

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)	0.902
Standard Deviation [%]	1.262
Coefficient of Variation [%]	1.399

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- 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.

300 MHz System Verification	
Room temperature [°C]	23
Room humidity [%]	40
Simulated tissue temperature [°C]	20.3
Tissue calibration frequency [MHz]	300
Tissue Type	Brain
Target dielectric constant	45.3
Target conductivity [S/m]	0.87
Measured dielectric constant	46.5 (2.7%)
Measured conductivity [S/m]	0.88 (1.3%)
Target SAR 1g [W/kg] (Forward Power = 398mW)	1.17
Measured SAR 1g [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)	0.939
Standard Deviation [%]	0.974
Coefficient of Variation [%]	1.038

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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.

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

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