

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 $\pm 10\%$ of the target values. Liquid temperature during the SAR testing has kept within $\pm 2^\circ\text{C}$.
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									Validation for CW			Validation for Modulation			Date	System Validation					Note		
Plot No.	Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (εr)	Targeted Conductivity (σ)	Targeted Permittivity (εr)	Deviation Conductivity (σ)	Deviation Permittivity (εr)	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	1900	23.3	1.459	40.615	1.4	40	4.21	1.54	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	1900	40.40	2.08	41.60	2.97	5d036	7472	579
S02	835	23.3	0.918	42.388	0.9	41.5	2.00	2.14	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	835	9.52	0.522	10.44	9.66	4d121	7472	579
S03	1900	23.2	1.448	38.879	1.4	40	3.43	-2.80	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 23, 2021	1900	40.40	1.83	36.60	-9.41	5d036	7554	1590
S04	1900	23.2	1.448	38.879	1.4	40	3.43	-2.80	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 23, 2021	1900	40.40	1.83	36.60	-9.41	5d036	7554	1590
S05	1750	23.3	1.343	41.026	1.37	40.1	-1.97	2.31	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	1750	36.00	1.67	33.40	-7.22	1055	7472	579
S06	835	23.3	0.918	42.388	0.9	41.5	2.00	2.14	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	835	9.52	0.522	10.44	9.66	4d121	7472	579
S07	2600	23.2	2.045	38.329	1.96	39	4.34	-1.72	Pass	Pass	Pass	N/A	N/A	N/A	May. 04, 2021	2600	55.50	2.86	57.20	3.06	1020	7472	579
S08	2600	23.2	2.045	38.329	1.96	39	4.34	-1.72	Pass	Pass	Pass	N/A	N/A	N/A	May. 04, 2021	2600	55.50	2.86	57.20	3.06	1020	7472	579
S09	750	23.3	0.886	43.446	0.89	41.9	-0.45	3.69	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	750	8.48	0.392	7.84	-7.55	1013	7472	579
S10	750	23.3	0.886	43.446	0.89	41.9	-0.45	3.69	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	750	8.48	0.392	7.84	-7.55	1013	7472	579
S11	750	23.3	0.886	43.446	0.89	41.9	-0.45	3.69	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	750	8.48	0.392	7.84	-7.55	1013	7472	579
S12	750	23.3	0.886	43.446	0.89	41.9	-0.45	3.69	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	750	8.48	0.392	7.84	-7.55	1013	7472	579
S13	1900	23.3	1.459	40.615	1.4	40	4.21	1.54	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	1900	40.40	2.08	41.60	2.97	5d036	7472	579
S14	2300	23.2	1.728	39.432	1.67	39.5	3.47	-0.17	Pass	Pass	Pass	N/A	N/A	N/A	May. 04, 2021	2300	49.20	2.38	47.60	-3.25	1004	7472	579
S15	2600	23.2	2.045	38.329	1.96	39	4.34	-1.72	Pass	Pass	Pass	N/A	N/A	N/A	May. 04, 2021	2600	55.50	2.86	57.20	3.06	1020	7472	579
S16	2600	23.2	2.045	38.329	1.96	39	4.34	-1.72	Pass	Pass	Pass	N/A	N/A	N/A	May. 04, 2021	2600	55.50	2.86	57.20	3.06	1020	7472	579
S18	1750	23.3	1.343	41.026	1.37	40.1	-1.97	2.31	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	1750	36.00	1.67	33.40	-7.22	1055	7472	579
S19	1750	23.2	1.322	39.285	1.37	40.1	-3.50	-2.03	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 23, 2021	1750	36.00	1.82	36.40	1.11	1055	7554	1590
S20	750	23.2	0.893	43.558	0.89	41.9	0.34	3.96	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	750	8.48	0.383	7.66	-9.67	1013	7472	579
S21	1900	23.2	1.459	38.582	1.4	40	4.21	-3.55	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 27, 2021	1900	40.40	2.06	41.20	1.98	5d036	7472	579
S22	835	23.3	0.918	42.388	0.9	41.5	2.00	2.14	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	835	9.52	0.522	10.44	9.66	4d121	7472	579
S23	835	23.3	0.918	42.388	0.9	41.5	2.00	2.14	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	835	9.52	0.522	10.44	9.66	4d121	7472	579
S24	1900	23.2	1.459	38.582	1.4	40	4.21	-3.55	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 27, 2021	1900	40.40	2.06	41.20	1.98	5d036	7472	579
S25	2600	23.2	2.045	38.329	1.96	39	4.34	-1.72	Pass	Pass	Pass	N/A	N/A	N/A	May. 04, 2021	2600	55.50	2.86	57.20	3.06	1020	7472	579
S26	1750	23.1	1.325	39.061	1.37	40.1	-3.28	-2.59	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	1750	36.00	1.91	38.20	6.11	1055	7472	579
S27	1750	23.1	1.325	39.061	1.37	40.1	-3.28	-2.59	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 26, 2021	1750	36.00	1.91	38.20	6.11	1055	7472	579
S28	750	23.2	0.893	43.552	0.89	41.9	0.34	3.94	Pass	Pass	Pass	N/A	N/A	N/A	Apr. 27, 2021	750	8.48	0.383	7.66	-9.67	1013	7472	579
S29a	3700	23.1	3.132	36.832	3.12	37.7	0.38	-2.30	Pass	Pass	Pass	N/A	N/A	N/A	May. 04, 2021	3700	65.90	3.38	67.60	2.58	1017	7472	579
S29b	3900	23.1	3.23	36.851	3.32	37.5	-2.71	-1.73	Pass	Pass	Pass	N/A	N/A	N/A	May. 04, 2021	3900	70.60	3.4	68.00	-3.68	1020	7472	579
S30	2450	23.2	1.848	37.854	1.8	39.2	2.67	-3.43	Pass	Pass	Pass	OFDM	N/A	Pass	Apr. 27, 2021	2450	51.60	2.73	54.60	5.81	737	7472	579
S31	5250	23.2	4.641	37.485	4.71	35.9	-1.46	4.42	Pass	Pass	Pass	OFDM	N/A	Pass	Apr. 27, 2021	5250	77.50	3.71	74.20	-4.26	1145	7472	579
S32	5750	23.2	5.162	36.787	5.22	35.4	-1.11	3.92	Pass	Pass	Pass	OFDM	N/A	Pass	Apr. 27, 2021	5750	77.50	3.55	71.00	-8.39	1145	7472	579