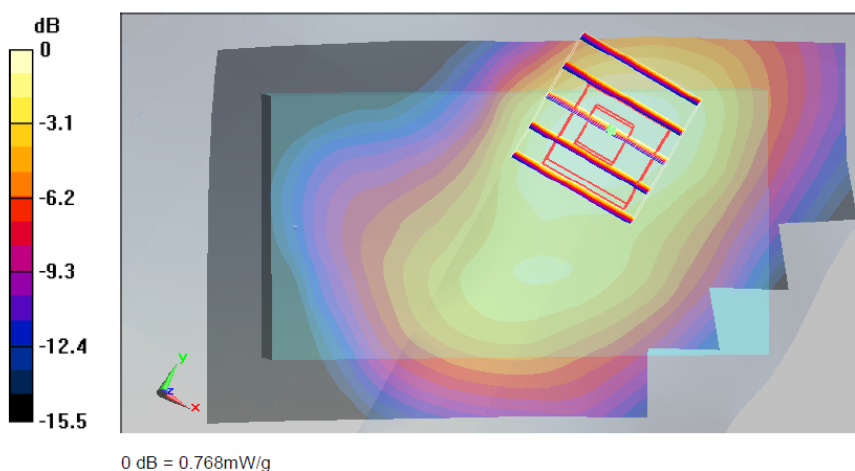
Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.15 V/m; Power Drift = 0.117 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.720 mW/g; SAR(10 g) = 0.438 mW/g

Maximum value of SAR (measured) = 0.768 mW/g





<Compensated Value for GSM1900 Body Worst SAR>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab

Date: 2009/3/13

Body_GSM1900 Ch512_Bottom with 1.5 cm Gap_GPRS10

DUT: 930301

Communication System: PCS; Frequency: 1850.2 MHz; Duty Cycle: 1:4

Medium: MSL_1900 Medium parameters used: $f = 1850.2 \text{ MHz}$; $\sigma = 1.42 \text{ mho/m}$; $\epsilon_r = 55.1$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : 22.1 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ET3DV6 - SN1788; ConvF(4.73, 4.73, 4.73); Calibrated: 2008/9/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2008/11/12
- Phantom: SAM - Front; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Ch512/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.774 mW/g

Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.9 V/m; Power Drift = 0.181 dB

Peak SAR (extrapolated) = 1.35 W/kg

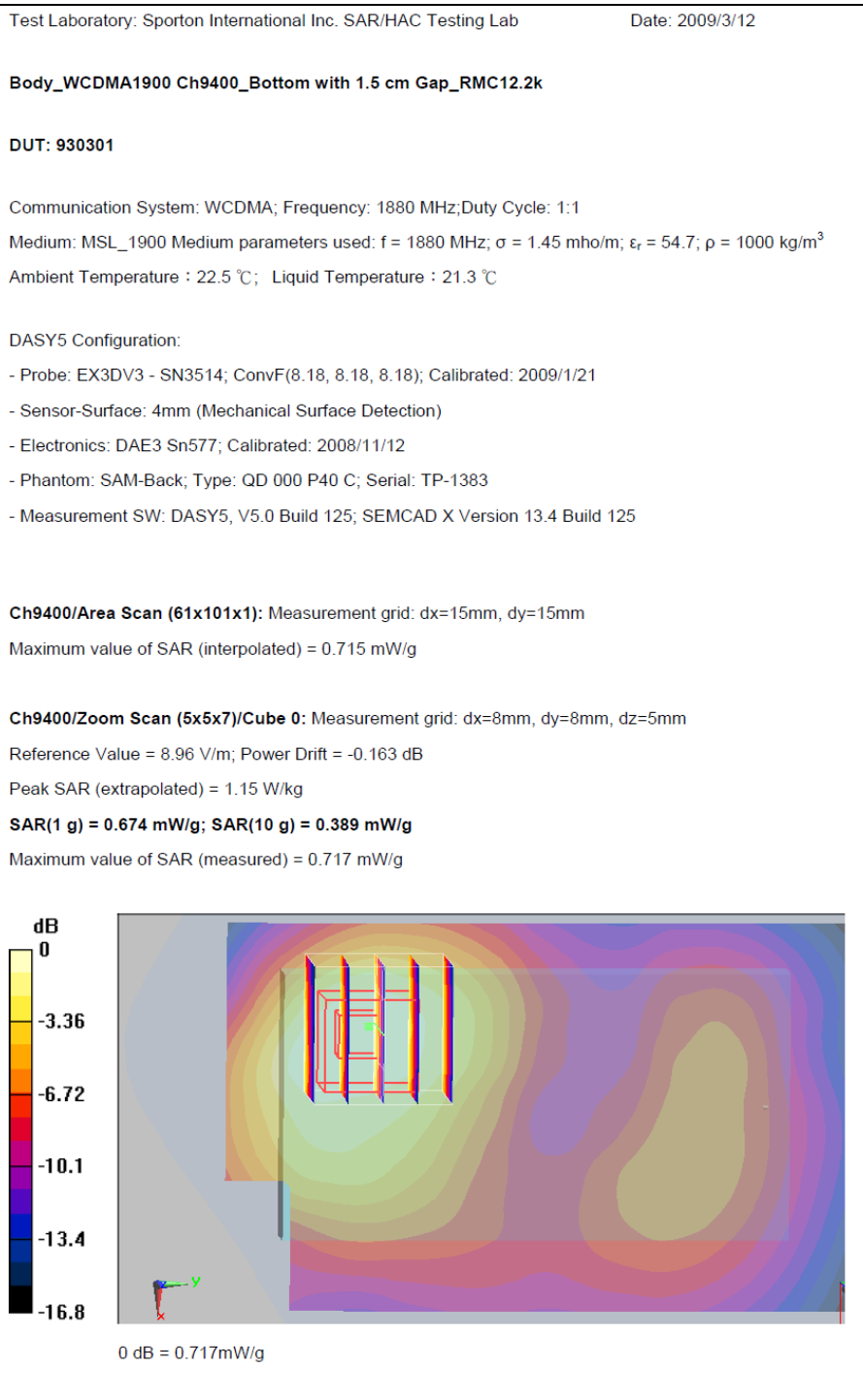
SAR(1 g) = 0.737 mW/g; SAR(10 g) = 0.415 mW/g

Maximum value of SAR (measured) = 0.782 mW/g





<Compensated Value for WCDMA Band II Body Worst SAR>





<Compensated Value for Simultaneous SAR>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab

Date: 2009/3/13

Right Cheek_WCDMA1900 Ch9262_Volume Scan

DUT: 930301

Communication System: WCDMA; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: HSL_1900 Medium parameters used (interpolated): $f = 1852.4 \text{ MHz}$; $\sigma = 1.32 \text{ mho/m}$; $\epsilon_r = 41$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC)

- Probe: ET3DV6 - SN1788; ConvF(5.13, 5.13, 5.13); Calibrated: 2008/9/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2008/11/12
- Phantom: SAM - Front; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 125

Right Cheek_802.11b Ch11_Volume Scan

Communication System: 802.11b ; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: HSL_2450 Medium parameters used: $f = 2462 \text{ MHz}$; $\sigma = 1.84 \text{ mho/m}$; $\epsilon_r = 39.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC)

- Probe: ET3DV6 - SN1788; ConvF(4.68, 4.68, 4.68); Calibrated: 2008/9/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2008/11/12
- Phantom: SAM-Back; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY5, V5.0 Build 125

Multi Band Result:

SAR(1 g) = 0.715 mW/g; SAR(10 g) = 0.440 mW/g

Maximum value of SAR (measured) = 0.756 mW/g

