

## SAR TARGET VALUE FOR 150MHZ SYSTEM VERIFICATION

### 1.1. SAR TARGET VALUE FOR 150MHZ HEAD TISSUE

#### 1.1.1. Established SAR Target Value Measurements

5 measurements, each reconfigured separately, were performed for 300MHz dipole using the 150MHz SAR probe calibration point and 150MHz head tissue-equivalent dielectric parameters and with the dipole transmitting at 300MHz.

Parameter Items	Measurements				
	No. 1	No. 2	No. 3	No. 4	No. 5
Room temperature [°C]	23	23	23.6	23.6	23.3
Room humidity [%]	40	40	40	40	40
Simulated tissue temperature [°C]	20.3	20.3	21.7	21.7	20.6
Tissue calibration frequency [MHz]	150	150	150	150	150
Tissue Type	Brain	Brain	Brain	Brain	Brain
Target dielectric constant	52.3	52.3	52.3	52.3	52.3
Target conductivity [S/m]	0.76	0.76	0.76	0.76	0.76
Measured dielectric constant	53.1 (1.5%)	53.1 (1.5%)	52.9 (1.1%)	52.9 (1.1%)	53.1 (1.4%)
Measured conductivity [S/m]	0.76 (0.2%)	0.76 (0.2%)	0.77 (1.8%)	0.77 (1.8%)	0.76 (-0.5%)
Measured SAR 1g [W/kg] (Forward Power = 398mW)	0.912	0.916	0.888	0.886	0.909

#### 1.1.2. SAR Target Value and its Variation

According to the requirement of KDB 865664 D01 SAR measurement 100MHz to 6GHz v01, the SAR target must be with a coefficient of variation <2 %; that is, standard deviation divided by mean < 0.02.

Established SAR Target Value	
Mean SAR 1g [W/kg] (Forward Power = 398mW)	<b>0.902</b>
Standard Deviation [%]	<b>1.262</b>
Coefficient of Variation [%]	<b>1.399</b>

### ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4

Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: [vic@ultratech-labs.com](mailto:vic@ultratech-labs.com), Website: <http://www.ultratech-labs.com>

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

**1.1.3. Additional supported measurement**

SAR system verification at 300MHz supports the above tested results for the new SAR target value establishment.

<b>300 MHz System Verification</b>	
<b>Room temperature</b> [°C]	23
<b>Room humidity</b> [%]	40
<b>Simulated tissue temperature</b> [°C]	20.3
<b>Tissue calibration frequency</b> [MHz]	300
<b>Tissue Type</b>	Brain
<b>Target dielectric constant</b>	45.3
<b>Target conductivity</b> [S/m]	0.87
<b>Measured dielectric constant</b>	46.5 (2.7%)
<b>Measured conductivity</b> [S/m]	0.88 (1.3%)
<b>Target SAR 1g</b> [W/kg] (Forward Power = 398mW)	1.17
<b>Measured SAR 1g</b> [W/kg] (Forward Power = 398mW)	1.16 (-0.9%)

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## 1.2. SAR TARGET VALUE FOR 150MHZ BODY TISSUE

### 1.2.1. Established SAR Target Value Measurements

5 measurements, each reconfigured separately, were performed for 300MHz dipole using the 150MHz SAR probe calibration point and 150MHz body tissue-equivalent dielectric parameters and with the dipole transmitting at 300MHz.

Parameter Items	Measurements				
	No. 1	No. 2	No. 3	No. 4	No. 5
Room temperature [°C]	23	23.2	23.2	23.5	23.5
Room humidity [%]	40	40	40	40	40
Simulated tissue temperature [°C]	20.3	20.8	20.8	21.5	21.5
Tissue calibration frequency [MHz]	150	150	150	150	150
Tissue Type	Muscle	Muscle	Muscle	Muscle	Muscle
Target dielectric constant	61.9	61.9	61.9	61.9	61.9
Target conductivity [S/m]	0.8	0.8	0.8	0.8	0.8
Measured dielectric constant	61.3 (-1.0%)	61.1 (-1.3%)	61.1 (-1.3%)	60.6 (-2.1%)	60.6 (-2.1%)
Measured conductivity [S/m]	0.79 (-0.8%)	0.78 (-2.0%)	0.78 (-2.0%)	0.81 (1.6%)	0.81 (1.6%)
Measured SAR 1g [W/kg] (Forward Power = 398mW)	0.95	0.938	0.921	0.941	0.944

### 1.2.2. SAR Target Value and its Variation

According to the requirement of KDB 865664 D01 SAR measurement 100MHz to 6GHz v01, the SAR target value must be with a coefficient of variation <2 %; that is, standard deviation divided by mean < 0.02.

Established SAR Target Value	
Mean SAR 1g [W/kg] (Forward Power = 398mW)	<b>0.939</b>
Standard Deviation [%]	<b>0.974</b>
Coefficient of Variation [%]	<b>1.038</b>

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**1.2.3. Additional supported measurement**

SAR system verification at 300MHz supports the above tested results for the new SAR target value establishment.

<b>300 MHz System Verification</b>	
<b>Room temperature</b> [°C]	23
<b>Room humidity</b> [%]	40
<b>Simulated tissue temperature</b> [°C]	20.1
<b>Tissue calibration frequency</b> [MHz]	300
<b>Tissue Type</b>	Brain
<b>Target dielectric constant</b>	45.3
<b>Target conductivity</b> [S/m]	0.87
<b>Measured dielectric constant</b>	46.5 (2.6%)
<b>Measured conductivity</b> [S/m]	0.88 (1.2%)
<b>Target SAR 1g</b> [W/kg] (Forward Power = 398mW)	1.17
<b>Measured SAR 1g</b> [W/kg] (Forward Power = 398mW)	1.15 (-1.7%)

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