Table 13.11: LTE Band 30 SAR Values

Power Level	RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test Position	Distance	Note	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
B1	Body	LTE Band 30	27710	2310.0	1RB24	Front	0mm	\	\	22.69	23.5	0.008	0.01	0.005	0.01	0.05
B1	Body	LTE Band 30	27710	2310.0	25RB0	Front	0mm	\	\	21.76	22.5	0.007	0.01	0.044	0.05	0.09
B1	Body	LTE Band 30	27710	2310.0	1RB24	Front-printer	0mm	\	\	22.69	23.5	0.032	0.04	0.020	0.02	0.08
B1	Body	LTE Band 30	27710	2310.0	25RB0	Front-printer	0mm	\	\	21.76	22.5	0.024	0.03	0.013	0.02	0.03
C1	Body	LTE Band 30	27710	2310.0	1RB24	Rear	0mm	\	11	15.78	16.5	0.938	1.11	0.510	0.60	0.07
C1	Body	LTE Band 30	27710	2310.0	25RB0	Rear	0mm	\	\	14.55	15.5	0.642	0.80	0.337	0.42	0.03
B1	Body	LTE Band 30	27710	2310.0	1RB24	Left	0mm	\	\	22.69	23.5	0.009	0.01	0.004	0.00	0.05
B1	Body	LTE Band 30	27710	2310.0	25RB0	Left	0mm	\	\	21.76	22.5	0.002	0.00	0.001	0.00	0.07
B1	Body	LTE Band 30	27710	2310.0	1RB24	Right	0mm	\	\	22.69	23.5	0.008	0.01	0.005	0.01	0.03
B1	Body	LTE Band 30	27710	2310.0	25RB0	Right	0mm	\	\	21.76	22.5	0.006	0.01	0.004	0.00	0.15
C1	Body	LTE Band 30	27710	2310.0	1RB24	Top	0mm	\	\	15.78	16.5	0.157	0.19	0.084	0.10	-0.12
C1	Body	LTE Band 30	27710	2310.0	25RB0	Top	0mm	\	\	14.55	15.5	0.117	0.15	0.062	0.08	0.19
B1	Body	LTE Band 30	27710	2310.0	1RB24	Bottom	0mm	\	\	22.69	23.5	0.004	0.00	0.003	0.00	0.12
B1	Body	LTE Band 30	27710	2310.0	25RB0	Bottom	0mm	\	\	21.76	22.5	0.003	0.00	0.001	0.00	0.06
C1	Body	LTE Band 30	27710	2310.0	50RB	Rear	0mm	\	\	14.50	15.5	0.642	0.81	0.337	0.42	-0.09
B1	Body	LTE Band 30	27710	2310.0	1RB24	Rear	24mm	\	\	22.69	23.5	0.435	0.52	0.254	0.31	0.07
B1	Body	LTE Band 30	27710	2310.0	25RB0	Rear	24mm	\	\	21.76	22.5	0.343	0.41	0.199	0.24	0.02
B1	Body	LTE Band 30	27710	2310.0	1RB24	Top	19mm	\	\	22.69	23.5	0.335	0.40	0.203	0.24	0.01
B1	Body	LTE Band 30	27710	2310.0	25RB0	Top	19mm	\	\	21.76	22.5	0.269	0.32	0.162	0.19	0.07
C1	Body	LTE Band 30	27710	2310.0	1RB24	Rear	0mm	C1	\	15.78	16.5	0.858	1.01	0.429	0.51	0.02
C1	Body	LTE Band 30	27710	2310.0	1RB24	Rear	0mm	C2	\	15.78	16.5	0.853	1.01	0.420	0.50	0.10

Table 13.12: LTE Band 66 SAR Values

Power Level	RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test Position	Distance	Note	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
B1	Body	LTE Band 66	132572	1770.0	1RB0	Front	0mm	\	\	23.80	24.5	0.074	0.09	0.042	0.05	0.06
B1	Body	LTE Band 66	132572	1770.0	50RB0	Front	0mm	\	\	22.68	23.5	0.053	0.06	0.034	0.04	0.09
B1	Body	LTE Band 66	132572	1770.0	1RB0	Front-printer	0mm	\	\	23.80	24.5	0.150	0.18	0.883	1.04	0.06
B1	Body	LTE Band 66	132572	1770.0	50RB0	Front-printer	0mm	\	\	22.68	23.5	0.123	0.15	0.073	0.09	0.04
C1	Body	LTE Band 66	132572	1770.0	1RB0	Rear	0mm	\	\	18.74	19.5	1.010	1.20	0.537	0.64	0.13
C1	Body	LTE Band 66	132572	1770.0	50RB0	Rear	0mm	\	\	17.52	18.5	0.657	0.82	0.386	0.48	-0.14
B1	Body	LTE Band 66	132572	1770.0	1RB0	Left	0mm	\	\	23.80	24.5	0.028	0.03	0.016	0.02	0.06
B1	Body	LTE Band 66	132572	1770.0	50RB0	Left	0mm	\	\	22.68	23.5	0.022	0.03	0.013	0.02	0.02
B1	Body	LTE Band 66	132572	1770.0	1RB0	Right	0mm	\	\	23.80	24.5	0.053	0.06	0.033	0.04	0.01
B1	Body	LTE Band 66	132572	1770.0	50RB0	Right	0mm	\	\	22.68	23.5	0.040	0.05	0.024	0.03	0.06
C1	Body	LTE Band 66	132572	1770.0	1RB0	Top	0mm	\	\	18.74	19.5	0.061	0.07	0.038	0.04	0.05
C1	Body	LTE Band 66	132572	1770.0	50RB0	Top	0mm	\	\	17.52	18.5	0.048	0.06	0.030	0.04	-0.07
B1	Body	LTE Band 66	132572	1770.0	1RB0	Bottom	0mm	\	\	23.80	24.5	0.029	0.03	0.018	0.02	0.03
B1	Body	LTE Band 66	132572	1770.0	50RB0	Bottom	0mm	\	\	22.68	23.5	0.021	0.03	0.014	0.02	0.09
C1	Body	LTE Band 66	132322	1745.0	1RB0	Rear	0mm	\	12	18.73	19.5	1.090	1.30	0.580	0.69	0.01
C1	Body	LTE Band 66	132072	1720.0	1RB0	Rear	0mm	\	\	18.65	19.5	0.944	1.15	0.508	0.62	0.07
C1	Body	LTE Band 66	132322	1745.0	50RB0	Rear	0mm	\	\	17.47	18.5	0.722	0.92	0.393	0.50	0.09
C1	Body	LTE Band 66	132072	1720.0	50RB0	Rear	0mm	\	\	17.50	18.5	0.664	0.84	0.370	0.47	-0.06
C1	Body	LTE Band 66	132322	1745.0	100RB	Rear	0mm	\	\	17.62	18.5	0.695	0.85	0.387	0.47	-0.05
B1	Body	LTE Band 66	132572	1770.0	1RB0	Rear	24mm	\	\	23.80	24.5	0.365	0.43	0.235	0.28	0.17
B1	Body	LTE Band 66	132572	1770.0	50RB0	Rear	24mm	\	\	22.68	23.5	0.310	0.37	0.198	0.24	0.04
B1	Body	LTE Band 66	132572	1770.0	1RB0	Top	19mm	\	\	23.80	24.5	0.084	0.10	0.054	0.06	0.06
B1	Body	LTE Band 66	132572	1770.0	50RB0	Top	19mm	\	\	22.68	23.5	0.069	0.08	0.047	0.06	0.08
C1	Body	LTE Band 66	132322	1745.0	1RB0	Rear	0mm	C1	\	18.73	19.5	0.967	1.15	0.506	0.60	0.00
C1	Body	LTE Band 66	132322	1745.0	1RB0	Rear	0mm	C2	\	18.73	19.5	0.892	1.07	0.480	0.57	-0.11

Note: SAR for LTE Band 4 is covered by LTE Band 66 due to similar frequency range, same maximum tune-up limit and same channel bandwidth.

Table 13.13: LTE Band 71 SAR Values

Power Level	RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test Position	Distance	Note	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
B1	Body	LTE Band 71	133372	688.0	1RB50	Front	0mm	\	\	23.97	25.0	0.163	**0.21**	0.111	**0.14**	0.02
B1	Body	LTE Band 71	133372	688.0	50RB25	Front	0mm	\	\	22.91	24.0	0.202	**0.26**	0.134	**0.17**	0.07
B1	Body	LTE Band 71	133372	688.0	1RB50	Front-printer	0mm	\	\	23.97	25.0	0.957	**1.21**	0.552	**0.70**	0.03
B1	Body	LTE Band 71	133372	688.0	50RB25	Front-printer	0mm	\	\	22.91	24.0	0.762	**0.98**	0.422	**0.54**	0.12
C1	Body	LTE Band 71	133372	688.0	1RB50	Rear	0mm	\	**13**	22.98	24.0	**1.020**	1.29	0.623	**0.79**	0.08
C1	Body	LTE Band 71	133372	688.0	50RB25	Rear	0mm	\	\	21.93	23.0	0.719	**0.92**	0.487	**0.62**	-0.15
B1	Body	LTE Band 71	133372	688.0	1RB50	Left	0mm	\	\	23.97	25.0	0.008	**0.01**	0.005	**0.01**	0.08
B1	Body	LTE Band 71	133372	688.0	50RB25	Left	0mm	\	\	22.91	24.0	0.006	**0.01**	0.004	**0.01**	0.01
B1	Body	LTE Band 71	133372	688.0	1RB50	Right	0mm	\	\	23.97	25.0	0.015	**0.02**	0.012	**0.01**	0.04
B1	Body	LTE Band 71	133372	688.0	50RB25	Right	0mm	\	\	22.91	24.0	0.017	**0.02**	0.012	**0.01**	0.03
C1	Body	LTE Band 71	133372	688.0	1RB50	Top	0mm	\	\	22.98	24.0	0.159	**0.20**	0.109	**0.14**	0.07
C1	Body	LTE Band 71	133372	688.0	50RB25	Top	0mm	\	\	21.93	23.0	0.124	**0.16**	0.085	**0.11**	0.02
B1	Body	LTE Band 71	133372	688.0	1RB50	Bottom	0mm	\	\	23.97	25.0	0.008	**0.01**	0.006	**0.01**	0.02
B1	Body	LTE Band 71	133372	688.0	50RB25	Bottom	0mm	\	\	22.91	24.0	0.007	**0.01**	0.005	**0.01**	0.11
C1	Body	LTE Band 71	133322	680.5	1RB50	Rear	0mm	\	\	22.97	24.0	0.981	**1.24**	0.592	**0.75**	-0.18
C1	Body	LTE Band 71	133222	673.0	1RB50	Rear	0mm	\	\	22.91	24.0	0.840	**1.08**	0.501	**0.64**	-0.16
C1	Body	LTE Band 71	133322	680.5	50RB25	Rear	0mm	\	\	21.85	23.0	0.732	**0.95**	0.481	**0.63**	-0.10
C1	Body	LTE Band 71	133222	673.0	50RB25	Rear	0mm	\	\	21.91	23.0	0.594	**0.76**	0.401	**0.52**	0.08
C1	Body	LTE Band 71	133372	688.0	100RB	Rear	0mm	\	\	21.87	23.0	0.755	**0.98**	0.497	**0.64**	-0.07
B1	Body	LTE Band 71	133372	688.0	1RB50	Rear	24mm	\	\	23.97	25.0	0.120	**0.15**	0.080	**0.10**	0.08
B1	Body	LTE Band 71	133372	688.0	50RB25	Rear	24mm	\	\	22.91	24.0	0.093	**0.12**	0.061	**0.08**	0.11
B1	Body	LTE Band 71	133372	688.0	1RB50	Top	19mm	\	\	23.97	25.0	0.081	**0.10**	0.054	**0.07**	0.07
B1	Body	LTE Band 71	133372	688.0	50RB25	Top	19mm	\	\	22.91	24.0	0.069	**0.09**	0.047	**0.06**	0.06
C1	Body	LTE Band 71	133372	688.0	1RB50	Rear	0mm	C1	\	22.98	24.0	0.589	**0.74**	0.317	**0.40**	0.07
C1	Body	LTE Band 71	133372	688.0	1RB50	Rear	0mm	C2	\	22.98	24.0	0.353	**0.45**	0.196	**0.25**	0.13

Table 13.14: LTE Band 41 SAR Values

Power Level	RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test Position	Distance	Note	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
B1	Body	LTE Band 41	39750	2506.0	1RB50	Front	0mm	\	\	23.03	24.0	0.020	**0.02**	0.115	**0.14**	0.03
B1	Body	LTE Band 41	39750	2506.0	50RB0	Front	0mm	\	\	21.95	23.0	0.015	**0.02**	0.009	**0.01**	0.12
B1	Body	LTE Band 41	39750	2506.0	1RB50	Front-printer	0mm	\	\	23.03	24.0	0.129	**0.16**	0.061	**0.08**	0.03
B1	Body	LTE Band 41	39750	2506.0	50RB0	Front-printer	0mm	\	\	21.95	23.0	0.113	**0.14**	0.053	**0.07**	0.07
C1	Body	LTE Band 41	39750	2506.0	1RB50	Rear	0mm	\	\	17.34	18.0	0.894	**1.04**	0.449	**0.52**	0.06
C1	Body	LTE Band 41	39750	2506.0	50RB0	Rear	0mm	\	\	16.13	17.0	0.427	**0.52**	0.207	**0.25**	0.14
B1	Body	LTE Band 41	39750	2506.0	1RB50	Left	0mm	\	\	23.03	24.0	0.014	**0.02**	0.009	**0.01**	0.04
B1	Body	LTE Band 41	39750	2506.0	50RB0	Left	0mm	\	\	21.95	23.0	0.012	**0.02**	0.006	**0.01**	0.03
B1	Body	LTE Band 41	39750	2506.0	1RB50	Right	0mm	\	\	23.03	24.0	0.017	**0.02**	0.010	**0.01**	0.06
B1	Body	LTE Band 41	39750	2506.0	50RB0	Right	0mm	\	\	21.95	23.0	0.011	**0.01**	0.007	**0.01**	0.09
C1	Body	LTE Band 41	39750	2506.0	1RB50	Top	0mm	\	\	17.34	18.0	0.182	**0.21**	0.093	**0.11**	0.08
C1	Body	LTE Band 41	39750	2506.0	50RB0	Top	0mm	\	\	16.13	17.0	0.143	**0.17**	0.072	**0.09**	-0.06
B1	Body	LTE Band 41	39750	2506.0	1RB50	Bottom	0mm	\	\	23.03	24.0	0.006	**0.01**	0.003	**0.00**	0.07
B1	Body	LTE Band 41	39750	2506.0	50RB0	Bottom	0mm	\	\	21.95	23.0	0.004	**0.01**	0.003	**0.00**	0.02
C1	Body	LTE Band 41	41490	2680.0	1RB50	Rear	0mm	\	\	16.63	18.0	0.733	**1.00**	0.359	**0.49**	-0.11
C1	Body	LTE Band 41	41055	2636.5	1RB50	Rear	0mm	\	\	17.19	18.0	0.790	**0.95**	0.394	**0.47**	0.05
C1	Body	LTE Band 41	40620	2593.0	1RB50	Rear	0mm	\	\	17.21	18.0	0.910	**1.09**	0.454	**0.54**	-0.13
C1	Body	LTE Band 41	40185	2549.5	1RB50	Rear	0mm	\	\	17.16	18.0	0.896	**1.09**	0.446	**0.54**	0.17
C1	Body	LTE Band 41	41490	2680.0	50RB0	Rear	0mm	\	\	15.63	17.0	0.483	**0.66**	0.233	**0.32**	0.03
C1	Body	LTE Band 41	41055	2636.5	50RB0	Rear	0mm	\	\	16.05	17.0	0.562	**0.70**	0.271	**0.34**	0.09
C1	Body	LTE Band 41	40620	2593.0	50RB0	Rear	0mm	\	\	16.12	17.0	0.635	**0.78**	0.305	**0.37**	-0.14
C1	Body	LTE Band 41	40185	2549.5	50RB0	Rear	0mm	\	\	16.00	17.0	0.658	**0.83**	0.314	**0.40**	0.14
C1	Body	LTE Band 41	40185	2549.5	100RB	Rear	0mm	\	\	16.02	17.0	0.672	**0.84**	0.324	**0.41**	-0.17
B1	Body	LTE Band 41	39750	2506.0	1RB50	Rear	24mm	\	\	23.03	24.0	0.392	**0.49**	0.223	**0.28**	0.02
B1	Body	LTE Band 41	39750	2506.0	50RB0	Rear	24mm	\	\	21.95	23.0	0.307	**0.39**	0.174	**0.22**	0.08
B1	Body	LTE Band 41	39750	2506.0	1RB50	Top	19mm	\	\	23.03	24.0	0.234	**0.29**	0.137	**0.17**	0.09
B1	Body	LTE Band 41	39750	2506.0	50RB0	Top	19mm	\	\	21.95	23.0	0.183	**0.23**	0.107	**0.14**	0.04
C1	Body	LTE Band 41	40620	2593.0	1RB50	Rear	0mm	C1	**14**	17.21	18.0	**0.966**	1.16	0.462	**0.55**	-0.07
C1	Body	LTE Band 41	40620	2593.0	1RB50	Rear	0mm	C2	\	17.21	18.0	0.883	**1.06**	0.422	**0.51**	-0.02

Note: SAR for LTE Band 38 is covered by LTE Band 41 due to similar frequency range, same maximum tune-up limit and same channel bandwidth.

Table 13.15: Bluetooth SAR Values

RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test Position	Distance	Note	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
Body	Bluetooth	78	2480.0	GFSK	Front	0mm	\	\	10.52	11.5	<0.01	**<0.01**	<0.01	**<0.01**	/
Body	Bluetooth	78	2480.0	GFSK	Front-printer	0mm	\	\	10.52	11.5	<0.01	**<0.01**	<0.01	**<0.01**	/
Body	Bluetooth	78	2480.0	GFSK	Rear	0mm	\	\	10.52	11.5	<0.01	**<0.01**	<0.01	**<0.01**	/
Body	Bluetooth	78	2480.0	GFSK	Left	0mm	\	\	10.52	11.5	<0.01	**<0.01**	<0.01	**<0.01**	/
Body	Bluetooth	78	2480.0	GFSK	Right	0mm	\	\	10.52	11.5	<0.01	**<0.01**	<0.01	**<0.01**	/
Body	Bluetooth	78	2480.0	GFSK	Bottom	0mm	\	\	10.52	11.5	<0.01	**<0.01**	<0.01	**<0.01**	/
Body	Bluetooth	78	2480.0	GFSK	Top	0mm	\	\	10.52	11.5	<0.01	**<0.01**	<0.01	**<0.01**	/
Body	Bluetooth	78	2480.0	GFSK	Bottom	0mm	\	\	10.52	11.5	<0.01	**<0.01**	<0.01	**<0.01**	/
Body	Bluetooth	78	2480.0	GFSK	Rear	0mm	C1	\	10.52	11.5	<0.01	**<0.01**	<0.01	**<0.01**	/
Body	Bluetooth	78	2480.0	GFSK	Rear	0mm	C2	\	10.52	11.5	<0.01	**<0.01**	<0.01	**<0.01**	/

13.3. WLAN Evaluation for 2.4GHz

According to the KDB248227 D01, SAR is measured for 2.4GHz 802.11b DSSS using the initial test position procedure.

Table 13.16: WLAN 2.4GHz SAR Values

RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test Position	Distance	Note	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
Body	WLAN 2.4GHz	11	2462.0	802.11b	Front	0mm	\	\	15.76	16.5	0.047	**0.06**	0.022	**0.03**	0.13
Body	WLAN 2.4GHz	11	2462.0	802.11b	Front-printer	0mm	\	\	15.76	16.5	0.044	**0.05**	0.022	**0.03**	0.05
Body	WLAN 2.4GHz	11	2462.0	802.11b	Rear	0mm	\	**15**	15.76	16.5	**0.048**	0.06	0.023	**0.03**	0.06
Body	WLAN 2.4GHz	11	2462.0	802.11b	Left	0mm	\	\	15.76	16.5	0.047	**0.06**	0.021	**0.03**	0.08
Body	WLAN 2.4GHz	11	2462.0	802.11b	Right	0mm	\	\	15.76	16.5	0.006	**0.01**	0.004	**0.00**	0.02
Body	WLAN 2.4GHz	11	2462.0	802.11b	Top	0mm	\	\	15.76	16.5	0.036	**0.04**	0.017	**0.02**	0.04
Body	WLAN 2.4GHz	11	2462.0	802.11b	Bottom	0mm	\	\	15.76	16.5	0.001	**0.00**	0.001	**0.00**	0.07
Body	WLAN 2.4GHz	11	2462.0	802.11b	Rear	0mm	C1	\	15.76	16.5	0.036	**0.04**	0.020	**0.02**	-0.03
Body	WLAN 2.4GHz	11	2462.0	802.11b	Rear	0mm	C2	\	15.76	16.5	0.036	**0.04**	0.020	**0.02**	0.16

Note: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

WLAN 2.4GHzSAR Values - 802.11b (Scaled Reported SAR)

Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
Ch.	MHz					
11	2462.0	Rear	100%	100%	0.06	**0.06**

SAR is not required for OFDM because the 802.11b adjusted SAR ≤ 1.2 W/kg.

13.4. WLAN Evaluation for 5GHz

Table 13.17: WLAN 5GHz SAR Values

RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test Position	Distance	Note	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
Body	U-NII-2A	64	5320.0	802.11a	Front	0mm	\	\	14.01	15.0	0.039	**0.05**	0.015	**0.02**	0.03
Body	U-NII-2A	64	5320.0	802.11a	Front-printer	0mm	\	\	14.01	15.0	0.038	**0.05**	0.014	**0.02**	-0.05
Body	U-NII-2A	64	5320.0	802.11a	Rear	0mm	\	**16**	14.01	15.0	**0.142**	**0.18**	0.064	**0.08**	0.03
Body	U-NII-2A	64	5320.0	802.11a	Left	0mm	\	\	14.01	15.0	0.031	**0.04**	0.012	**0.01**	0.07
Body	U-NII-2A	64	5320.0	802.11a	Right	0mm	\	\	14.01	15.0	0.005	**0.01**	0.001	**0.00**	0.05
Body	U-NII-2A	64	5320.0	802.11a	Top	0mm	\	\	14.01	15.0	0.004	**0.01**	0.001	**0.00**	0.08
Body	U-NII-2A	64	5320.0	802.11a	Bottom	0mm	\	\	14.01	15.0	0.016	**0.02**	0.006	**0.01**	0.09
Body	U-NII-2A	64	5320.0	802.11a	Rear	0mm	C1	\	14.01	15.0	0.140	**0.18**	0.057	**0.07**	-0.06
Body	U-NII-2A	64	5320.0	802.11a	Rear	0mm	C2	\	14.01	15.0	0.082	**0.10**	0.030	**0.04**	0.08
Body	U-NII-2C	100	5500.0	802.11a	Front	0mm	\	\	14.85	16.0	0.026	**0.03**	0.010	**0.01**	0.04
Body	U-NII-2C	100	5500.0	802.11a	Front-printer	0mm	\	\	14.85	16.0	0.027	**0.04**	0.018	**0.02**	0.06
Body	U-NII-2C	100	5500.0	802.11a	Rear	0mm	\	\	14.85	16.0	0.120	**0.16**	0.054	**0.07**	-0.12
Body	U-NII-2C	100	5500.0	802.11a	Left	0mm	\	\	14.85	16.0	0.045	**0.06**	0.017	**0.02**	0.03
Body	U-NII-2C	100	5500.0	802.11a	Right	0mm	\	\	14.85	16.0	0.008	**0.01**	0.003	**0.00**	0.04
Body	U-NII-2C	100	5500.0	802.11a	Top	0mm	\	\	14.85	16.0	0.006	**0.01**	0.003	**0.00**	0.09
Body	U-NII-2C	100	5500.0	802.11a	Bottom	0mm	\	\	14.85	16.0	0.015	**0.02**	0.006	**0.01**	0.05
Body	U-NII-3	155	5775.0	802.11ac80	Front	0mm	\	\	9.84	11.0	0.016	**0.02**	0.006	**0.01**	0.01
Body	U-NII-3	155	5775.0	802.11ac80	Front-printer	0mm	\	\	9.84	11.0	0.015	**0.02**	0.006	**0.01**	-0.18
Body	U-NII-3	155	5775.0	802.11ac80	Rear	0mm	\	\	9.84	11.0	0.033	**0.04**	0.015	**0.02**	0.01
Body	U-NII-3	155	5775.0	802.11ac80	Left	0mm	\	\	9.84	11.0	0.026	**0.03**	0.009	**0.01**	0.03
Body	U-NII-3	155	5775.0	802.11ac80	Right	0mm	\	\	9.84	11.0	0.009	**0.01**	0.005	**0.01**	0.06
Body	U-NII-3	155	5775.0	802.11ac80	Top	0mm	\	\	9.84	11.0	0.008	**0.01**	0.002	**0.00**	0.08
Body	U-NII-3	155	5775.0	802.11ac80	Bottom	0mm	\	\	9.84	11.0	0.004	**0.01**	0.002	**0.00**	0.02

Note:

1. U-NII-1 and U-NII-2A bands have the same specified maximum output and tolerance; SAR is measured for U-NII-2A band first. Adjusted SAR of U-NII-2A band is ≤ 1.2W/kg, SAR is not required for U-NII-1 band.
2. For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

WLAN 5GHz SAR Values - 802.11a (Scaled Reported SAR)

Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
Ch.	MHz					
64	5320.0	Rear	100%	100%	0.18	**0.18**

14. SAR Measurement Variability

SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium.

The following procedures are applied to determine if repeated measurements are required.

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.

2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.

3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

Table 14.1: SAR Measurement Variability for Body - GSM850

Frequency		Test Position	Original	1st Repeated	Ratio	2nd Repeated
Ch.	MHz		SAR (W/kg)	SAR (W/kg)		SAR (W/kg)
251	848.8	Rear	0.983	0.964	1.02	/

Table 14.2: SAR Measurement Variability for Body - WCDMA Band 2

Frequency		Test Position	Original	1st Repeated	Ratio	2nd Repeated
Ch.	MHz		SAR (W/kg)	SAR (W/kg)		SAR (W/kg)
9400	1880.0	Rear	0.991	0.957	1.04	/

Table 14.3: SAR Measurement Variability for Body - WCDMA Band 4

Frequency		Test Position	Original	1st Repeated	Ratio	2nd Repeated
Ch.	MHz		SAR (W/kg)	SAR (W/kg)		SAR (W/kg)
1513	1752.6	Rear	0.956	0.929	1.03	/

Table 14.4: SAR Measurement Variability for Body - WCDMA Band 5

Frequency		Test Position	Original	1st Repeated	Ratio	2nd Repeated
Ch.	MHz		SAR (W/kg)	SAR (W/kg)		SAR (W/kg)
4233	846.6	Rear	0.916	0.878	1.04	/

Table 14.5: SAR Measurement Variability for Body - LTE Band 7

Frequency		Test Position	Original	1st Repeated	Ratio	2nd Repeated
Ch.	MHz		SAR (W/kg)	SAR (W/kg)		SAR (W/kg)
20850	2510.0	Rear	1.090	1.030	1.06	/

Table 14.6: SAR Measurement Variability for Body - LTE Band 12

Frequency		Test Position	Original	1st Repeated	Ratio	2nd Repeated
Ch.	MHz		SAR (W/kg)	SAR (W/kg)		SAR (W/kg)
23095	707.5	Rear	0.983	0.945	1.04	/

Table 14.7: SAR Measurement Variability for Body - LTE Band 14

Frequency		Test Position	Original	1st Repeated	Ratio	2nd Repeated
Ch.	MHz		SAR (W/kg)	SAR (W/kg)		SAR (W/kg)
23330	793.0	Rear	0.919	0.884	1.04	/

Table 14.8: SAR Measurement Variability for Body - LTE Band 25

Frequency		Test Position	Original	1st Repeated	Ratio	2nd Repeated
Ch.	MHz		SAR (W/kg)	SAR (W/kg)		SAR (W/kg)
26140	1860.0	Rear	0.937	0.913	1.03	/

Table 14.9: SAR Measurement Variability for Body - LTE Band 26

Frequency		Test Position	Original	1st Repeated	Ratio	2nd Repeated
Ch.	MHz		SAR (W/kg)	SAR (W/kg)		SAR (W/kg)
26965	841.5	Rear	1.080	1.040	1.04	/

Table 14.10: SAR Measurement Variability for Body - LTE Band 30

Frequency		Test Position	Original	1st Repeated	Ratio	2nd Repeated
Ch.	MHz		SAR (W/kg)	SAR (W/kg)		SAR (W/kg)
27710	2310.0	Rear	0.938	0.921	1.02	/

Table 14.11: SAR Measurement Variability for Body - LTE Band 66

Frequency		Test Position	Original	1st Repeated	Ratio	2nd Repeated
Ch.	MHz		SAR (W/kg)	SAR (W/kg)		SAR (W/kg)
132322	1745.0	Rear	1.090	1.080	1.01	/

Table 14.12: SAR Measurement Variability for Body - LTE Band 71

Frequency		Test Position	Original	1st Repeated	Ratio	2nd Repeated
Ch.	MHz		SAR (W/kg)	SAR (W/kg)		SAR (W/kg)
133372	688.0	Rear	1.020	0.992	1.03	/

Table 14.13: SAR Measurement Variability for Body - LTE Band 41

Frequency		Test Position	Original	1st Repeated	Ratio	2nd Repeated
Ch.	MHz		SAR (W/kg)	SAR (W/kg)		SAR (W/kg)
40620	2593.0	Rear	0.966	0.948	1.02	/

15. Measurement Uncertainty

15.1. Measurement Uncertainty for Normal SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	12.7	N	2	1	1	6.35	6.35	∞
2	Axial isotropy	B	4.7	R	$\sqrt{3}$	√0.5	√0.5	4.3	4.3	∞
3	Hemispherical isotropy	B	9.6	R	$\sqrt{3}$	1	1	4.8	4.8	∞
4	Boundary effect	B	1.1	R	$\sqrt{3}$	1	1	0.6	0.6	∞
5	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
6	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
7	Modulation response	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
8	Readout electronics	B	1.0	N	1	1	1	1.0	1.0	∞
9	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
10	Integration time	B	1.7	R	$\sqrt{3}$	1	1	1.0	1.0	∞
11	RF ambient conditions-noise	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
12	RF ambient conditions-reflection	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Probe positioned mech. restrictions	B	0.35	R	$\sqrt{3}$	1	1	0.2	0.2	∞
14	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
15	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test sample related										
16	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	5
17	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
18	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
19	Phantom uncertainty	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
20	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
21	Liquid conductivity (meas.)	A	1.3	N	1	0.64	0.43	0.83	0.56	9
22	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
23	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	0.96	0.78	9
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{23} c_i^2 u_i^2}$						11.5	11.4	95.5
Expanded uncertainty (Confidence interval of 95 %)		$u_e = 2u_c$						23.0	22.8	

15.2. Measurement Uncertainty for Normal SAR Tests (3GHz~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	13.9	N	2	1	1	6.95	6.95	∞
2	Axial isotropy	B	4.7	R	$\sqrt{3}$	√0.5	√0.5	4.3	4.3	∞
3	Hemispherical isotropy	B	9.6	R	$\sqrt{3}$	1	1	4.8	4.8	∞
4	Boundary effect	B	1.1	R	$\sqrt{3}$	1	1	0.6	0.6	∞
5	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
6	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
7	modulation response	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
8	Readout electronics	B	1.0	N	1	1	1	1.0	1.0	∞
9	Response time	B	0.0	R	$\sqrt{3}$	1	1	0.0	0.0	∞
10	Integration time	B	1.7	R	$\sqrt{3}$	1	1	1.0	1.0	∞
11	RF ambient conditions-noise	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
12	RF ambient conditions-reflection	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Probe positioned mech. Restrictions	B	0.35	R	$\sqrt{3}$	1	1	0.2	0.2	∞
14	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
15	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test sample related										
16	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	5
17	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
18	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
19	Phantom uncertainty	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
20	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
21	Liquid conductivity (meas.)	A	1.3	N	1	0.64	0.43	0.83	0.56	43
22	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
23	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	0.96	0.78	521
Combined standard uncertainty		$u_c' = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						11.8	11.7	257
Expanded uncertainty (Confidence interval of 95 %)		$u_e = 2u_c$						23.6	23.4	

16. Main Test Instruments

Table 16.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	E5071C	MY46103759	2022-11-14	One year
02	Dielectric probe	85070E	MY44300317	/	/
03	Power meter	E4418B	MY50000366	2022-12-11	One year
04	Power sensor	E9304A	MY50000188	2022-12-11	One year
05	Power meter	NRP	102603	2022-12-29	One year
06	Power sensor	NRP-Z51	102211	2022-12-29	One year
07	Signal Generator	E8257D	MY47461211	2023-01-13	One year
08	Amplifier	VTL5400	0404	/	/
09	E-field Probe	EX3DV4	7683	2023-02-16	One year
10	DAE	DAE4	786	2022-09-29	One year
11	Dipole Validation Kit	D750V3	1163	2022-08-22	Three years
12	Dipole Validation Kit	D835V2	4d057	2021-10-18	Three years
13	Dipole Validation Kit	D1750V2	1152	2022-08-22	Three years
14	Dipole Validation Kit	D1900V2	5d088	2021-10-18	Three years
15	Dipole Validation Kit	D2300V2	1059	2021-09-22	Three years
16	Dipole Validation Kit	D2450V2	873	2021-10-21	Three years
17	Dipole Validation Kit	D2550V2	1010	2021-05-21	Three years
18	Dipole Validation Kit	D5GHzV2	1238	2022-08-17	Three years
19	BTS	E5515C	GB46110722	2023-01-13	One year
20	BTS	MT8820C	6201341853	2023-03-23	One year
21	BTS	CMW500	152499	2022-07-15	One year
22	Thermometer	51II	99250045	2022-11-23	One year
23	Software	DASY5	/	/	/

ANNEX A: Graph Results

GSM 850 Body

Date: 2023-6-16

Electronics: DAE4 Sn786

Medium: Head 835MHz

Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.941 S/m; ε_r = 40.57; ρ = 1000 kg/m^3

Communication System: UID 0, 3 slot GPRS (0) Frequency: 848.8 MHz Duty Cycle: 1:2.67

Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side High/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.41 W/kg

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

Reference Value = 5.025 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.71 W/kg

SAR(1 g) = 0.983 W/kg; SAR(10 g) = 0.587 W/kg

Maximum value of SAR (measured) = 1.31 W/kg

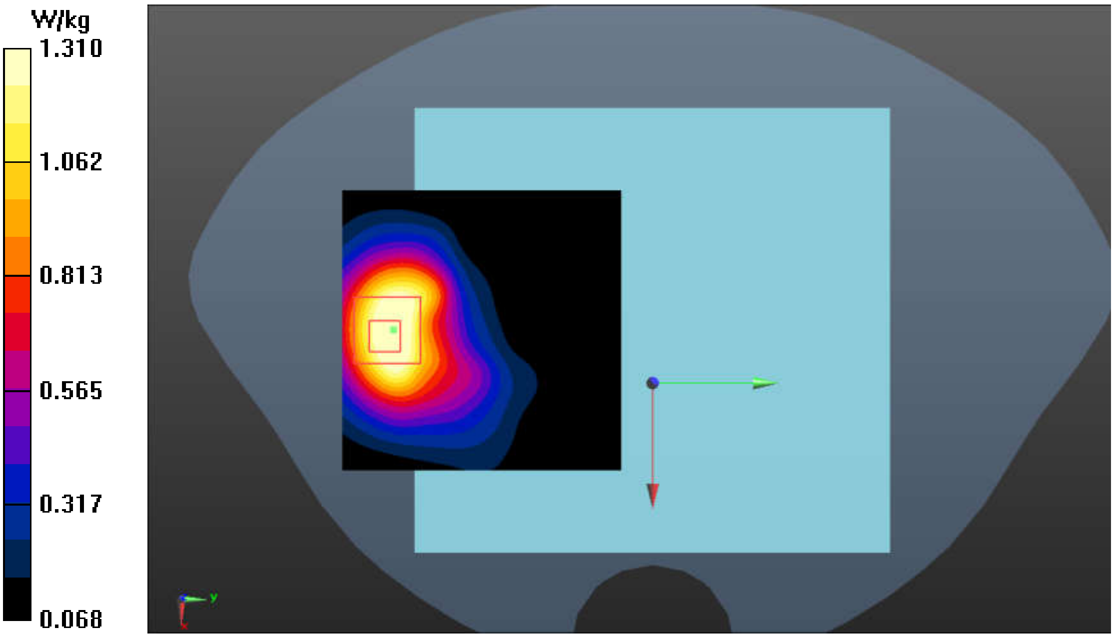


Fig. 1 GSM 850 Body

WCDMA Band 2 Body
Date: 2023-6-20
Electronics: DAE4 Sn786
Medium: Head 1900MHz
Medium parameters used: f = 1880 MHz; σ = 1.364 S/m; ε_r = 39.312; ρ = 1000 kg/m^3
Communication System: UID 0, WCDMA (0) Frequency: 1880 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (8.55, 8.55, 8.55)

Rear Side Middle/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.55 W/kg

Rear Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.505 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.77 W/kg
SAR(1 g) = 0.991 W/kg; SAR(10 g) = 0.562 W/kg
Maximum value of SAR (measured) = 1.32 W/kg

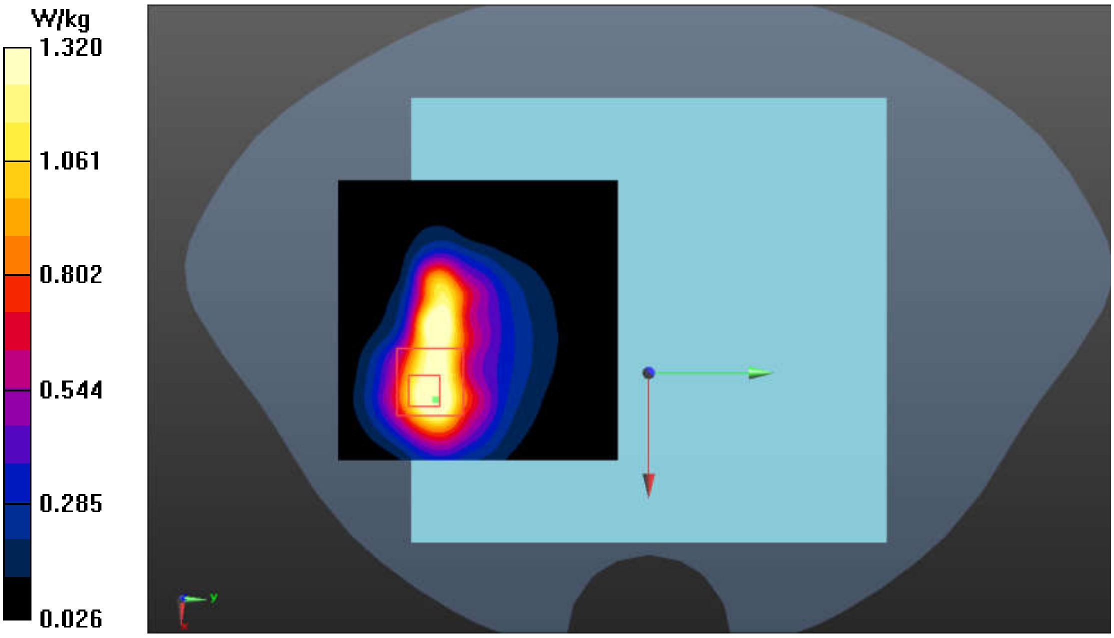


Fig. 2 WCDMA Band 2 Body

WCDMA Band 4 Body
Date: 2023-6-18
Electronics: DAE4 Sn786
Medium: Head 1750MHz
Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.361 S/m; ε_r = 40.563; ρ = 1000 kg/m^3
Communication System: UID 0, WCDMA (0) Frequency: 1752.6 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (8.81, 8.81, 8.81)

Rear Side High/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.40 W/kg

Rear Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.958 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.76 W/kg
SAR(1 g) = 0.956 W/kg; SAR(10 g) = 0.504 W/kg
Maximum value of SAR (measured) = 1.35 W/kg

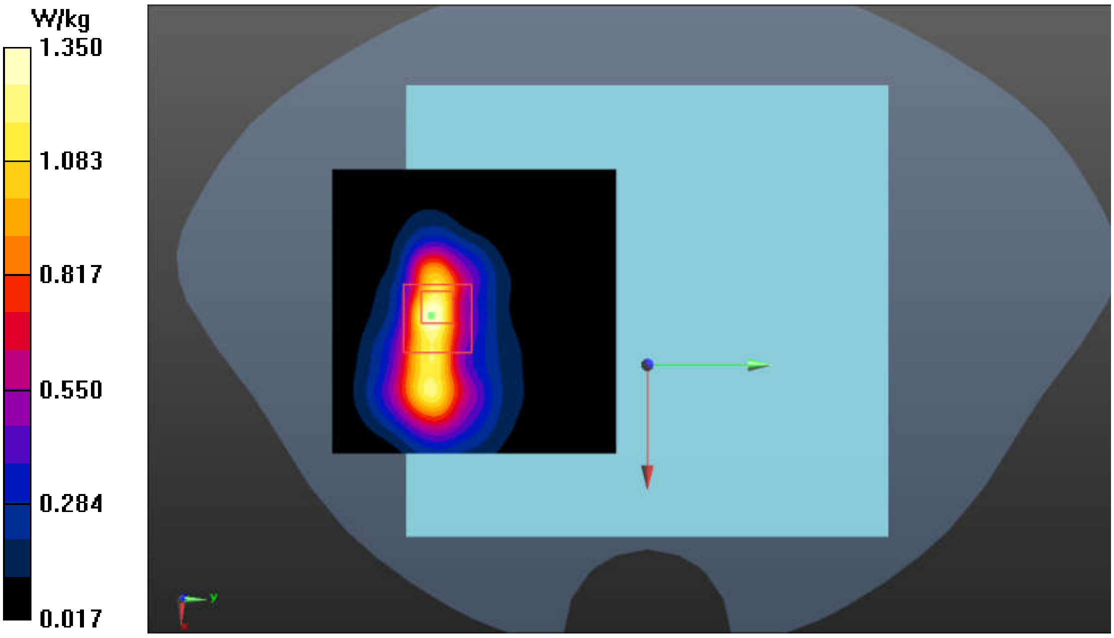


Fig. 3 WCDMA Band 4 Body

WCDMA Band 5 Body
Date: 2023-6-16
Electronics: DAE4 Sn786
Medium: Head 835MHz
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.939 S/m; ε_r = 40.597; ρ = 1000 kg/m^3
Communication System: UID 0, WCDMA (0) Frequency: 846.6 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side High/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.35 W/kg

Rear Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.914 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 1.61 W/kg
SAR(1 g) = 0.916 W/kg; SAR(10 g) = 0.546 W/kg
Maximum value of SAR (measured) = 1.26 W/kg

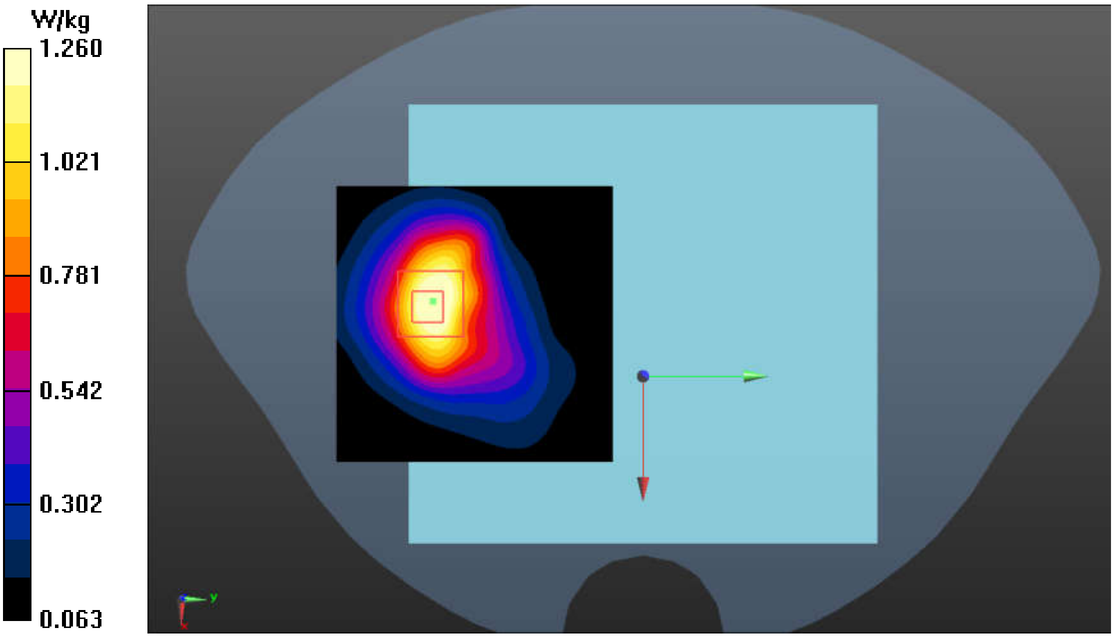


Fig. 4 WCDMA Band 5 Body

LTE Band 7 Body
Date: 2023-6-26
Electronics: DAE4 Sn786
Medium: Head 2550MHz
Medium parameters used: f = 2510 MHz; σ = 1.894 S/m; ε_r = 38.659; ρ = 1000 kg/m^3
Communication System: UID 0, LTE_FDD (0) Frequency: 2510 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (8.02, 8.02, 8.02)

Rear Side Low 1RB99/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.60 W/kg

Rear Side Low 1RB99/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.6270 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.95 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.516 W/kg
Maximum value of SAR (measured) = 1.44 W/kg

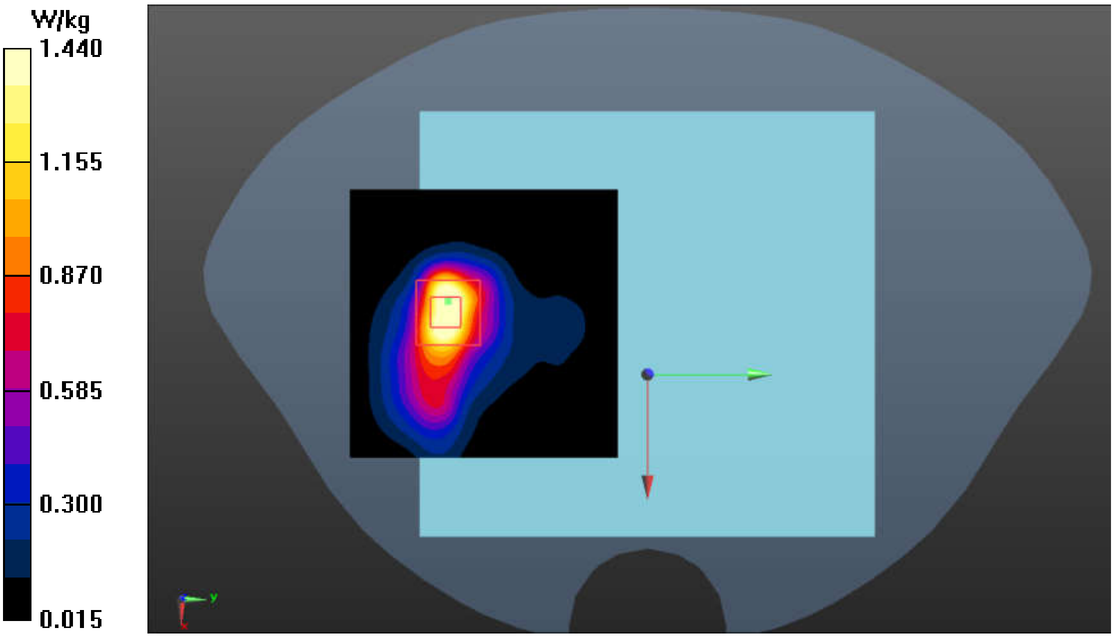


Fig. 5 LTE Band 7 Body

LTE Band 12 Body
Date: 2023-6-19
Electronics: DAE4 Sn786
Medium: Head 750MHz
Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.886 S/m; ε_r = 41.395; ρ = 1000 kg/m^3
Communication System: UID 0, LTE_FDD (0) Frequency: 707.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side Middle 1RB24/Area Scan (61x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.43 W/kg

Rear Side Middle 1RB24/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.775 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 2.00 W/kg
SAR(1 g) = 0.983 W/kg; SAR(10 g) = 0.615 W/kg
Maximum value of SAR (measured) = 1.51 W/kg

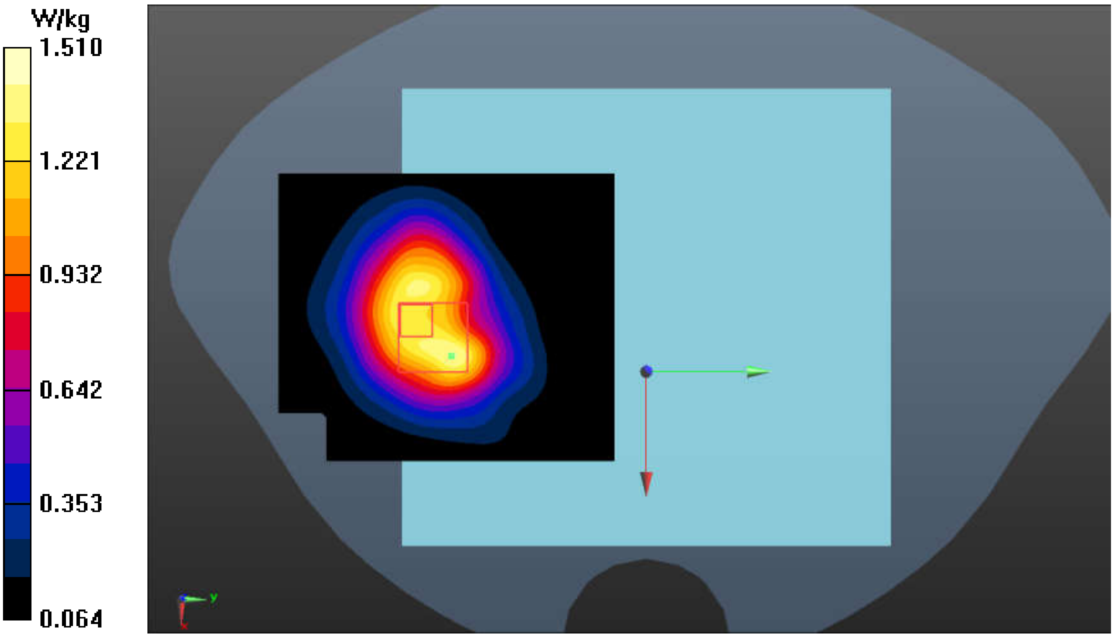


Fig. 6 LTE Band 12 Body

LTE Band 13 Body
Date: 2023-6-19
Electronics: DAE4 Sn786
Medium: Head 750MHz
Medium parameters used: f = 782 MHz; σ = 0.923 S/m; ε_r = 40.501; ρ = 1000 kg/m^3
Communication System: UID 0, LTE_FDD (0) Frequency: 782 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side Middle 1RB24/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.946 W/kg

Rear Side Middle 1RB24/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.711 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.739 W/kg; SAR(10 g) = 0.455 W/kg
Maximum value of SAR (measured) = 0.977 W/kg

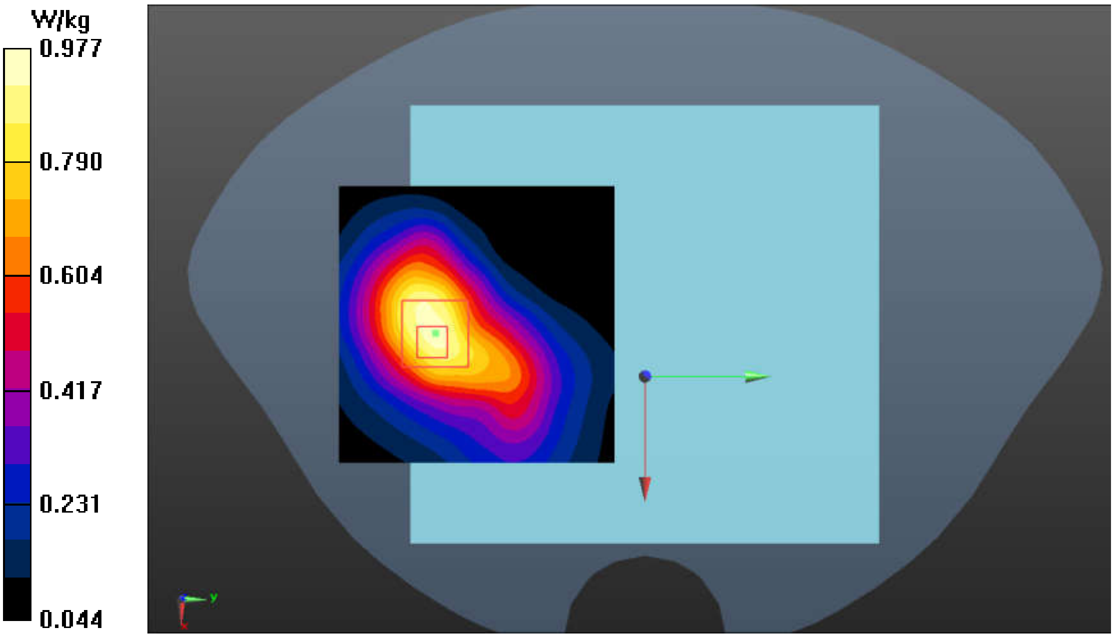


Fig. 7 LTE Band 13 Body

LTE Band 14 Body
Date: 2023-6-19
Electronics: DAE4 Sn786
Medium: Head 750MHz
Medium parameters used (interpolated): f = 793 MHz; σ = 0.928 S/m; ε_r = 40.369; ρ = 1000 kg/m^3
Communication System: UID 0, LTE_FDD (0) Frequency: 793 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side Middle 1RB24/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.37 W/kg

Rear Side Middle 1RB24/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.930 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 1.75 W/kg
SAR(1 g) = 0.919 W/kg; SAR(10 g) = 0.529 W/kg
Maximum value of SAR (measured) = 1.27 W/kg

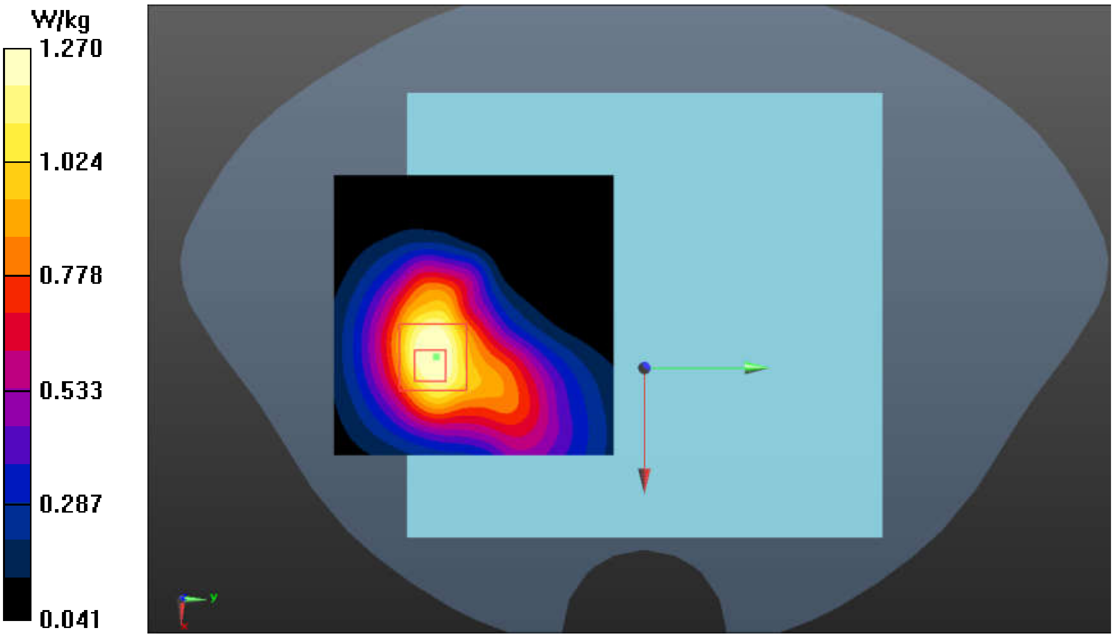


Fig. 8 LTE Band 14 Body

LTE Band 25 Body
Date: 2023-6-20
Electronics: DAE4 Sn786
Medium: Head 1900MHz
Medium parameters used: f = 1860 MHz; σ = 1.347 S/m; ε_r = 39.391; ρ = 1000 kg/m^3
Communication System: UID 0, LTE_FDD (0) Frequency: 1860 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (8.55, 8.55, 8.55)

Rear Side Low 1RB0/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.48 W/kg

Rear Side Low 1RB0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.282 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 0.937 W/kg; SAR(10 g) = 0.539 W/kg
Maximum value of SAR (measured) = 1.34 W/kg

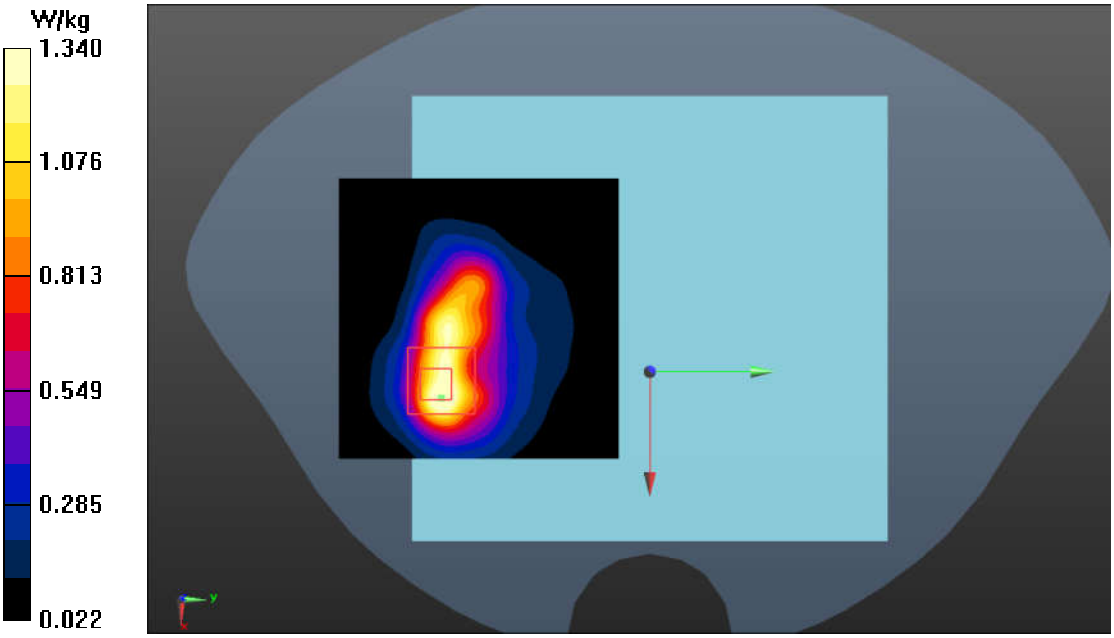


Fig. 9 LTE Band 25 Body

LTE Band 26 Body
Date: 2023-6-16
Electronics: DAE4 Sn786
Medium: Head 835MHz
Medium parameters used (interpolated): f = 841.5 MHz; σ = 0.934 S/m; ε_r = 40.658; ρ = 1000 kg/m^3
Communication System: UID 0, LTE_FDD (0) Frequency: 841.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side High 1RB0/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.39 W/kg

Rear Side High 1RB0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.325 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.86 W/kg
SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.652 W/kg
Maximum value of SAR (measured) = 1.41 W/kg

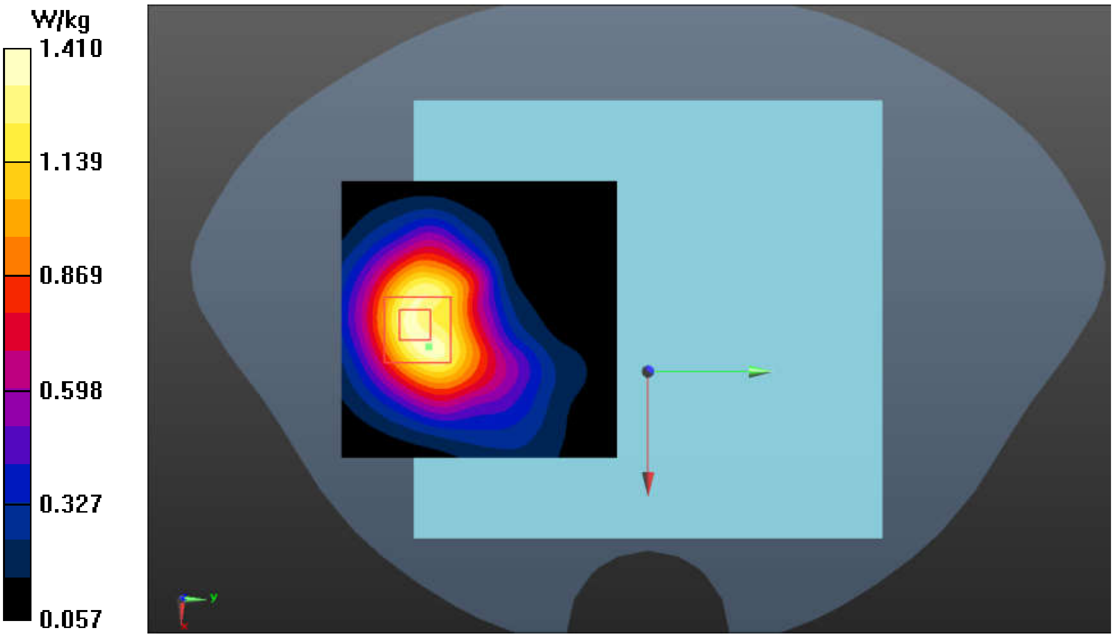


Fig. 10 LTE Band 26 Body

LTE Band 30 Body
Date: 2023-6-22
Electronics: DAE4 Sn786
Medium: Head 2300MHz
Medium parameters used: f = 2310 MHz; σ = 1.66 S/m; ε_r = 39.882; ρ = 1000 kg/m^3
Communication System: UID 0, LTE_FDD (0) Frequency: 2310 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (8.30, 8.30, 8.30)

Rear Side Middle 1RB24/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.41 W/kg

Rear Side Middle 1RB24/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.026 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.79 W/kg
SAR(1 g) = 0.938 W/kg; SAR(10 g) = 0.510 W/kg
Maximum value of SAR (measured) = 1.31 W/kg

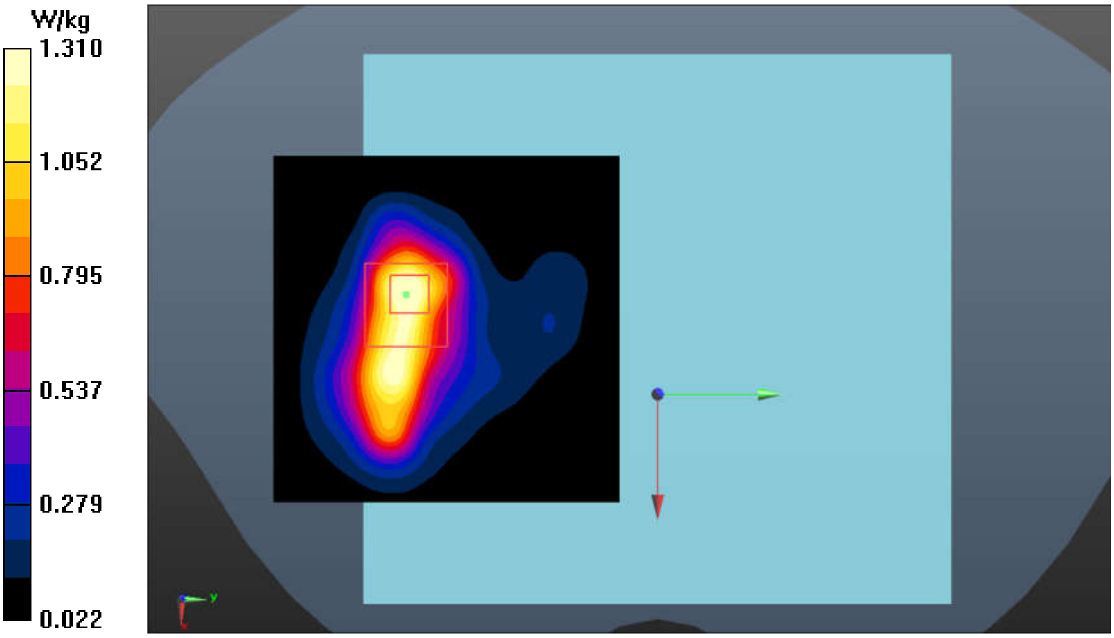


Fig. 11 LTE Band 30 Body

LTE Band 66 Body
Date: 2023-6-18
Electronics: DAE4 Sn786
Medium: Head 1750MHz
Medium parameters used (interpolated): f = 1745 MHz; σ = 1.355 S/m; ε_r = 40.593; ρ = 1000 kg/m^3
Communication System: UID 0, LTE_FDD (0) Frequency: 1745 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (8.81, 8.81, 8.81)

Rear Side Middle 1RB0/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.51 W/kg

Rear Side Middle 1RB0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.821 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 2.02 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.580 W/kg
Maximum value of SAR (measured) = 1.55 W/kg

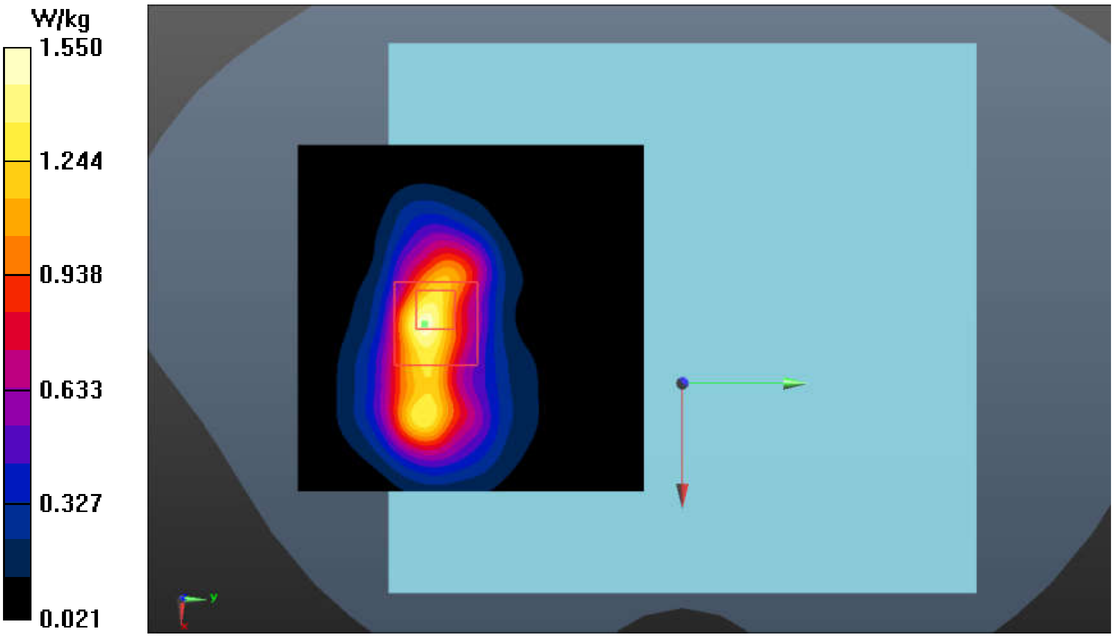


Fig. 12 LTE Band 66 Body

LTE Band 71 Body
Date: 2023-6-19
Electronics: DAE4 Sn786
Medium: Head 750MHz
Medium parameters used: f = 688 MHz; σ = 0.873 S/m; ε_r = 41.629; ρ = 1000 kg/m^3
Communication System: UID 0, LTE_FDD (0) Frequency: 688 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

Rear Side High 1RB50/Area Scan (61x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.25 W/kg

Rear Side High 1RB50/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.040 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.75 W/kg
SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.623 W/kg
Maximum value of SAR (measured) = 1.34 W/kg

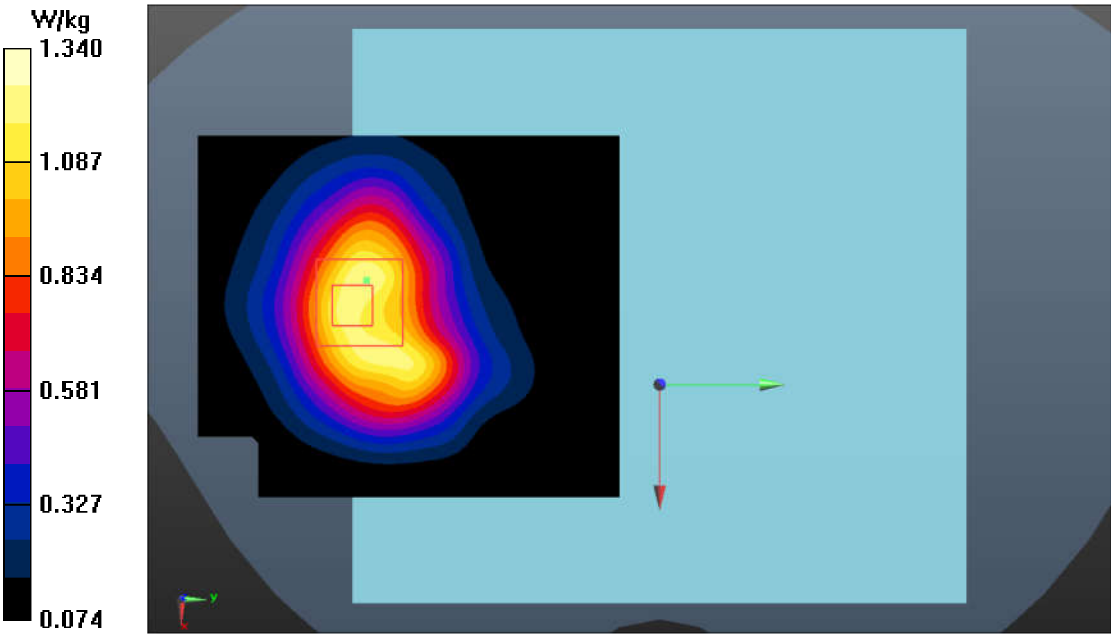


Fig. 13 LTE Band 71 Body

LTE Band 41 Body
Date: 2023-6-26
Electronics: DAE4 Sn786
Medium: Head 2550MHz
Medium parameters used (interpolated): f = 2593 MHz; σ = 1.992 S/m; ε_r = 38.385; ρ = 1000 kg/m^3
Communication System: UID 0, LTE_TDD (0) Frequency: 2593 MHz Duty Cycle: 1:1.58
Probe: EX3DV4 - SN7683 ConvF (7.76, 7.76, 7.76)

Rear Side Middle 1RB50/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.49 W/kg

Rear Side Middle 1RB50/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.287 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.70 W/kg
SAR(1 g) = 0.966 W/kg; SAR(10 g) = 0.462 W/kg
Maximum value of SAR (measured) = 1.27 W/kg

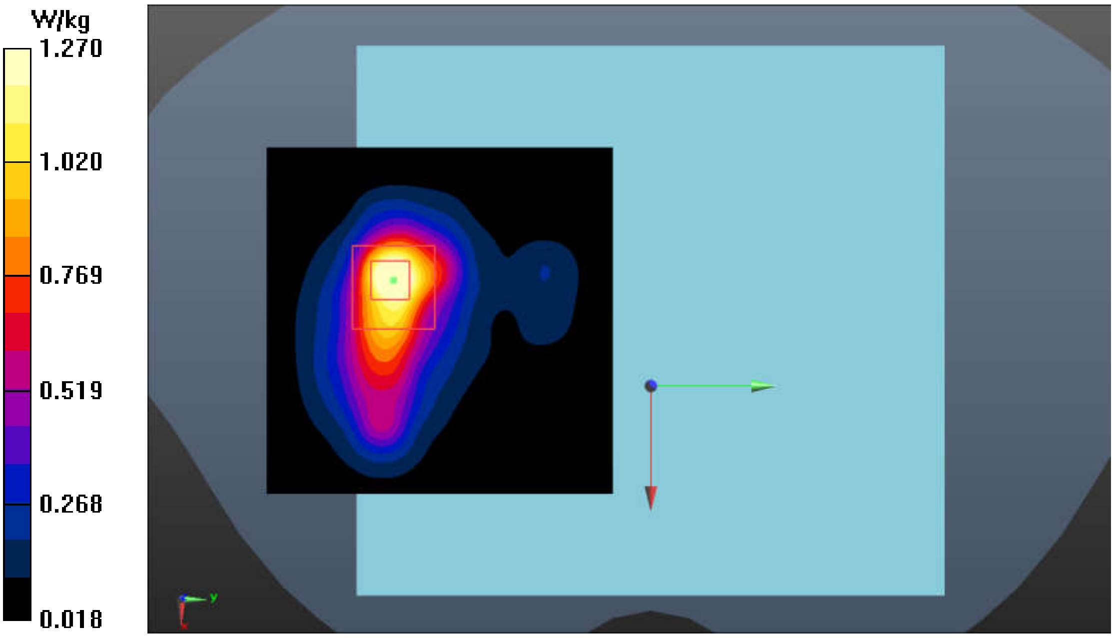


Fig. 14 LTE Band 41 Body

WLAN 2.4GHz Body
Date: 2023-7-12
Electronics: DAE4 Sn786
Medium: Head 2450MHz
Medium parameters used: f = 2462 MHz; σ = 1.863 S/m; ε_r = 38.332; ρ = 1000 kg/m^3
Communication System: UID 0, WLAN (0) Frequency: 2462 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (8.02, 8.02, 8.02)

Rear Side Ch.11/Area Scan (111x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0713 W/kg

Rear Side Ch.11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.141 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.104 W/kg
SAR(1 g) = 0.048 W/kg; SAR(10 g) = 0.023 W/kg
Maximum value of SAR (measured) = 0.0704 W/kg

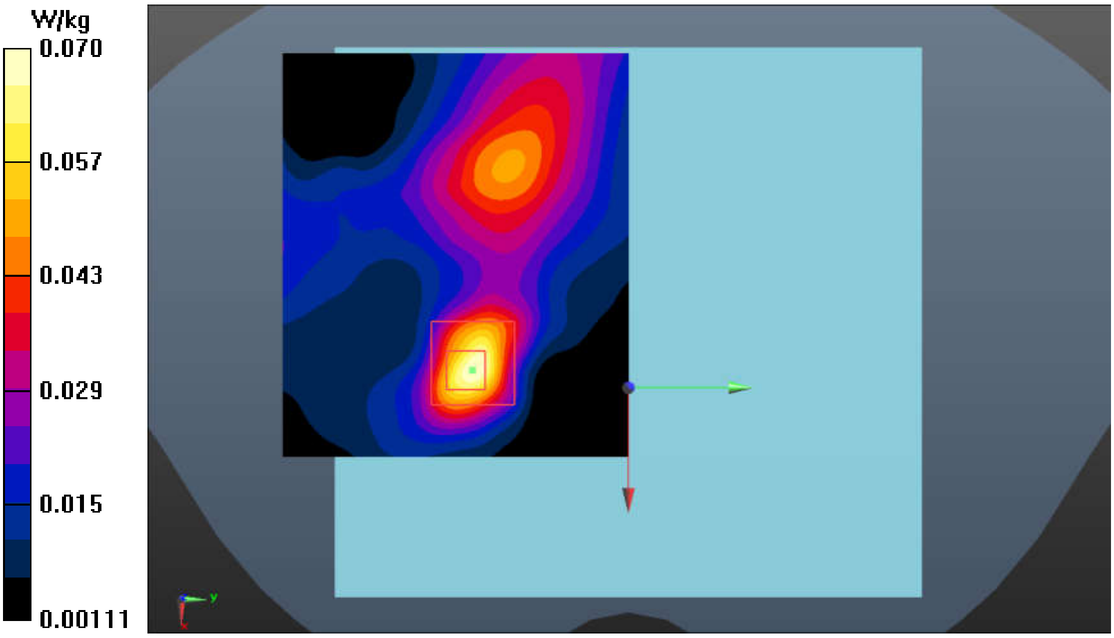


Fig. 15 WLAN 2.4GHz Body

WLAN 5GHz Body
Date: 2023-7-10
Electronics: DAE4 Sn786
Medium: Head 5250MHz
Medium parameters used: f = 5320 MHz; σ = 4.891 S/m; ε_r = 34.985; ρ = 1000 kg/m^3
Communication System: UID 0, WLAN 5G (0) Frequency: 5320 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (5.72, 5.72, 5.72)

Rear Side Ch.64/Area Scan (111x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.273 W/kg

Rear Side Ch.64/Zoom Scan (8x8x21)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 2.388 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.735 W/kg
SAR(1 g) = 0.142 W/kg; SAR(10 g) = 0.064 W/kg
Maximum value of SAR (measured) = 0.266 W/kg

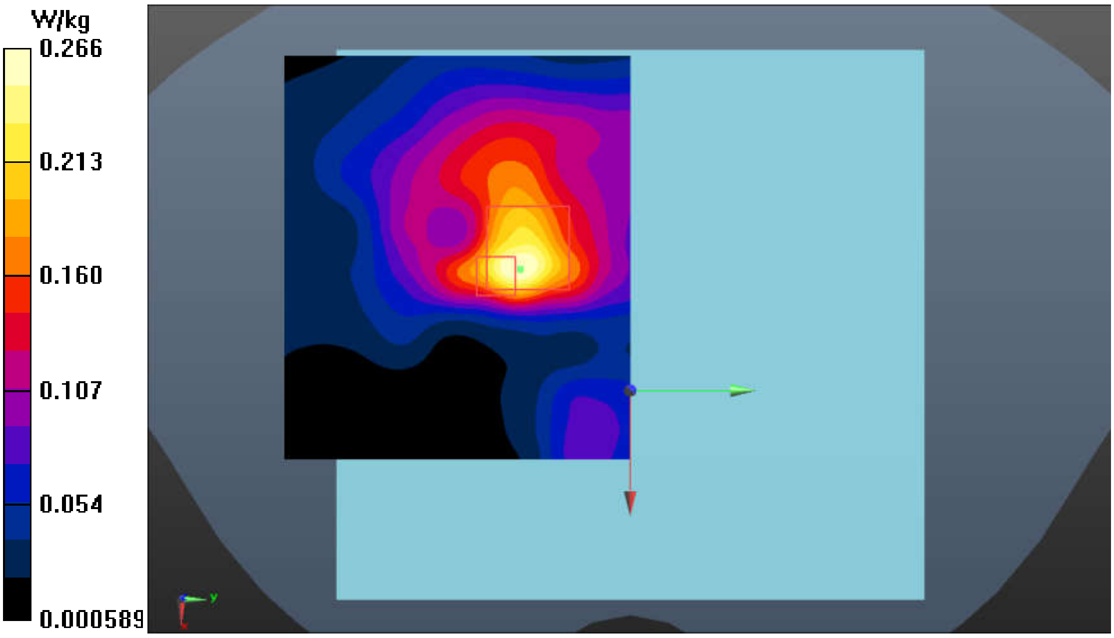


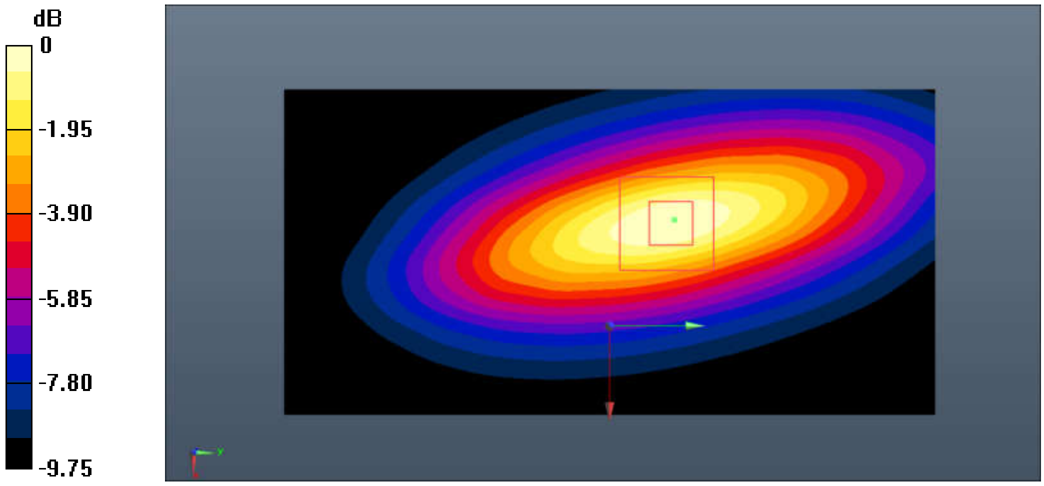
Fig. 16 WLAN 5GHz Body

ANNEX B: SystemVerification Results

750MHz
Date: 2023-6-19
Electronics: DAE4 Sn786
Medium: Head 750MHz
Medium parameters used: f = 750 MHz; σ = 0.913 S/m; ε_r = 40.885; ρ = 1000 kg/m^3
Communication System: CW Frequency: 750 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

System Validation/Area Scan (81x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 63.527 V/m; Power Drift = 0.03 dB
SAR(1 g) = 2.18 W/kg; SAR(10 g) = 1.44 W/kg
Maximum value of SAR (interpolated) = 2.85 W/kg

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 63.527 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.52 W/kg
SAR(1 g) = 2.22 W/kg; SAR(10 g) = 1.46 W/kg
Maximum value of SAR (measured) = 2.89 W/kg



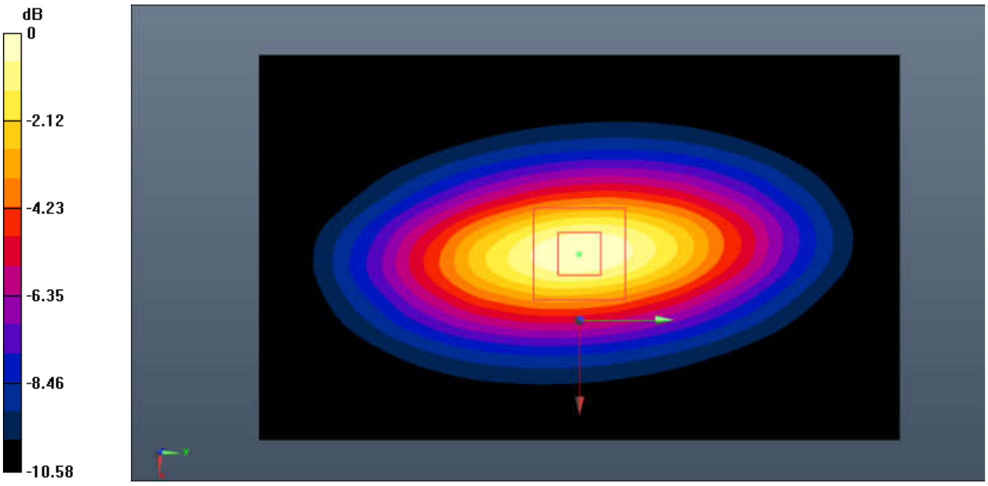
0 dB = 2.89 W/kg = 4.61 dB W/kg

Fig.B.1. Validation 750MHz 250mW

835MHz
Date: 2023-6-16
Electronics: DAE4 Sn786
Medium: Head 835MHz
Medium parameters used: f = 835 MHz; σ = 0.928 S/m; εr = 40.736; ρ = 1000 kg/m^3
Communication System: CW Frequency: 835 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (10.75, 10.75, 10.75)

System Validation/Area Scan (91x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 63.745 V/m; Power Drift = 0.06 dB
SAR(1 g) = 2.48 W/kg; SAR(10 g) = 1.60 W/kg
Maximum value of SAR (interpolated) = 3.66 W/kg

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 63.745 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 4.39 W/kg
SAR(1 g) = 2.52 W/kg; SAR(10 g) = 1.63 W/kg
Maximum value of SAR (measured) = 3.69 W/kg



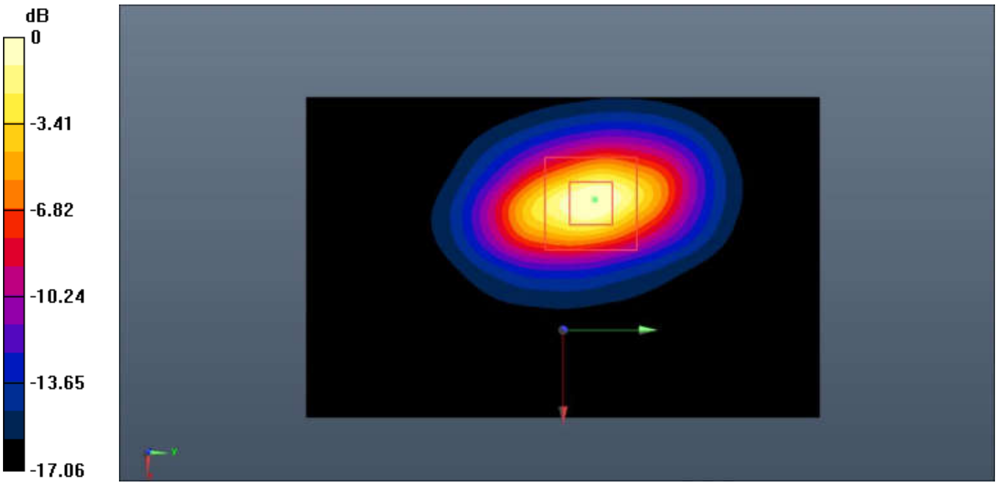
0 dB = 3.69 W/kg = 5.67 dB W/kg

Fig.B.2. Validation 835MHz 250mW

1750MHz
Date: 2023-6-18
Electronics: DAE4 Sn786
Medium: Head 1750MHz
Medium parameters used: f = 1750 MHz; σ = 1.359 S/m; ε_r = 40.573; ρ = 1000 kg/m^3
Communication System: CW Frequency: 1750 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (8.81, 8.81, 8.81)

System Validation/Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 78.669 V/m; Power Drift = -0.06 dB
SAR(1 g) = 9.10 W/kg; SAR(10 g) = 4.94 W/kg
Maximum value of SAR (interpolated) = 13.0 W/kg

System Validation/Zoom Scan (7x7x7)/Cube0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 78.669 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 17.6 W/kg
SAR(1 g) = 8.84 W/kg; SAR(10 g) = 4.82 W/kg
Maximum value of SAR (measured) = 12.8 W/kg



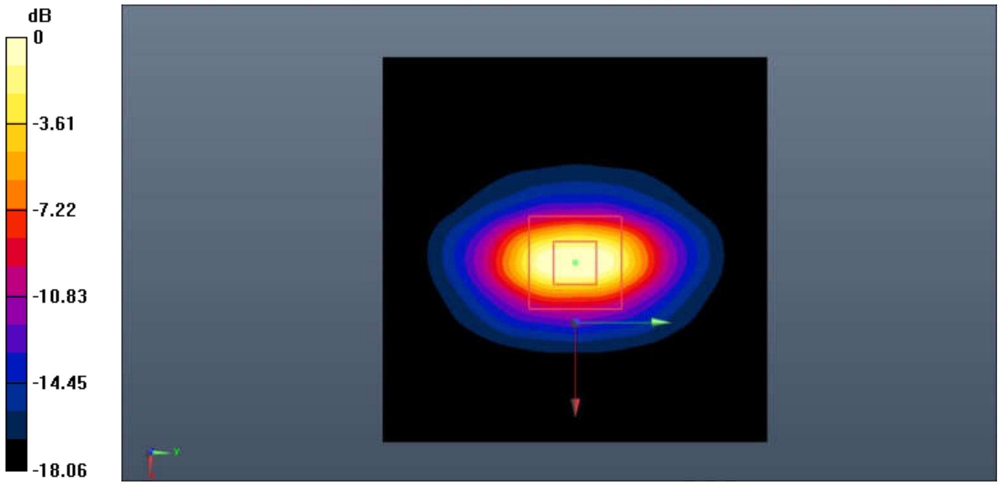
0 dB = 12.8 W/kg = 11.07 dB W/kg

Fig.B.3. Validation 1750MHz 250mW

1900MHz
Date: 2023-6-20
Electronics: DAE4 Sn786
Medium: Head 1900MHz
Medium parameters used: f = 1900 MHz; σ = 1.382 S/m; ε_r = 39.234; ρ = 1000 kg/m^3
Communication System: CW Frequency: 1900 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (8.55, 8.55, 8.55)

System Validation/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 85.123 V/m; Power Drift = -0.11 dB
SAR(1 g) = 9.92 W/kg; SAR(10 g) = 5.14 W/kg
Maximum value of SAR (interpolated) = 15.8 W/kg

System Validation/Zoom Scan (7x7x7)/Cube0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 85.123 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 19.2 W/kg
SAR(1 g) = 9.77 W/kg; SAR(10 g) = 5.05 W/kg
Maximum value of SAR (measured) = 15.5 W/kg



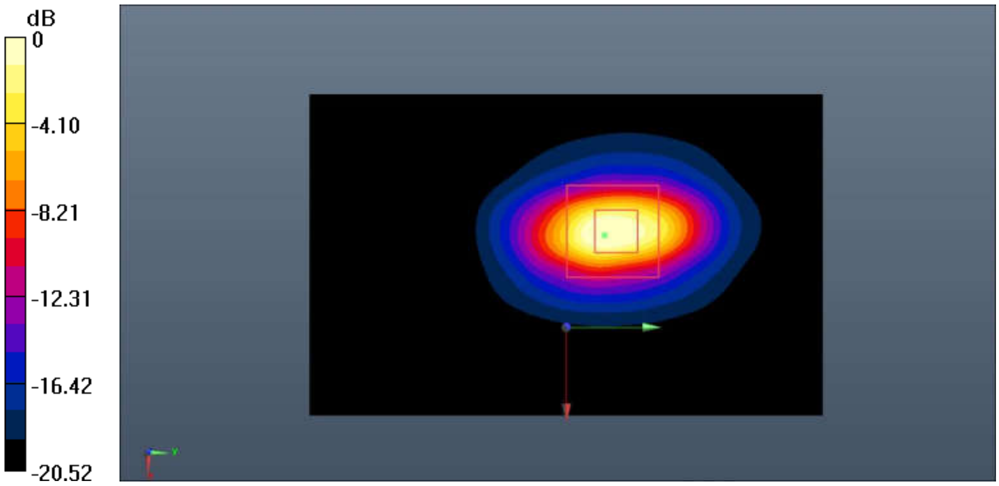
0 dB = 15.5 W/kg = 10.61 dB W/kg

Fig.B.4. Validation 1900MHz 250mW

2300MHz
Date: 2023-6-22
Electronics: DAE4 Sn786
Medium: Head 2300MHz
Medium parameters used: f = 2300 MHz; σ = 1.648 S/m; ε_r = 39.916; ρ = 1000 kg/m^3
Communication System: CW Frequency: 2300 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (8.30, 8.30, 8.30)

System Validation/Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 90.556 V/m; Power Drift = -0.05 dB
SAR(1 g) = 11.9 W/kg; SAR(10 g) = 5.67 W/kg
Maximum value of SAR (interpolated) = 20.1 W/kg

System Validation/Zoom Scan (7x7x7)/Cube0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 90.556 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 26.2 W/kg
SAR(1 g) = 11.6 W/kg; SAR(10 g) = 5.54 W/kg
Maximum value of SAR (measured) = 19.8 W/kg



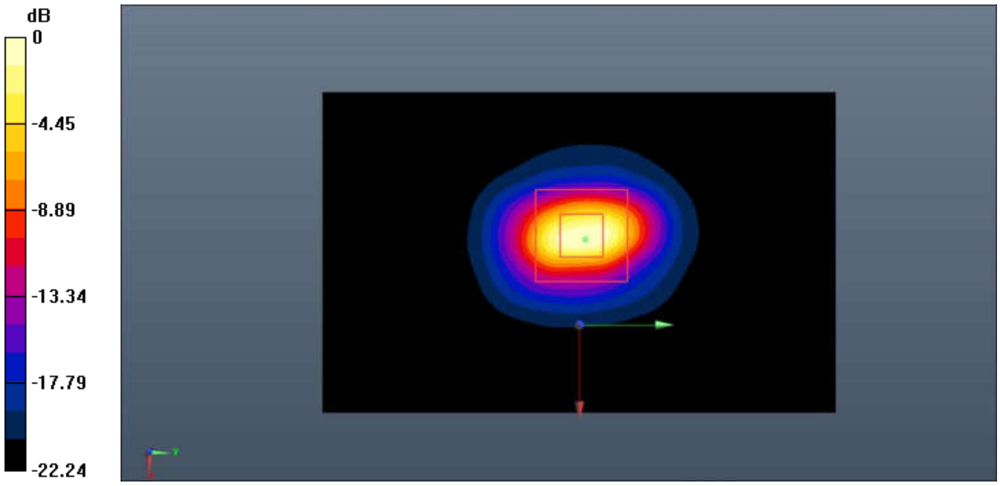
0 dB = 19.8 W/kg = 12.97 dB W/kg

Fig.B.5. Validation 2300MHz 250mW

2450MHz
Date: 2023-7-12
Electronics: DAE4 Sn786
Medium: Head 2450MHz
Medium parameters used: f = 2450 MHz; σ = 1.849 S/m; ε_r = 38.372; ρ = 1000 kg/m^3
Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (8.02, 8.02, 8.02)

System Validation/Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 97.065 V/m; Power Drift = 0.12 dB
SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.07 W/kg
Maximum value of SAR (interpolated) = 22.5 W/kg

System Validation/Zoom Scan (7x7x7)/Cube0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.065 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 30.3 W/kg
SAR(1 g) = 13.8 W/kg; SAR(10 g) = 6.16 W/kg
Maximum value of SAR (measured) = 22.2 W/kg



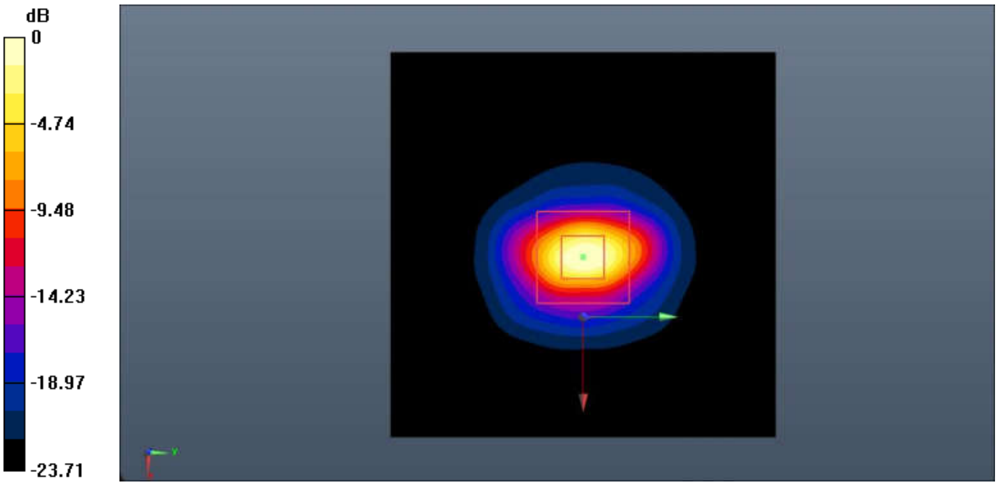
0 dB = 22.2 W/kg = 13.46 dB W/kg

Fig.B.6. Validation 2450MHz 250mW

2550MHz
Date: 2023-6-26
Electronics: DAE4 Sn786
Medium: Head 2550MHz
Medium parameters used: f = 2550 MHz; σ = 1.941 S/m; ε_r = 38.527; ρ = 1000 kg/m^3
Communication System: CW Frequency: 2550 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (8.02, 8.02, 8.02)

System Validation/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 96.745 V/m; Power Drift = 0.03 dB
SAR(1 g) = 14.2 W/kg; SAR(10 g) = 6.33 W/kg
Maximum value of SAR (interpolated) = 22.5 W/kg

System Validation/Zoom Scan (7x7x7)/Cube0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.745 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 31.2 W/kg
SAR(1 g) = 14.4 W/kg; SAR(10 g) = 6.40 W/kg
Maximum value of SAR (measured) = 22.8 W/kg



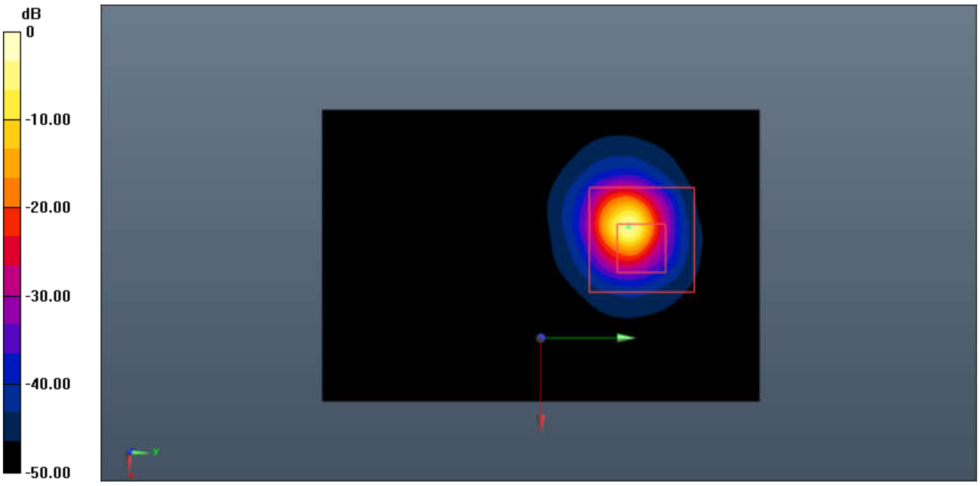
0 dB = 22.8 W/kg = 13.58 dB W/kg

Fig.B.7. Validation 2550MHz 250mW

5250MHz
Date: 2023-7-10
Electronics: DAE4 Sn786
Medium: Head 5250MHz
Medium parameters used: f = 5250 MHz; σ = 4.796 S/m; ε_r = 35.174; ρ = 1000 kg/m^3
Communication System: CW Frequency: 5250 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (5.72, 5.72, 5.72)

System Validation/Area Scan (61x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 68.128 V/m; Power Drift = 0.13 dB
SAR(1 g) = 8.07 W/kg; SAR(10 g) = 2.29 W/kg
Maximum value of SAR (interpolated) = 19.3 W/kg

System Validation/Zoom Scan (8x8x21)/Cube0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 68.128 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 35.5 W/kg
SAR(1 g) = 8.25 W/kg; SAR(10 g) = 2.33 W/kg
Maximum value of SAR (measured) = 19.5 W/kg



0 dB = 19.5 W/kg = 12.90 dB W/kg

Fig.B.8. Validation 5250MHz 100mW

5600MHz

Date: 2023-7-10

Electronics: DAE4 Sn786

Medium: Head 5600MHz

Medium parameters used: f = 5600 MHz; σ = 5.014 S/m; ε_r = 36.058; ρ = 1000 kg/m^3

Communication System: CW Frequency: 5600 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7683 ConvF (5.13, 5.13, 5.13)

System Validation/Area Scan (61x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 67.265 V/m; Power Drift = -0.08 dB

SAR(1 g) = 8.11 W/kg; SAR(10 g) = 2.35 W/kg

Maximum value of SAR (interpolated) = 19.4 W/kg

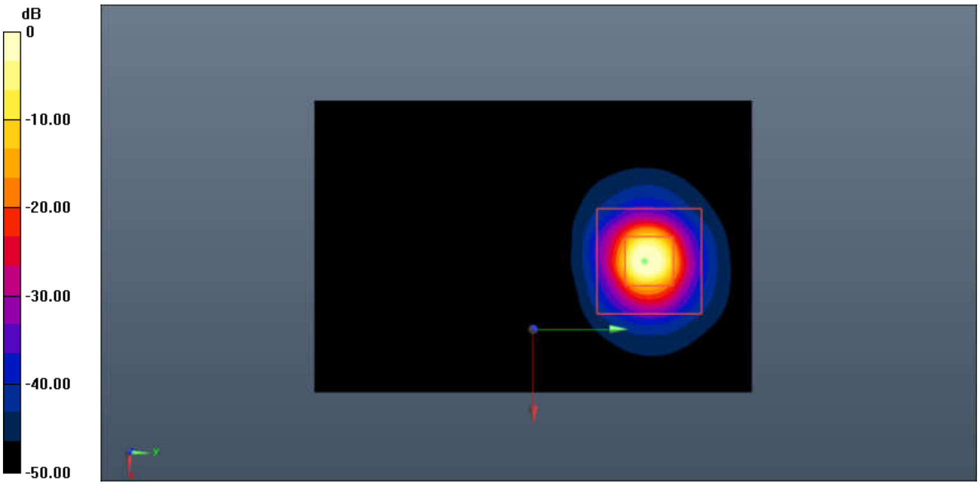
System Validation/Zoom Scan (8x8x21)/Cube0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 67.265 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 31.3 W/kg

SAR(1 g) = 7.98 W/kg; SAR(10 g) = 2.32 W/kg

Maximum value of SAR (measured) = 19.1 W/kg



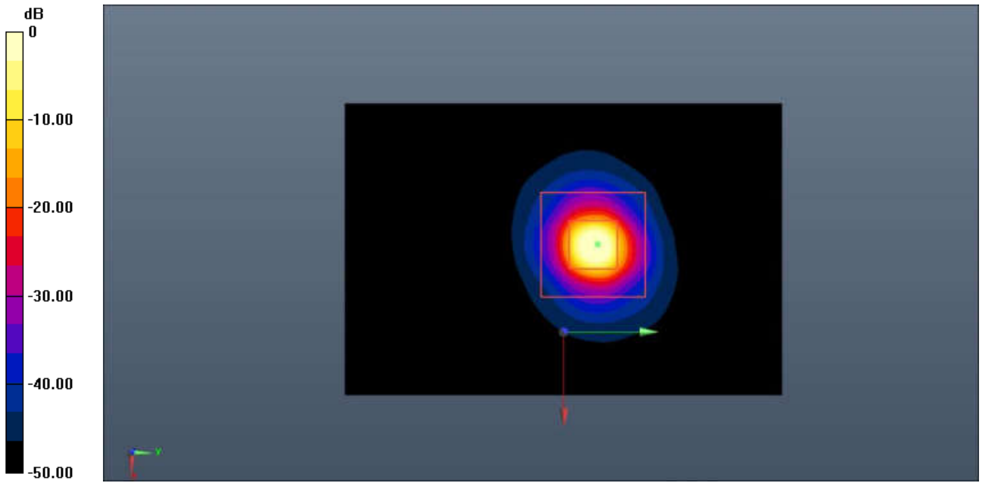
b) 0 dB = 19.1 W/kg = 12.81 dB W/kg

Fig.B.9. Validation 5600MHz 100mW

5750MHz
Date: 2023-7-10
Electronics: DAE4 Sn786
Medium: Head 5750 MHz
Medium parameters used: f = 5750 MHz; σ = 5.137 S/m; ε_r = 35.805; ρ = 1000 kg/m^3
Communication System: CW Frequency: 5750 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN7683 ConvF (5.23, 5.23, 5.23)

System Validation/Area Scan (61x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 64.244 V/m; Power Drift = -0.10 dB
SAR(1 g) = 7.74 W/kg; SAR(10 g) = 2.18 W/kg
Maximum value of SAR (interpolated) = 17.8 W/kg

System Validation/Zoom Scan (8x8x21)/Cube0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 64.244 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 28.6 W/kg
SAR(1 g) = 7.51 W/kg; SAR(10 g) = 2.15 W/kg
Maximum value of SAR (measured) = 17.5 W/kg



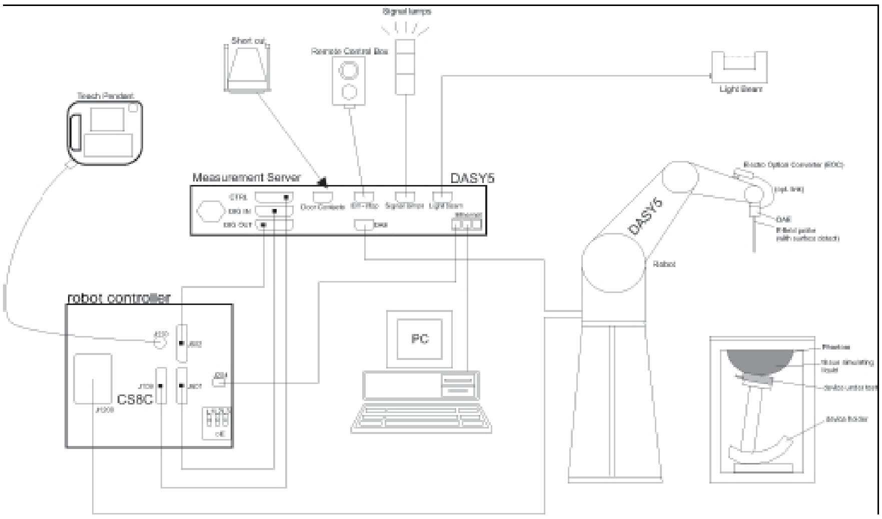
0 dB = 17.5 W/kg = 12.43 dB W/kg

Fig.B.10. Validation 5750MHz 100mW

ANNEX C: SAR Measurement Setup

C.1. Measurement Set-up

DASY5 system for performing compliance tests is illustrated above graphically. This system consists of the following items:



Picture C.1 SAR Lab Test Measurement Set-up

- A standard high precision 6-axis robot (Stäubli TX=RX family) with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as
- warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

C.2. DASY E-field Probe System

The SAR measurements were conducted with the dosimetric probe designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe is constructed using the thick film technique; with printed resistive lines on ceramic substrates. The probe is equipped with an optical multifiber line ending at the front of the probe tip. It is connected to the EOC box on the robot arm and provides an automatic detection of the phantom surface. Half of the fibers are connected to a pulsed infrared transmitter, the other half to a synchronized receiver. As the probe approaches the surface, the reflection from the surface produces a coupling from the transmitting to the receiving fibers. This reflection increases first during the approach, reaches maximum and then decreases. If the probe is flatly touching the surface, the coupling is zero. The distance of the coupling maximum to the surface is independent of the surface reflectivity and largely independent of the surface to probe angle. The DASY5 OR DASY6 software reads the reflection durning a software approach and looks for the maximum using 2^{nd}ord curve fitting. The approach is stopped at reaching the maximum.

Probe Specifications:	
Model:	EX3DV4
Frequency Range:	10 MHz - 6.0 GHz
Calibration:	In head simulating tissue at Frequencies from 750 up to 5750 MHz
Linearity:	± 0.2 dB (30 MHz to 6 GHz)
Dynamic Range:	10 mW/kg - 100 W/kg
Probe Length:	337 mm
Probe Tip Length:	20 mm
Body Diameter:	12 mm
Tip Diameter:	2.5 mm
Tip-Center:	1 mm
Application:	SAR Dosimetry Testing / Compliance tests of mobile phones / Dosimetry in strong gradient fields

Picture C.2: Near-field Probe

Picture C.3: E-field Probe

C.3. E-field Probe Calibration

Each E-Probe/Probe Amplifier combination has unique calibration parameters. A TEM cell calibration procedure is conducted to determine the proper amplifier settings to enter in the probe parameters. The amplifier settings are determined for a given frequency by subjecting the probe to a known E-field density (1 mW/cm^2) using an RF Signal generator, TEM cell, and RF Power Meter.

The free space E-field from amplified probe outputs is determined in a test chamber. This calibration can be performed in a TEM cell if the frequency is below 1 GHz and inn a waveguide or other methodologies above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees until the three channels show the maximum reading. The power density readings equates to 1 mW/ cm^2.
E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The E-field in the medium correlates with the temperature rise in the dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$SAR = C\frac{\Delta T}{\Delta t}$$

Where:
Δt = Exposure time (30 seconds),
C = Heat capacity of tissue (brain or muscle),
ΔT = Temperature increase due to RF exposure.

$$SAR = \frac{|E|^2 \cdot \sigma}{\rho}$$

Where:
σ = Simulated tissue conductivity,
ρ = Tissue density (kg/m^3).

C.4. Other Test Equipment

C.4.1. Data Acquisition Electronics (DAE)

The data acquisition electronics consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information, as well as an optical uplink for commands and the clock.

The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

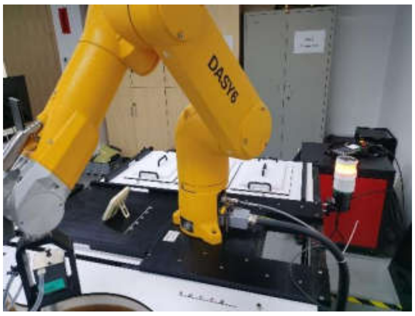
Picture C.4: DAE

C.4.2. Robot

The SPEAG DASY system uses the high precision robots (DASY5: RX90L) type from Stäubli SA (France). For the 6-axis controller system, the robot controller version from Stäubli is used. The Stäubli robot series have many features that are important for our application:

- High precision (repeatability 0.02mm)
- High reliability (industrial design)
- Low maintenance costs (virtually maintenance free due to direct drive gears; no belt drives)
- Jerk-free straight movements (brushless synchron motors; no stepper motors)
- Low ELF interference (motor control fields shielded via the closed metallic construction shields)

Picture C.5: DASY 5



Picture C.6: DASY 6

C.4.3. Measurement Server

The Measurement server is based on a PC/104 CPU broad with CPU (DASY5: 400 MHz, Intel Celeron), chipdisk (DASY5:128MB), RAM (DASY5:128MB). The necessary circuits for communication with the DAE electronic box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY I/O broad, which is directly connected to the PC/104 bus of the CPU broad.

The measurement server performs all real-time data evaluation of field measurements and surface detection, controls robot movements and handles safety operation. The PC operating system cannot interfere with these time critical processes. All connections are supervised by a watchdog, and disconnection of any of the cables to the measurement server will automatically disarm the robot and disable all program-controlled robot movements. Furthermore, the measurement server is equipped with an expansion port which is reserved for future applications. Please note that this expansion port does not have a standardized pinout, and therefore only devices provided by SPEAG can be connected. Devices from any other supplier could seriously damage the measurement server.

Picture C.7: Server for DASY 5

Picture C.8: Server for DASY 6

C.4.4. Device Holder for Phantom

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5mm distance, a positioning uncertainty of ±0.5mm would produce a SAR uncertainty of ±20%. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.

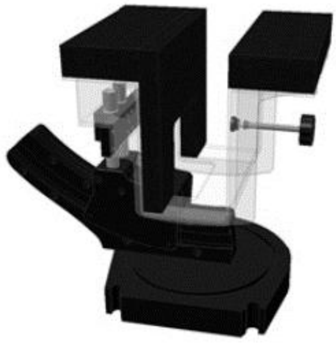
The DASY device holder is designed to cope with the different positions given in the standard. It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation centers for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity ε =3 and loss tangent δ =0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

<Laptop Extension Kit>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the Mounting Device in place of the phone positioner. The extension is fully compatible with the Twin-SAM and ELI phantoms.

Picture C.9: Device Holder



Picture C.10: Laptop Extension Kit

The SAM Twin Phantom V4.0 is constructed of a fiberglass shell integrated in a table. The shape of the shell is based on data from an anatomical study designed to

Represent the 90th percentile of the population. The phantom enables the dissymmetric evaluation of SAR for both left and right handed handset usage, as well as body-worn usage using the flat phantom region. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot. The shell phantom has a 2mm shell thickness (except the ear region where shell thickness increases to 6 mm).

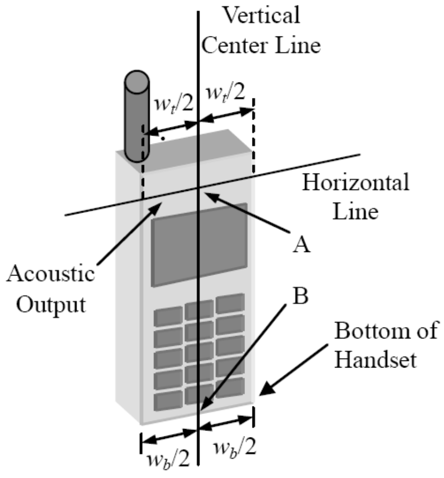
Shell Thickness: 2 ± 0. 2 mm
Filling Volume: Approx. 25 liters
Dimensions: 810 x l000 x 500 mm (H x L x W)
Available: Special

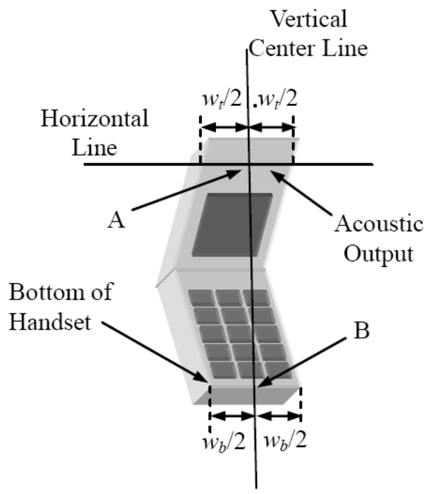
Picture C.11: SAM Twin Phantom

ANNEX D: Position of the wireless device in relation to the phantom

D.1. General considerations

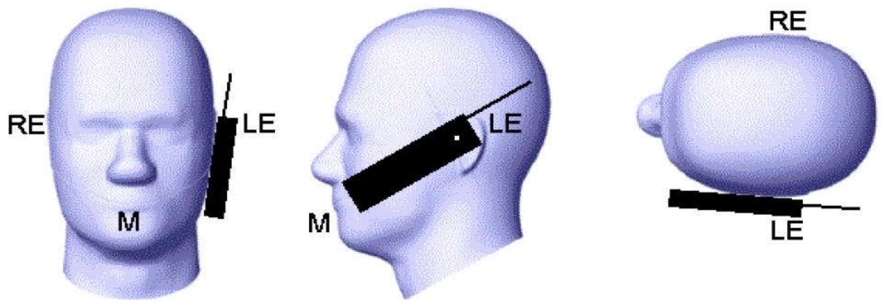
This standard specifies two handset test positions against the head phantom – the “cheek” position and the “tilt” position.



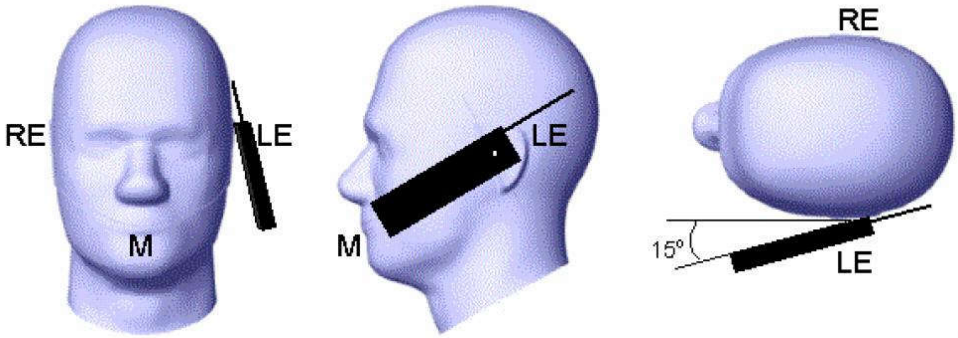


w_t	Width of the handset at the level of the acoustic
w_b	Width of the bottom of the handset
A	Midpoint of the width w_t of the handset at the level of the acoustic output
B	Midpoint of the width w_b of the bottom of the handset

Picture D.1-a Typical “fixed” case handset **Picture D.1-b Typical “clam-shell” case handset**



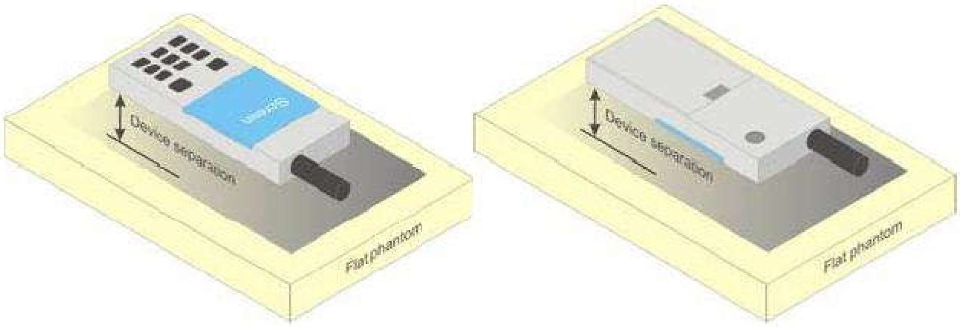
Picture D.2 Cheek position of the wireless device on the left side of SAM



Picture D.3 Tilt position of the wireless device on the left side of SAM

D.2. Body-worn device

A typical example of a body-worn device is a mobile phone, wireless enabled PDA or other battery operated wireless device with the ability to transmit while mounted on a person's body using a carry accessory approved by the wireless device manufacturer.

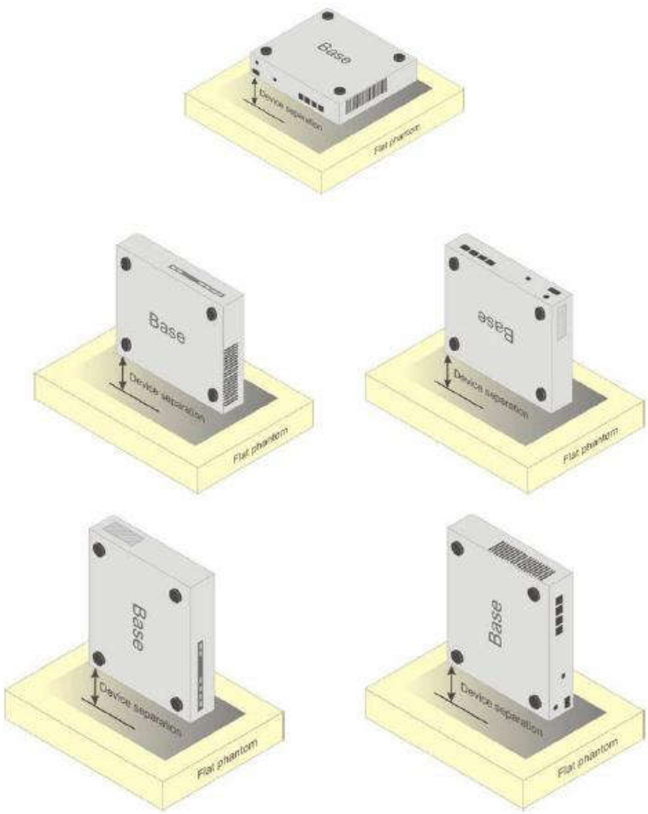


Picture D.4 Test positions for body-worn devices

D.3. Desktop device

A typical example of a desktop device is a wireless enabled desktop computer placed on a table or desk when used.

The DUT shall be positioned at the distance and in the orientation to the phantom that corresponds to the intended use as specified by the manufacturer in the user instructions. For devices that employ an external antenna with variable positions, tests shall be performed for all antenna positions specified. Picture 8.5 show positions for desktop device SAR tests. If the intended use is not specified, the device shall be tested directly against the flat phantom.



Picture D.5 Test positions for desktop devices

D.4. DUT Setup Photos

Picture D.6 Specific Absorption Rate Test Layout

ANNEX E: Equivalent Media Recipes

The liquid used for the frequency range of 700-6000 MHz consisted of water, sugar, salt, preventol, glycol monobutyl and Cellulose. The liquid has been previously proven to be suited for worst-case. The Table E.1 shows the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by the IEEE 1528 and IEC 62209.

Table E.1: Composition of the Tissue Equivalent Matter

Frequency (MHz)	835	1750	1900	2450	2600	5200	5800
Water	41.45	55.242	55.242	58.79	58.79	65.53	66.10
Sugar	56.0	/	/	/	/	/	/
Salt	1.45	0.306	0.306	0.06	0.06		
Preventol	0.1	/	/	/	/	17.24	16.95
Cellulose	1.0	/	/	/	/	17.24	16.95
Glycol Monobutyl	/	44.452	44.452	41.15	41.15	/	/
Diethylenglycol monohexylether	/	/	/	/	/	/	/
Triton X-100	/	/	/	/	/	/	/
Dielectric Parameters Target Value	ε=41.5 σ=0.90	ε=40.08 σ=1.37	ε=40.0 σ=1.40	ε=39.20 σ=1.80	ε=39.01 σ=1.96	ε=35.99 σ=4.66	ε=35.30 σ=5.27

Note: There is a little adjustment respectively for 750, 5300 and 5600, based on the recipe of closest frequency in table E.1

ANNEX F: System Validation

The SAR system must be validated against its performance specifications before it is deployed. When SAR probes, system components or software are changed, upgraded or recalibrated, these must be validated with the SAR system(s) that operates with such components.

Table F.1: System Validation

Probe SN.	Liquid name (MHz)	Validation date	Frequency point	CW Validation	Modulation Signal Validation		
					Modulation Type	Duty Factor	PAR
7683	Head 750	2023-02-20	750MHz	Pass	N/A	N/A	N/A
7683	Head 835	2023-02-20	835MHz	Pass	GMSK	Pass	N/A
7683	Head 1750	2023-02-20	1750MHz	Pass	N/A	N/A	N/A
7683	Head 1900	2023-02-20	1900MHz	Pass	GMSK	Pass	N/A
7683	Head 2300	2023-02-20	2550MHz	Pass	N/A	N/A	N/A
7683	Head 2450	2023-02-22	2450MHz	Pass	OFDM/TDD	Pass	Pass
7683	Head 2550	2023-02-20	2550MHz	Pass	TDD	Pass	N/A
7683	Head 3500	2023-02-21	3500MHz	Pass	TDD	Pass	N/A
7683	Head 3700	2023-02-21	3700MHz	Pass	TDD	Pass	N/A
7683	Head 3900	2023-02-21	3900MHz	Pass	TDD	Pass	N/A
7683	Head 5250	2023-02-22	5250MHz	Pass	OFDM	N/A	Pass
7683	Head 5600	2023-02-22	5600MHz	Pass	OFDM	N/A	Pass
7683	Head 5750	2023-02-22	5750MHz	Pass	OFDM	N/A	Pass

Table F.2: System Validation

Probe SN.	Liquid name (MHz)	Validation date	Frequency point	CW Validation	Modulation Signal Validation		
					Modulation Type	Duty Factor	PAR
7621	Head 750	2025-07-30	750MHz	Pass	N/A	N/A	N/A
7621	Head 835	2025-07-30	835MHz	Pass	GMSK	Pass	N/A
7621	Head 1750	2025-07-30	1750MHz	Pass	N/A	N/A	N/A
7621	Head 1900	2025-07-30	1900MHz	Pass	GMSK	Pass	N/A
7621	Head 2450	2025-07-30	2450MHz	Pass	OFDM/TDD	Pass	Pass
7621	Head 2550	2025-07-30	2550MHz	Pass	TDD	Pass	N/A
7621	Head 3500	2025-07-31	3500MHz	Pass	TDD	Pass	N/A
7621	Head 3700	2025-07-31	3700MHz	Pass	TDD	Pass	N/A
7621	Head 3900	2025-07-31	3900MHz	Pass	TDD	Pass	N/A
7621	Head 5250	2025-08-01	5250MHz	Pass	OFDM	N/A	Pass
7621	Head 5600	2025-08-01	5600MHz	Pass	OFDM	N/A	Pass
7621	Head 5750	2025-08-01	5750MHz	Pass	OFDM	N/A	Pass

ANNEX G: DAE Calibration Certificate

DAE4-SN786 (2022-09-29)

In Collaboration with s p e a g CALIBRATION LABORATORY

Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2117
E-mail: emf@caict.ac.cn http://www.caict.ac.cn

中国认可 国际互认 校准 CALIBRATION CNAS L0570

Client : SAICT

Certificate No: Z22-60439

CALIBRATION CERTIFICATE

Object	DAE4 - SN: 786
Calibration Procedure(s)	FF-Z11-002-01 Calibration Procedure for the Data Acquisition Electronics (DAEx)
Calibration date:	September 29, 2022

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Process Calibrator 753	1971018	14-Jun-22 (CTTL, No.J22X04180)	Jun-23

	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: October 02, 2022

In Collaboration with
speag
CALIBRATION LABORATORY

CAICT

Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2117
E-mail: emf@caict.ac.cn http://www.caict.ac.cn

Glossary:

DAE	data acquisition electronics
Connector angle	information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters:

- *DC Voltage Measurement*: Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle*: The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The report provide only calibration results for DAE, it does not contain other performance test results.

In Collaboration with
s p e a g
CALIBRATION LABORATORY

CAICT

Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2117
E-mail: emf@caict.ac.cn http://www.caict.ac.cn

DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1μV , full range = -100...+300 mV

Low Range: 1LSB = 61nV , full range = -1.......+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	404.121 ± 0.15% (k=2)	404.267 ± 0.15% (k=2)	404.668 ± 0.15% (k=2)
Low Range	3.97160 ± 0.7% (k=2)	3.97314 ± 0.7% (k=2)	3.95725 ± 0.7% (k=2)

Connector Angle

Connector Angle to be used in DASY system	228.5º ± 1 º

DAE4-SN786 (2024-12-12)

In Collaboration with speag CALIBRATION LABORATORY

Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2117
E-mail: emf@caict.ac.cn http://www.caict.ac.cn

中国认可 国际互认 校准 CALIBRATION CNAS L0570

Client : SAICT

Certificate No: 24J02Z000997

CALIBRATION CERTIFICATE

Object	DAE4 - SN: 786
Calibration Procedure(s)	FF-Z11-002-01 Calibration Procedure for the Data Acquisition Electronics (DAEx)
Calibration date:	December 12, 2024

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Process Calibrator 753	1971018	11-Jun-24 (CTTL, No.24J02X005147)	Jun-25

	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Lin Jun	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: December 12, 2024

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: 24J02Z000997 Page 1 of 3

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Glossary:

DAE	data acquisition electronics
Connector angle	information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters:

- *DC Voltage Measurement*: Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle*: The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The report provide only calibration results for DAE, it does not contain other performance test results.

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DC Voltage Measurement

A/D - Converter Resolution nominal
High Range: 1LSB = 6.1μV , full range = -100...+300 mV
Low Range: 1LSB = 61nV , full range = -1.......+3mV
DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	404.144 ± 0.15% (k=2)	404.270 ± 0.15% (k=2)	404.679 ± 0.15% (k=2)
Low Range	3.97206 ± 0.7% (k=2)	3.94199 ± 0.7% (k=2)	3.95761 ± 0.7% (k=2)

Connector Angle

Connector Angle to be used in DASY system	331.5° ± 1 °

ANNEX H: Probe Calibration Certificate

EX3DV4-SN7683 (2023-02-16)

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Client SAICT Certificate No: Z23-60028

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN : 7683
Calibration Procedure(s)	FF-Z11-004-02 Calibration Procedures for Dosimetric E-field Probes
Calibration date:	February 16, 2023

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	101919	14-Jun-22(CTTL, No.J22X04181)	Jun-23
Power sensor NRP-Z91	101547	14-Jun-22(CTTL, No.J22X04181)	Jun-23
Power sensor NRP-Z91	101548	14-Jun-22(CTTL, No.J22X04181)	Jun-23
Reference 10dBAttenuator	18N50W-10dB	19-Jan-23(CTTL, No.J23X00212)	Jan-25
Reference 20dBAttenuator	18N50W-20dB	19-Jan-23(CTTL, No.J23X00211)	Jan-25
Reference Probe EX3DV4	SN 3846	20-May-22(SPEAG, No.EX3-3846_May22)	May-23
DAE4	SN 771	20-Jan-22(SPEAG, No.DAE4-771_Jan22)	Jan-23
DAE4	SN 1555	25-Aug-22(SPEAG, No.DAE4-1555_Aug22)	Aug-23
Secondary Standards	**ID #**	**Cal Date(Calibrated by, Certificate No.)**	**Scheduled Calibration**
SignalGenerator MG3700A	6201052605	14-Jun-22(CTTL, No.J22X04182)	Jun-23
Network Analyzer E5071C	MY46110673	10-Jan-23(CTTL, No.J23X00104)	Jan-24

	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: February 21, 2023

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Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A,B,C,D	modulation dependent linearization parameters
Polarization Φ	Φ rotation around probe axis
Polarization θ	θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i θ=0 is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization θ=0 (f≤900MHz in TEM-cell; f>1800MHz: waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E^2-field uncertainty inside TSL (see below ConvF).
- *NORM(f)x,y,z = NORMx,y,z* frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics.
- *Ax,y,z; Bx,y,z; Cx,y,z;VRx,y,z:*A,B,C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f≤800MHz) and inside waveguide using analytical field distributions based on power measurements for f >800MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty valued are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORMx,y,z* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from±50MHz to±100MHz.
- *Spherical isotropy (3D deviation from isotropy):* in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset:* The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- *Connector Angle:* The angle is assessed using the information gained by determining the *NORMx* (no uncertainty required).

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DASY/EASY – Parameters of Probe: EX3DV4 – SN: 7683

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm(μV/(V/m)²)[A]	0.63	0.63	0.62	±10.0%
DCP(mV)[B]	103.7	104.8	104.6	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Max Dev.	Max Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	207.3	±2.1%	±4.7%
		Y	0.0	0.0	1.0		206.5		
		Z	0.0	0.0	1.0		208.9		
10352-AAA	Pulse Waveform (200Hz, 10%)	X	1.41	60.00	5.76	10.00	60	±2.1%	±9.6%
		Y	1.40	60.00	5.71		60		
		Z	1.40	60.00	5.74		60		
10353-AAA	Pulse Waveform (200Hz, 20%)	X	6.00	68.00	7.00	6.99	80	±2.7%	±9.6%
		Y	6.00	68.00	7.00		80		
		Z	0.80	60.00	4.57		80		
10354-AAA	Pulse Waveform (200Hz, 40%)	X	0.17	139.32	0.54	3.98	95	±2.3%	±9.6%
		Y	0.18	142.45	0.34		95		
		Z	0.39	152.48	0.68		95		
10355-AAA	Pulse Waveform (200Hz, 60%)	X	8.34	159.94	4.53	2.22	120	±1.3%	±9.6%
		Y	6.71	159.96	17.92		120		
		Z	9.39	159.08	22.96		120		
10387-AAA	QPSK Waveform, 1 MHz	X	0.54	62.14	10.35	1.00	150	±4.5%	±9.6%
		Y	0.69	64.27	11.73		150		
		Z	0.65	64.12	11.72		150		
10388-AAA	QPSK Waveform, 10 MHz	X	1.29	64.42	12.76	0.00	150	±1.5%	±9.6%
		Y	1.44	65.67	13.79		150		
		Z	1.42	65.70	13.74		150		
10396-AAA	64-QAM Waveform, 100 kHz	X	1.75	65.11	16.63	3.01	150	±1.1%	±9.6%
		Y	1.85	66.39	17.86		150		
		Z	1.81	65.99	17.68		150		
10414-AAA	WLAN CCDF, 64-QAM, 40MHz	X	3.99	66.17	15.25	0.00	150	±4.7%	±9.6%
		Y	4.14	66.41	15.55		150		
		Z	4.12	66.53	15.58		150		

Note: For details on UID parameters see Appendix

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 Norm X, Y, Z do not affect the E^2-field uncertainty inside TSL (see Page 5).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

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DASY/EASY – Parameters of Probe: EX3DV4 – SN: 7683

Sensor Model Parameters

	C1 fF	C2 fF	α V^{-1}	T1 $ms.V^{-2}$	T2 $ms.V^{-1}$	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
X	11.17	81.84	33.99	2.45	0.00	4.90	0.33	0.00	1.01
Y	12.84	94.42	34.34	2.69	0.00	4.90	0.30	0.00	1.02
Z	12.01	88.21	34.28	3.18	0.00	4.90	0.21	0.00	1.02

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	156.2
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disable
Probe Overall Length	337mm
Probe Body Diameter	10mm
Tip Length	9mm
Tip Diameter	2.5mm
Probe Tip to Sensor X Calibration Point	1mm
Probe Tip to Sensor Y Calibration Point	1mm
Probe Tip to Sensor Z Calibration Point	1mm
Recommended Measurement Distance from Surface	1.4mm

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DASY/EASY – Parameters of Probe: EX3DV4 – SN:7683

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz][C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha[G]	Depth[G] (mm)	Unct. (k=2)
750	41.9	0.89	10.75	10.75	10.75	0.11	1.60	±12.7%
900	41.5	0.97	10.28	10.28	10.28	0.17	1.26	±12.7%
1640	40.3	1.29	9.01	9.01	9.01	0.19	1.12	±12.7%
1750	40.1	1.37	8.81	8.81	8.81	0.18	1.18	±12.7%
1900	40.0	1.40	8.55	8.55	8.55	0.24	1.02	±12.7%
2100	39.8	1.49	8.65	8.65	8.65	0.21	1.08	±12.7%
2300	39.5	1.67	8.30	8.30	8.30	0.66	0.67	±12.7%
2450	39.2	1.80	8.02	8.02	8.02	0.66	0.68	±12.7%
2600	39.0	1.96	7.76	7.76	7.76	0.55	0.75	±12.7%
3300	38.2	2.71	7.49	7.49	7.49	0.30	1.03	±13.9%
3500	37.9	2.91	7.34	7.34	7.34	0.31	1.04	±13.9%
3700	37.7	3.12	7.09	7.09	7.09	0.30	1.06	±13.9%
3900	37.5	3.32	6.95	6.95	6.95	0.30	1.45	±13.9%
4100	37.2	3.53	6.91	6.91	6.91	0.30	1.40	±13.9%
4400	36.9	3.84	6.74	6.74	6.74	0.30	1.50	±13.9%
4600	36.7	4.04	6.66	6.66	6.66	0.40	1.33	±13.9%
4800	36.4	4.25	6.58	6.58	6.58	0.40	1.38	±13.9%
4950	36.3	4.40	6.36	6.36	6.36	0.40	1.35	±13.9%
5250	35.9	4.71	5.72	5.72	5.72	0.45	1.32	±13.9%
5600	35.5	5.07	5.13	5.13	5.13	0.40	1.60	±13.9%
5750	35.4	5.22	5.23	5.23	5.23	0.45	1.40	±13.9%

[C] Frequency validity above 300 MHz of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequency up to 6 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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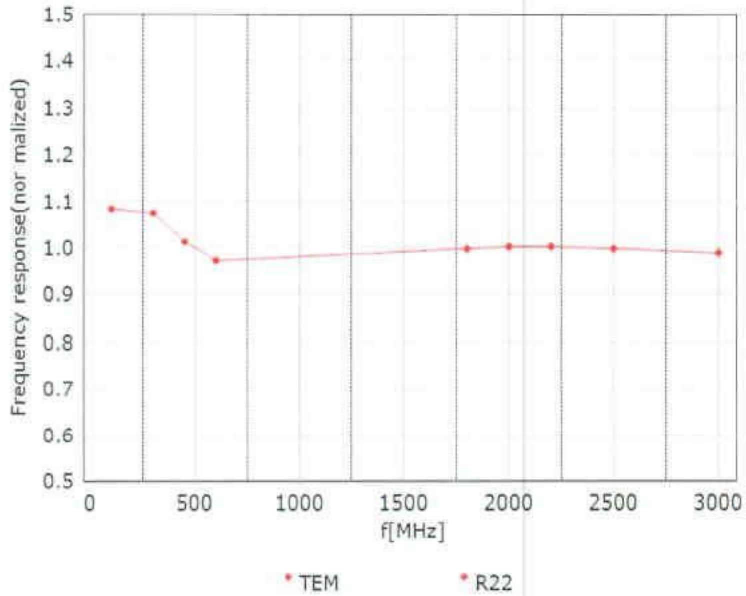
Frequency Response of E-Field
(TEM-Cell: ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: ±7.4% (*k*=2)

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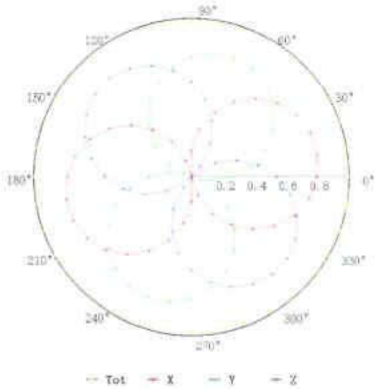
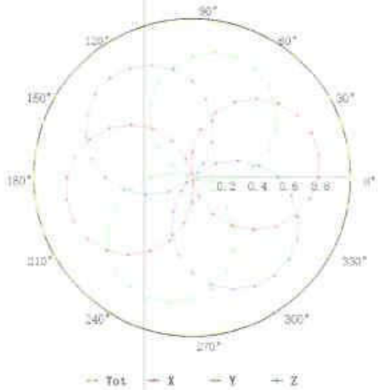
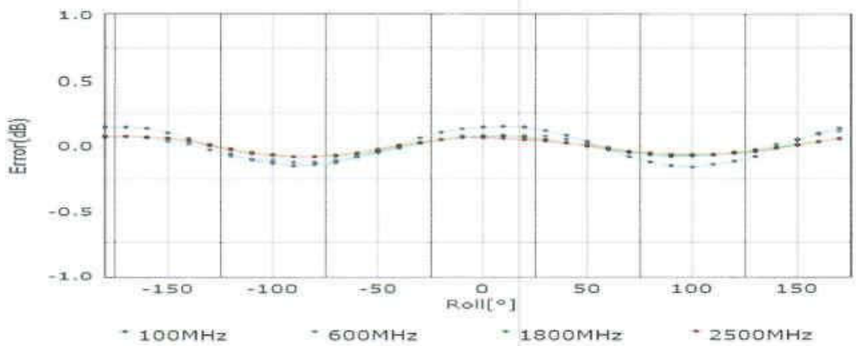
Receiving Pattern (Φ), θ=0°

f=600 MHz, TEM



f=1800 MHz, R22





Uncertainty of Axial Isotropy Assessment: ±1.2% (k=2)

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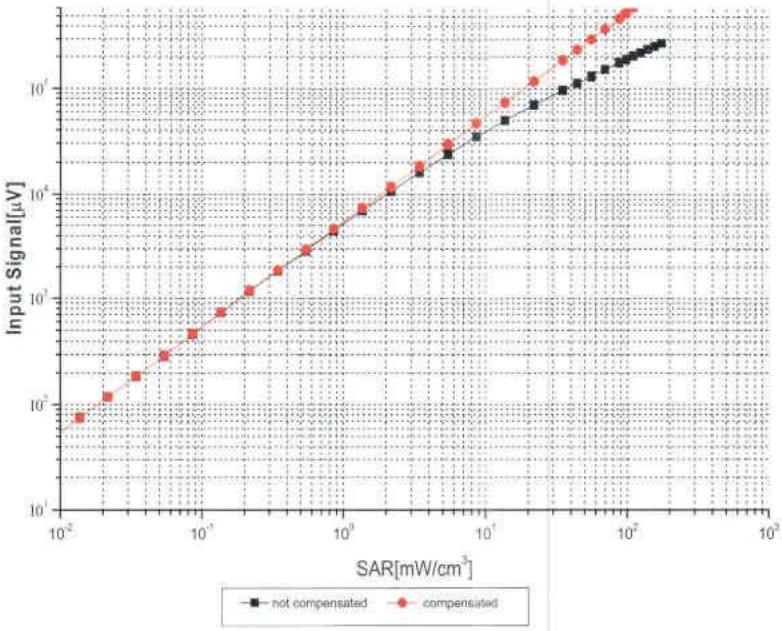
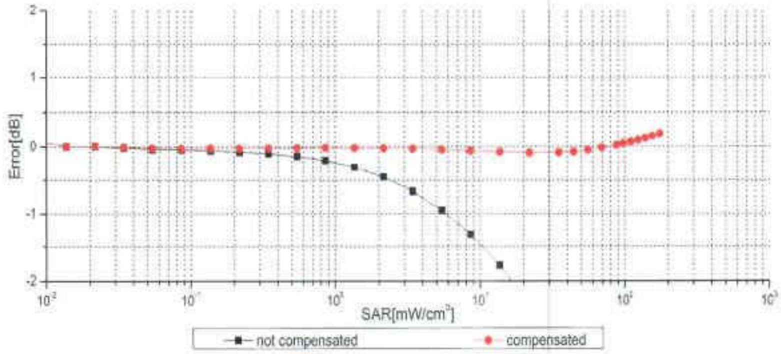
Dynamic Range f(SAR$_{head}$)
(TEM cell, f = 900 MHz)





Uncertainty of Linearity Assessment: ±0.9% (*k*=2)

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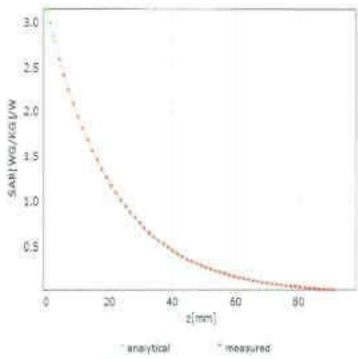
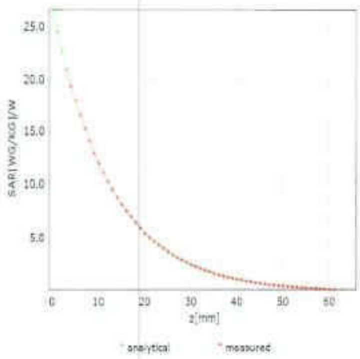
Conversion Factor Assessment

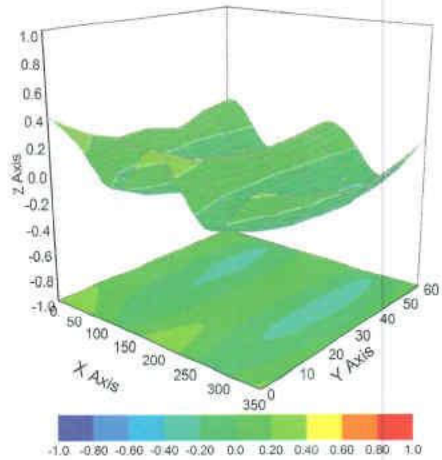
f=750 MHz,WGLS R9(H_convF)



f=1750 MHz,WGLS R22(H_convF)



Deviation from Isotropy in Liquid



Uncertainty of Spherical Isotropy Assessment: ±3.2% (*k*=2)

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Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	UncE (*k*=2)
0		CW	CW	0.00	± 4.7 %
10010	CAA	SAR Validation (Square, 100ms, 10ms)	Test	10.00	± 9.6 %
10011	CAB	UMTS-FDD (WCDMA)	WCDMA	2.91	± 9.6 %
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	± 9.6 %
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	± 9.6 %
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	± 9.6 %
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	± 9.6 %
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	± 9.6 %
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	± 9.6 %
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	± 9.6 %
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	± 9.6 %
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	± 9.6 %
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	± 9.6 %
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	± 9.6 %
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	± 9.6 %
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	± 9.6 %
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	± 9.6 %
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	± 9.6 %
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	± 9.6 %
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	± 9.6 %
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	± 9.6 %
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	± 9.6 %
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	± 9.6 %
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	± 9.6 %
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	± 9.6 %
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	± 9.6 %
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	± 9.6 %
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	± 9.6 %
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	± 9.6 %
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	± 9.6 %
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	± 9.6 %
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	± 9.6 %
10062	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	± 9.6 %
10063	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	± 9.6 %
10064	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	± 9.6 %
10065	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	± 9.6 %
10066	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	± 9.6 %
10067	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	± 9.6 %
10068	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	± 9.6 %
10069	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	± 9.6 %
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	± 9.6 %
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	± 9.6 %
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	± 9.6 %
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	± 9.6 %
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	± 9.6 %
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	± 9.6 %
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	± 9.6 %
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	± 9.6 %
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	± 9.6 %
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	± 9.6 %
10097	CAC	UMTS-FDD (HSDPA)	WCDMA	3.98	± 9.6 %
10098	DAC	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	± 9.6 %
10099	CAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	± 9.6 %
10100	CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	± 9.6 %
10101	CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %

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10102	CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10103	DAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10104	CAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	± 9.6 %
10105	CAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	± 9.6 %
10108	CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	± 9.6 %
10109	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10110	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10111	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	± 9.6 %
10112	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	± 9.6 %
10113	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10114	CAG	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAG	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	± 9.6 %
10116	CAG	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117	CAG	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
10118	CAD	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAD	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	± 9.6 %
10140	CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10141	CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	± 9.6 %
10142	CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10143	CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	± 9.6 %
10144	CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	± 9.6 %
10145	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	± 9.6 %
10146	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	± 9.6 %
10147	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	± 9.6 %
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10150	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10151	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	± 9.6 %
10152	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10153	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	± 9.6 %
10154	CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10155	CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10156	CAF	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	± 9.6 %
10157	CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10158	CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10159	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	± 9.6 %
10160	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	± 9.6 %
10161	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10162	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	± 9.6 %
10166	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	± 9.6 %
10167	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	± 9.6 %
10168	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	± 9.6 %
10169	CAG	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10170	CAG	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10171	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	± 9.6 %
10172	CAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10173	CAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10174	CAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10175	CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10176	CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10177	CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10178	CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10179	AAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10180	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10181	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10182	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10183	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10184	CAG	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10185	CAI	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	± 9.6 %
10186	CAG	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %

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10187	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10188	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10189	CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10193	CAE	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	± 9.6 %
10194	AAD	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	± 9.6 %
10195	CAE	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	± 9.6 %
10196	CAE	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10197	AAE	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10198	CAF	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10219	CAF	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	± 9.6 %
10220	AAF	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	± 9.6 %
10223	CAD	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	± 9.6 %
10224	CAD	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	± 9.6 %
10225	CAD	UMTS-FDD (HSPA+)	WCDMA	5.97	± 9.6 %
10226	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	± 9.6 %
10227	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	± 9.6 %
10228	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	± 9.6 %
10229	DAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10230	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10231	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	± 9.6 %
10232	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10233	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10234	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10235	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10236	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10237	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10238	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10239	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10240	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10241	CAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	± 9.6 %
10242	CAD	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	± 9.6 %
10243	CAD	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	± 9.6 %
10244	CAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10245	CAG	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	± 9.6 %
10246	CAG	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10247	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	± 9.6 %
10248	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	± 9.6 %
10249	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10250	CAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	± 9.6 %
10251	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	± 9.6 %
10252	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	± 9.6 %
10254	CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	± 9.6 %
10255	CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	± 9.6 %
10256	CAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	± 9.6 %
10257	CAD	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	± 9.6 %
10258	CAD	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	± 9.6 %
10259	CAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	± 9.6 %
10260	CAG	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	± 9.6 %
10261	CAG	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10262	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	± 9.6 %
10263	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	± 9.6 %
10264	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	± 9.6 %
10265	CAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10266	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	± 9.6 %
10267	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10268	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %

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10269	CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	± 9.6 %
10270	CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	± 9.6 %
10274	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	± 9.6 %
10275	CAD	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	± 9.6 %
10277	CAD	PHS (QPSK)	PHS	11.81	± 9.6 %
10278	CAD	PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS	11.81	± 9.6 %
10279	CAG	PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS	12.18	± 9.6 %
10290	CAG	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	± 9.6 %
10291	CAG	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	± 9.6 %
10292	CAG	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	± 9.6 %
10293	CAG	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	± 9.6 %
10295	CAG	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	± 9.6 %
10297	CAF	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	± 9.6 %
10298	CAF	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10299	CAF	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	± 9.6 %
10300	CAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10301	CAC	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	WiMAX	12.03	± 9.6 %
10302	CAB	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3CTRL)	WiMAX	12.57	± 9.6 %
10303	CAB	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	12.52	± 9.6 %
10304	CAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	11.86	± 9.6 %
10305	CAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC)	WiMAX	15.24	± 9.6 %
10306	CAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC)	WiMAX	14.67	± 9.6 %
10307	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC)	WiMAX	14.49	± 9.6 %
10308	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WiMAX	14.46	± 9.6 %
10309	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM,AMC 2x3)	WiMAX	14.58	± 9.6 %
10310	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3	WiMAX	14.57	± 9.6 %
10311	AAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	± 9.6 %
10313	AAD	iDEN 1:3	iDEN	10.51	± 9.6 %
10314	AAD	iDEN 1:6	iDEN	13.48	± 9.6 %
10315	AAD	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc dc)	WLAN	1.71	± 9.6 %
10316	AAD	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc dc)	WLAN	8.36	± 9.6 %
10317	AAA	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc dc)	WLAN	8.36	± 9.6 %
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	± 9.6 %
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	± 9.6 %
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	± 9.6 %
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	± 9.6 %
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	± 9.6 %
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	± 9.6 %
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	± 9.6 %
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	± 9.6 %
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	± 9.6 %
10400	AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc dc)	WLAN	8.37	± 9.6 %
10401	AAA	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc dc)	WLAN	8.60	± 9.6 %
10402	AAA	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc dc)	WLAN	8.53	± 9.6 %
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	± 9.6 %
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	± 9.6 %
10406	AAD	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	± 9.6 %
10410	AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10414	AAA	WLAN CCDF, 64-QAM, 40MHz	Generic	8.54	± 9.6 %
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc dc)	WLAN	1.54	± 9.6 %
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10417	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Long)	WLAN	8.14	± 9.6 %
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Short)	WLAN	8.19	± 9.6 %
10422	AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	± 9.6 %
10423	AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	± 9.6 %
10424	AAE	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	± 9.6 %
10425	AAE	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	± 9.6 %
10426	AAE	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	± 9.6 %

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10427	AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8.41	± 9.6 %
10430	AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	± 9.6 %
10431	AAC	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	± 9.6 %
10432	AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10433	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10434	AAG	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	± 9.6 %
10435	AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10447	AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	± 9.6 %
10448	AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	LTE-FDD	7.53	± 9.6 %
10449	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	LTE-FDD	7.51	± 9.6 %
10450	AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	± 9.6 %
10451	AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	± 9.6 %
10453	AAC	Validation (Square, 10ms, 1ms)	Test	10.00	± 9.6 %
10456	AAC	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc dc)	WLAN	8.63	± 9.6 %
10457	AAC	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	± 9.6 %
10458	AAC	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	± 9.6 %
10459	AAC	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	± 9.6 %
10460	AAC	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	± 9.6 %
10461	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10462	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.30	± 9.6 %
10463	AAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.56	± 9.6 %
10464	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10465	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10466	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10467	AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10468	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10469	AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.56	± 9.6 %
10470	AAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10471	AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10472	AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10473	AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10474	AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10475	AAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10477	AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10478	AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10479	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10480	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.18	± 9.6 %
10481	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.45	± 9.6 %
10482	AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.71	± 9.6 %
10483	AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, Sub)	LTE-TDD	8.39	± 9.6 %
10484	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.47	± 9.6 %
10485	AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.59	± 9.6 %
10486	AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.38	± 9.6 %
10487	AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.60	± 9.6 %
10488	AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.70	± 9.6 %
10489	AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.31	± 9.6 %
10490	AAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10491	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10492	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.41	± 9.6 %
10493	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.55	± 9.6 %
10494	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10495	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.37	± 9.6 %
10496	AAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10497	AAE	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.67	± 9.6 %
10498	AAE	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.40	± 9.6 %
10499	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.68	± 9.6 %
10500	AAF	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.67	± 9.6 %
10501	AAF	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Sub)	LTE-TDD	8.44	± 9.6 %
10502	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.52	± 9.6 %

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10503	AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.72	± 9.6 %
10504	AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.31	± 9.6 %
10505	AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10506	AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10507	AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.36	± 9.6 %
10508	AAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.55	± 9.6 %
10509	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.99	± 9.6 %
10510	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.49	± 9.6 %
10511	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.51	± 9.6 %
10512	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10513	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.42	± 9.6 %
10514	AAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.45	± 9.6 %
10515	AAE	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc dc)	WLAN	1.58	± 9.6 %
10516	AAE	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc dc)	WLAN	1.57	± 9.6 %
10517	AAF	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc dc)	WLAN	1.58	± 9.6 %
10518	AAF	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10519	AAF	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc dc)	WLAN	8.39	± 9.6 %
10520	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc dc)	WLAN	8.12	± 9.6 %
10521	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc dc)	WLAN	7.97	± 9.6 %
10522	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc dc)	WLAN	8.45	± 9.6 %
10523	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc dc)	WLAN	8.08	± 9.6 %
10524	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc dc)	WLAN	8.27	± 9.6 %
10525	AAC	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc dc)	WLAN	8.36	± 9.6 %
10526	AAF	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc dc)	WLAN	8.42	± 9.6 %
10527	AAF	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc dc)	WLAN	8.21	± 9.6 %
10528	AAF	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc dc)	WLAN	8.36	± 9.6 %
10529	AAF	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc dc)	WLAN	8.36	± 9.6 %
10531	AAF	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc dc)	WLAN	8.43	± 9.6 %
10532	AAF	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc dc)	WLAN	8.29	± 9.6 %
10533	AAE	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc dc)	WLAN	8.38	± 9.6 %
10534	AAE	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc dc)	WLAN	8.45	± 9.6 %
10535	AAE	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc dc)	WLAN	8.45	± 9.6 %
10536	AAF	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc dc)	WLAN	8.32	± 9.6 %
10537	AAF	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc dc)	WLAN	8.44	± 9.6 %
10538	AAF	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc dc)	WLAN	8.54	± 9.6 %
10540	AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc dc)	WLAN	8.39	± 9.6 %
10541	AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc dc)	WLAN	8.46	± 9.6 %
10542	AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc dc)	WLAN	8.65	± 9.6 %
10543	AAC	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc dc)	WLAN	8.65	± 9.6 %
10544	AAC	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc dc)	WLAN	8.47	± 9.6 %
10545	AAC	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc dc)	WLAN	8.55	± 9.6 %
10546	AAC	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc dc)	WLAN	8.35	± 9.6 %
10547	AAC	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc dc)	WLAN	8.49	± 9.6 %
10548	AAC	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc dc)	WLAN	8.37	± 9.6 %
10550	AAC	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc dc)	WLAN	8.38	± 9.6 %
10551	AAC	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc dc)	WLAN	8.50	± 9.6 %
10552	AAC	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc dc)	WLAN	8.42	± 9.6 %
10553	AAC	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc dc)	WLAN	8.45	± 9.6 %
10554	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc dc)	WLAN	8.48	± 9.6 %
10555	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc dc)	WLAN	8.47	± 9.6 %
10556	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc dc)	WLAN	8.50	± 9.6 %
10557	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc dc)	WLAN	8.52	± 9.6 %
10558	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc dc)	WLAN	8.61	± 9.6 %
10560	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc dc)	WLAN	8.73	± 9.6 %
10561	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc dc)	WLAN	8.56	± 9.6 %
10562	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc dc)	WLAN	8.69	± 9.6 %
10563	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc dc)	WLAN	8.77	± 9.6 %
10564	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc dc)	WLAN	8.25	± 9.6 %
10565	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc dc)	WLAN	8.45	± 9.6 %