

Appendix E. Tissue & System Verification

The measuring results for tissue simulating liquid and system check are shown as below.

Note:

1. For Section 4.3, the dielectric properties of the tissue simulating liquid have been measured within 24 hours before the SAR testing and within ± 10 % of the target values. Liquid temperature during the SAR testing has kept within ± 2 °C.
2. For Section 4.4, The SAR measurement system was validated according to procedures in KDB 865664 D01. The validation status in tabulated summary is as below.
3. For Section 4.5, Comparing to the reference SAR value provided by SPEAG in dipole calibration certificate, the deviation of system check results is within its specification of 10 %. The result indicates the system check can meet the variation criterion and the plots please refer to Appendix A of this report.

Tissue Verification

Plot No.	Date	Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)
T01	Jul. 20, 2021	2402	23.2	1.817	39.336	1.757	39.285	3.21	0.09
T01	Jul. 20, 2021	2441	23.2	1.853	39.206	1.791	39.218	3.54	0.02
T01	Jul. 20, 2021	2480	23.2	1.892	39.081	1.833	39.162	3.40	-0.30
T02	Jul. 21, 2021	2402	23.2	1.835	38.521	1.757	39.285	4.25	-1.98
T02	Jul. 21, 2021	2441	23.2	1.873	38.387	1.791	39.218	4.65	-2.08
T02	Jul. 21, 2021	2480	23.2	1.913	38.252	1.833	39.162	4.51	-2.42

Tissue Verification									Validation for CW			Validation for Modulation			Date	System Validation					Note		
Plot No.	Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ε _r)	Targeted Conductivity (σ)	Targeted Permittivity (ε _r)	Deviation Conductivity (σ)	Deviation Permittivity (ε _r)	Sensitivity Range	Probe Linearity	Probe Isotropy	Modulation Type	Duty Factor	PAR		Frequency (MHz)	Targeted 1g SAR (W/kg)	Measured 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)	Dipole S/N	Probe S/N	DAE S/N
S01	2450	23.2	1.862	39.176	1.8	39.2	3.44	-0.06	Pass	Pass	Pass	OFDM	N/A	Pass	Jul. 20, 2021	2450	52.70	2.67	53.40	1.33	835	7554	915
S02	2450	23.2	1.882	38.359	1.8	39.2	4.56	-2.15	Pass	Pass	Pass	OFDM	N/A	Pass	Jul. 21, 2021	2450	52.70	2.69	53.80	2.09	835	7555	1589