

**Table 14-5 WCDMA1900-BII #1Head**

WCDMA1900-BII #1Head								
Ambient Temperature: 22.7			Liquid Temperature: 22.4					
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			CH9538 1907.6 MHz	CH9400 1880 MHz	CH9262 1852.4 MHz	CH9538 1907.6 MHz	CH9400 1880 MHz	CH9262 1852.4 MHz
RMC	Tune-up		25.00	25.00	25.00	Scaling factor*		
	Slot Average Power [dBm]		24.85	24.75	24.78	1.04	1.06	1.05
	Left Cheek	1g SAR	0.142	0.073	0.064	0.15	0.08	0.07
		10g SAR	0.089	0.051	0.04	0.09	0.05	0.04
		Deviation	0.04	0.09	0.07	0.04	0.09	0.07
	Left Tilt	1g SAR		0.038			0.04	
		10g SAR		0.026			0.03	
		Deviation		-0.05			-0.05	
	Right Cheek	1g SAR		0.115			0.12	
		10g SAR		0.071			0.08	
		Deviation		0.02			0.02	
	Right Tilt	1g SAR		0.033			0.03	
		10g SAR		0.021			0.02	
		Deviation		0.12			0.12	

**Table 14-6 WCDMA1900-BII #1Body**

WCDMA1900-BII #1Body								
Ambient Temperature: 22.7			Liquid Temperature: 22.4					
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			CH9538 1907.6 MHz	CH9400 1880 MHz	CH9262 1852.4 MHz	CH9538 1907.6 MHz	CH9400 1880 MHz	CH9262 1852.4 MHz
RMC	Tune-up		25.00	25.00	25.00	Scaling factor*		
	Slot Average Power [dBm]		24.85	24.75	24.78	1.04	1.06	1.05
	Front	1g SAR		0.487			0.52	
		10g SAR		0.277			0.29	
		Deviation		0.08			0.08	
	Rear	1g SAR	0.984	1.19	1.147	1.02	1.26	1.21
		10g SAR	0.546	0.647	0.605	0.57	0.69	0.64
		Deviation	0.04	-0.01	0.1	0.04	-0.01	0.10
	Left edge	1g SAR		0.092			0.10	
		10g SAR		0.058			0.06	
		Deviation		0.15			0.15	
	Right edge	1g SAR		0.048			0.05	
		10g SAR		0.033			0.03	
		Deviation		0.09			0.09	
	Bottom edge	1g SAR	0.984	1.105	1.051	1.02	1.17	1.11
10g SAR		0.551	0.609	0.573	0.57	0.65	0.60	
Deviation		0.07	-0.1	0.05	0.07	-0.10	0.05	
RMC	Rear Omm	1g SAR		4.94			5.23	
		10g SAR		2.11			2.24	
		Deviation		0.06			0.06	

**Table 14-7 WCDMA1700-BIV #1Head**

WCDMA1700-BIV #1Head								
Ambient Temperature: 22.7			Liquid Temperature: 22.4					
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			CH1513 1752.6 MHz	CH1412 1732.4 MHz	CH1312 1712.4 MHz	CH1513 1752.6 MHz	CH1412 1732.4 MHz	CH1312 1712.4 MHz
RMC	Tune-up		25.00	25.00	25.00	Scaling factor*		
	Slot Average Power [dBm]		24.67	24.65	24.62	1.08	1.08	1.09
	Left Cheek	1g SAR	0.425	0.419	0.35	0.46	0.45	0.38
		10g SAR	0.271	0.267	0.226	0.29	0.29	0.25
		Deviation	0.06	0.03	0.08	0.06	0.03	0.08
	Left Tilt	1g SAR		0.184			0.20	
		10g SAR		0.125			0.14	
		Deviation		0.04			0.04	
	Right Cheek	1g SAR		0.22			0.24	
		10g SAR		0.146			0.16	
		Deviation		0.09			0.09	
	Right Tilt	1g SAR		0.149			0.16	
		10g SAR		0.099			0.11	
		Deviation		-0.05			-0.05	

**Table 14-8 WCDMA1700-BIV #1Body**

WCDMA1700-BIV #1Body								
Ambient Temperature: 22.7			Liquid Temperature: 22.4					
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			CH1513 1752.6 MHz	CH1412 1732.4 MHz	CH1312 1712.4 MHz	CH1513 1752.6 MHz	CH1412 1732.4 MHz	CH1312 1712.4 MHz
RMC	Tune-up		25.00	25.00	25.00	Scaling factor*		
	Slot Average Power [dBm]		24.67	24.65	24.62	1.08	1.08	1.09
	Front	1g SAR		0.511			0.55	
		10g SAR		0.347			0.38	
		Deviation		0.03			0.03	
	Rear	1g SAR	0.544	0.516	0.532	0.59	0.56	0.58
		10g SAR	0.349	0.338	0.356	0.38	0.37	0.39
		Deviation	0.05	0.02	0.12	0.05	0.02	0.12
	Left edge	1g SAR		0.332			0.36	
		10g SAR		0.213			0.23	
		Deviation		0.07			0.07	
	Right edge	1g SAR		0.074			0.08	
		10g SAR		0.047			0.05	
		Deviation		-0.03			-0.03	
	Bottom edge	1g SAR		0.489			0.53	
10g SAR			0.301			0.33		
Deviation			0.06			0.06		



Table 14-9 WCDMA850-BV #1Head

WCDMA850-BV #1Head								
Ambient Temperature: 22.7			Liquid Temperature: 22.4					
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			CH4233 846.6 MHz	CH4182 835.4 MHz	CH4132 826.4 MHz	CH4233 846.6 MHz	CH4182 835.4 MHz	CH4132 826.4 MHz
RMC	Tune-up		25.00	25.00	25.00	Scaling factor*		
	Slot Average Power [dBm]		24.72	24.62	24.73	1.07	1.09	1.06
	Left Cheek	1g SAR	0.207	0.178	0.148	0.22	0.19	0.16
		10g SAR	0.163	0.139	0.117	0.17	0.15	0.12
		Deviation	0.06	0.09	0.02	0.06	0.09	0.02
	Left Tilt	1g SAR		0.094			0.10	
		10g SAR		0.076			0.08	
		Deviation		0.1			0.10	
	Right Cheek	1g SAR		0.159			0.17	
		10g SAR		0.125			0.14	
		Deviation		0.05			0.05	
	Right Tilt	1g SAR		0.073			0.08	
		10g SAR		0.058			0.06	
		Deviation		0.07			0.07	

Table 14-10 WCDMA850-BV #1Body

WCDMA850-BV #1Body								
Ambient Temperature: 22.7			Liquid Temperature: 22.4					
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			CH4233 846.6 MHz	CH4182 835.4 MHz	CH4132 826.4 MHz	CH4233 846.6 MHz	CH4182 835.4 MHz	CH4132 826.4 MHz
RMC	Tune-up		25.00	25.00	25.00	Scaling factor*		
	Slot Average Power [dBm]		24.72	24.62	24.73	1.07	1.09	1.06
	Front	1g SAR		0.136			0.15	
		10g SAR		0.106			0.12	
		Deviation		0.04			0.04	
	Rear	1g SAR	0.255	0.217	0.21	0.27	0.24	0.22
		10g SAR	0.198	0.167	0.163	0.21	0.18	0.17
		Deviation	-0.11	0.09	0.06	-0.11	0.09	0.06
	Left edge	1g SAR		0.184			0.20	
		10g SAR		0.129			0.14	
		Deviation		0.03			0.03	
	Right edge	1g SAR		0.091			0.10	
		10g SAR		0.064			0.07	
		Deviation		-0.07			-0.07	
	Bottom edge	1g SAR		0.085			0.09	
10g SAR			0.047			0.05		
Deviation			0.05			0.05		



Table 14-11 LTE1900-FDD2 #1 Head

LTE1900-FDD2 #1 Head								
Ambient Temperature: 22.7				Liquid Temperature: 22.4				
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			19100	18900	18700	19100	18900	18700
			M	M	M	M	M	M
20MHz QPSK1RB	Tune-up		25.00	25.00	25.00	Scaling factor*		
	Measured Power [dBm]		24.54	24.38	24.22	1.11	1.15	1.20
	Left Cheek	1g SAR	0.339			0.38		
		10g SAR	0.208			0.23		
		Deviation	-0.06			-0.06		
	Left Tilt	1g SAR	0.166			0.18		
		10g SAR	0.103			0.11		
		Deviation	0.07			0.07		
	Right Cheek	1g SAR	0.288			0.32		
		10g SAR	0.175			0.19		
		Deviation	0.02			0.02		
	Right Tilt	1g SAR	0.118			0.13		
		10g SAR	0.075			0.08		
		Deviation	0.09			0.09		
TRUE	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			19100	18900	18700	19100	18900	18700
			M	M	H	M	M	H
20MHz QPSK50% RB	Tune-up		24.00	24.00	24.00	Scaling factor*		
	Measured Power [dBm]		23.22	23.18	23.15	1.20	1.21	1.22
	Left Cheek	1g SAR	0.217			0.26		
		10g SAR	0.133			0.16		
		Deviation	-0.05			-0.05		
	Left Tilt	1g SAR	0.125			0.15		
		10g SAR	0.078			0.09		
		Deviation	0.03			0.03		
	Right Cheek	1g SAR	0.227			0.27		
		10g SAR	0.137			0.16		
		Deviation	0.07			0.07		
	Right Tilt	1g SAR	0.096			0.11		
		10g SAR	0.061			0.07		
		Deviation	0.11			0.11		



Table 14-12 LTE1900-FDD2 #1 Body

LTE1900-FDD2 #1 Body								
Ambient Temperature: 22.7				Liquid Temperature: 22.4				
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			19100	18900	18700	19100	18900	18700
			M	M	M	M	M	M
20MHz QPSK1RB	Tune-up		25.00	25.00	25.00	Scaling factor*		
	Measured Power [dBm]		24.54	24.38	24.22	1.11	1.15	1.20
	Front	1g SAR	0.542			0.60		
		10g SAR	0.348			0.39		
		Deviation	0.04			0.04		
	Rear	1g SAR	0.659			0.73		
		10g SAR	0.379			0.42		
		Deviation	0.09			0.09		
	Left edge	1g SAR	0.304			0.34		
		10g SAR	0.19			0.21		
		Deviation	-0.07			-0.07		
	Right edge	1g SAR	0.16			0.18		
		10g SAR	0.098			0.11		
		Deviation	0.06			0.06		
	Bottom edge	1g SAR	0.883	0.993	0.897	0.98	1.15	1.07
10g SAR		0.505	0.564	0.538	0.56	0.65	0.64	
Deviation		0.04	-0.11	0.09	0.04	-0.11	0.09	
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			19100	18900	18700	19100	18900	18700
			M	M	H			
20MHz QPSK50% RB	Tune-up		24.00	24.00	24.00	Scaling factor*		
	Measured Power [dBm]		23.22	23.18	23.15	1.20	1.21	1.22
	Front	1g SAR	0.407			0.49		
		10g SAR	0.262			0.31		
		Deviation	0.01			0.01		
	Rear	1g SAR	0.488			0.58		
		10g SAR	0.294			0.35		
		Deviation	0.08			0.08		
	Left edge	1g SAR	0.2			0.24		
		10g SAR	0.125			0.15		
		Deviation	0.06			0.06		
	Right edge	1g SAR	0.109			0.13		
		10g SAR	0.067			0.08		
		Deviation	-0.15			-0.15		
	Bottom edge	1g SAR	0.743	0.754	0.778	0.89	0.91	0.95
10g SAR		0.425	0.44	0.457	0.51	0.53	0.56	
Deviation		0.04	0.08	-0.05	0.04	0.08	-0.05	
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			19100	18900	18700	19100	18900	18700
20MHz QPSK100% RB	Tune-up		24.00	24.00	24.00	Scaling factor*		
	Measured Power [dBm]		23.30	23.09	23.02	1.17	1.23	1.25
	Bottom edge	1g SAR	0.746			0.88		
		10g SAR	0.419			0.49		
		Deviation	0.01			0.01		

Table 14-13 LTE850-FDD5 #1 Head

LTE850-FDD5 #1 Head								
Ambient Temperature: 22.7				Liquid Temperature: 22.4				
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			20600 M	20525 M	20450 M	20600 M	20525 M	20450 M
10MHz QPSK1RB	Tune-up		24.50	24.50	24.50	Scaling factor*		
	Measured Power [dBm]		24.26	24.08	24.02	1.06	1.10	1.12
	Left Cheek	1g SAR	0.19			0.20		
		10g SAR	0.148			0.16		
		Deviation	0.03			0.03		
	Left Tilt	1g SAR	0.08			0.08		
		10g SAR	0.063			0.07		
		Deviation	0.04			0.04		
	Right Cheek	1g SAR	0.154			0.16		
		10g SAR	0.121			0.13		
		Deviation	-0.04			-0.04		
	Right Tilt	1g SAR	0.098			0.10		
		10g SAR	0.08			0.08		
		Deviation	0.02			0.02		
	TRUE	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]	
20600 M				20525 H	20450 M	20600 M	20525 H	20450 M
10MHz QPSK50% RB	Tune-up		23.50	23.50	23.50	Scaling factor*		
	Measured Power [dBm]		22.91	22.84	22.89	1.15	1.17	1.15
	Left Cheek	1g SAR	0.159			0.18		
		10g SAR	0.123			0.14		
		Deviation	0.03			0.03		
	Left Tilt	1g SAR	0.092			0.11		
		10g SAR	0.072			0.08		
		Deviation	0.02			0.02		
	Right Cheek	1g SAR	0.123			0.14		
		10g SAR	0.097			0.11		
		Deviation	0.08			0.08		
	Right Tilt	1g SAR	0.072			0.08		
		10g SAR	0.057			0.07		
		Deviation	0.14			0.14		



Table 14-14 LTE850-FDD5 #1 Body

LTE850-FDD5 #1 Body								
Ambient Temperature: 22.7				Liquid Temperature: 22.4				
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			20600 M	20525 M	20450 M	20600 M	20525 M	20450 M
10MHz QPSK1RB	Tune-up		24.50	24.50	24.50	Scaling factor*		
	Measured Power [dBm]		24.26	24.08	24.02	1.06	1.10	1.12
	Front	1g SAR	0.173			0.18		
		10g SAR	0.135			0.14		
		Deviation	0.09			0.09		
	Rear	1g SAR	0.3			0.32		
		10g SAR	0.235			0.25		
		Deviation	-0.11			-0.11		
	Left edge	1g SAR	0.137			0.14		
		10g SAR	0.097			0.10		
		Deviation	0.03			0.03		
	Right edge	1g SAR	0.117			0.12		
		10g SAR	0.084			0.09		
		Deviation	0.15			0.15		
	Bottom edge	1g SAR	0.095			0.10		
		10g SAR	0.054			0.06		
Deviation		0.07			0.07			
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			20600 M	20525 H	20450 M	20600	20525	20450
10MHz QPSK50% RB	Tune-up		23.50	23.50	23.50	Scaling factor*		
	Measured Power [dBm]		22.91	22.84	22.89	1.15	1.17	1.15
	Front	1g SAR	0.137			0.16		
		10g SAR	0.107			0.12		
		Deviation	-0.04			-0.04		
	Rear	1g SAR	0.226			0.26		
		10g SAR	0.18			0.21		
		Deviation	0.08			0.08		
	Left edge	1g SAR	0.122			0.14		
		10g SAR	0.088			0.10		
		Deviation	0.02			0.02		
	Right edge	1g SAR	0.093			0.11		
		10g SAR	0.068			0.08		
		Deviation	0.03			0.03		
	Bottom edge	1g SAR	0.074			0.08		
		10g SAR	0.041			0.05		
Deviation		-0.07			-0.07			

Table 14-15 LTE700-FDD12 #1 Head

LTE700-FDD12 #1 Head								
Ambient Temperature: 22.7				Liquid Temperature: 22.4				
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			23130 M	23095 M	23060 H	23130 M	23095 M	23060 H
10MHz QPSK1RB	Tune-up		24.50	24.50	24.50	Scaling factor*		
	Measured Power [dBm]		23.99	23.91	23.94	1.13	1.15	1.14
	Left Cheek	1g SAR	0.208			0.23		
		10g SAR	0.163			0.18		
		Deviation	0.04			0.04		
	Left Tilt	1g SAR	0.14			0.16		
		10g SAR	0.109			0.12		
		Deviation	0.16			0.16		
	Right Cheek	1g SAR	0.25			0.28		
		10g SAR	0.197			0.22		
		Deviation	0.09			0.09		
	Right Tilt	1g SAR	0.167			0.19		
		10g SAR	0.135			0.15		
		Deviation	0.07			0.07		
	TRUE	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]	
23130 M				23095 L	23060 H	23130 M	23095 L	23060 H
10MHz QPSK50% RB	Tune-up		23.50	23.50	23.50	Scaling factor*		
	Measured Power [dBm]		22.78	22.81	22.87	1.18	1.17	1.16
	Left Cheek	1g SAR			0.16			0.19
		10g SAR			0.126			0.15
		Deviation			-0.05			-0.05
	Left Tilt	1g SAR			0.117			0.14
		10g SAR			0.091			0.11
		Deviation			0.08			0.08
	Right Cheek	1g SAR			0.152			0.18
		10g SAR			0.12			0.14
		Deviation			0.09			0.09
	Right Tilt	1g SAR			0.105			0.12
		10g SAR			0.084			0.10
		Deviation			-0.06			-0.06



Table 14-16 LTE700-FDD12 #1 Body

LTE700-FDD12 #1 Body								
Ambient Temperature: 22.7				Liquid Temperature: 22.4				
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			23130 M	23095 M	23060 H	23130 M	23095 M	23060 H
10MHz QPSK1RB	Tune-up		24.50	24.50	24.50	Scaling factor*		
	Measured Power [dBm]		23.99	23.91	23.94	1.13	1.15	1.14
	Front	1g SAR	0.316			0.36		
		10g SAR	0.246			0.28		
		Deviation	0.02			0.02		
	Rear	1g SAR	0.351			0.39		
		10g SAR	0.274			0.31		
		Deviation	-0.07			-0.07		
	Left edge	1g SAR	0.346			0.39		
		10g SAR	0.252			0.28		
		Deviation	0.09			0.09		
	Right edge	1g SAR	0.183			0.21		
		10g SAR	0.132			0.15		
		Deviation	-0.13			-0.13		
	Bottom edge	1g SAR	0.043			0.05		
10g SAR		0.026			0.03			
Deviation		0.05			0.05			
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			23130 M	23095 L	23060 H	23130	23095	23060
10MHz QPSK50% RB	Tune-up		23.50	23.50	23.50	Scaling factor*		
	Measured Power [dBm]		22.78	22.81	22.87	1.18	1.17	1.16
	Front	1g SAR			0.23			0.27
		10g SAR			0.178			0.21
		Deviation			0.07			0.07
	Rear	1g SAR			0.284			0.33
		10g SAR			0.22			0.25
		Deviation			0.03			0.03
	Left edge	1g SAR			0.246			0.28
		10g SAR			0.178			0.21
		Deviation			0.08			0.08
	Right edge	1g SAR			0.218			0.25
		10g SAR			0.16			0.19
		Deviation			0.09			0.09
	Bottom edge	1g SAR			0.035			0.04
10g SAR				0.02			0.02	
Deviation				0.03			0.03	

Table 14-17 LTE1700-FDD66 #1 Head

LTE1700-FDD66 #1 Head								
Ambient Temperature: 22.7				Liquid Temperature: 22.4				
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			132572 M	132322 M	132072 M	132572 M	132322 M	132072 M
20MHz QPSK1RB	Tune-up		24.50	24.50	24.50	Scaling factor*		
	Measured Power [dBm]		24.17	24.22	24.03	1.08	1.07	1.12
	Left Cheek	1g SAR		0.214			0.23	
		10g SAR		0.138			0.15	
		Deviation		0.02			0.02	
	Left Tilt	1g SAR		0.131			0.14	
		10g SAR		0.087			0.09	
		Deviation		0.06			0.06	
	Right Cheek	1g SAR		0.19			0.20	
		10g SAR		0.122			0.13	
		Deviation		-0.04			-0.04	
	Right Tilt	1g SAR		0.118			0.13	
		10g SAR		0.076			0.08	
		Deviation		0.09			0.09	
TRUE	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			132572 M	132322 L	132072 H	132572 M	132322 L	132072 H
20MHz QPSK50% RB	Tune-up		23.50	23.50	23.50	Scaling factor*		
	Measured Power [dBm]		23.05	23.11	22.91	1.11	1.10	1.15
	Left Cheek	1g SAR		0.196			0.21	
		10g SAR		0.126			0.14	
		Deviation		-0.07			-0.07	
	Left Tilt	1g SAR		0.096			0.11	
		10g SAR		0.064			0.07	
		Deviation		0.14			0.14	
	Right Cheek	1g SAR		0.091			0.10	
		10g SAR		0.058			0.06	
		Deviation		0.08			0.08	
	Right Tilt	1g SAR		0.074			0.08	
		10g SAR		0.051			0.06	
		Deviation		0.03			0.03	



Table 14-18 LTE1700-FDD66 #1 Body

LTE1700-FDD66 #1 Body								
Ambient Temperature: 22.7				Liquid Temperature: 22.4				
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			132572	132322	132072	132572	132322	132072
			M	M	M	M	M	M
20MHz QPSK1RB	Tune-up		24.50	24.50	24.50	Scaling factor*		
	Measured Power [dBm]		24.17	24.22	24.03	1.08	1.07	1.12
	Front	1g SAR		0.363			0.39	
		10g SAR		0.227			0.24	
		Deviation		0.02			0.02	
	Rear	1g SAR	0.814	0.996	1.191	0.88	1.06	1.33
		10g SAR	0.479	0.577	0.676	0.52	0.62	0.75
		Deviation	-0.07	0.04	0.01	-0.07	0.04	0.01
	Left edge	1g SAR		0.1			0.11	
		10g SAR		0.064			0.07	
		Deviation		0.13			0.13	
	Right edge	1g SAR		0.058			0.06	
		10g SAR		0.041			0.04	
		Deviation		-0.06			-0.06	
	Bottom edge	1g SAR	0.977	1.12	1.25	1.05	1.19	1.39
10g SAR		0.566	0.636	0.719	0.61	0.68	0.80	
Deviation		0.09	-0.05	0.06	0.09	-0.05	0.06	
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			132572	132322	132072	132572	132322	132072
			M	L	H			
20MHz QPSK50% RB	Tune-up		23.50	23.50	23.50	Scaling factor*		
	Measured Power [dBm]		23.05	23.11	22.91	1.11	1.10	1.15
	Front	1g SAR		0.301			0.33	
		10g SAR		0.183			0.20	
		Deviation		0.03			0.03	
	Rear	1g SAR	0.606	0.807	0.82	0.67	0.88	0.94
		10g SAR	0.364	0.461	0.48	0.40	0.50	0.55
		Deviation	0.07	-0.08	-0.09	0.07	-0.08	-0.09
	Left edge	1g SAR		0.107			0.12	
		10g SAR		0.066			0.07	
		Deviation		0.11			0.11	
	Right edge	1g SAR		0.051			0.06	
		10g SAR		0.034			0.04	
		Deviation		0.07			0.07	
	Bottom edge	1g SAR	0.736	0.885	0.983	0.82	0.97	1.13
10g SAR		0.427	0.51	0.568	0.47	0.56	0.65	
Deviation		0.13	0.09	0.05	0.13	0.09	0.05	
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			132572	132322	132072	132572	132322	132072
20MHz QPSK100% RB	Tune-up		23.50	23.50	23.50	Scaling factor*		
	Measured Power [dBm]		22.91	23.04	22.96	1.15	1.11	1.13
	Bottom edge	1g SAR		0.834			0.93	
		10g SAR		0.493			0.55	
Deviation			0.01			0.01		
20MHz QPSK100% RB	Rear	1g SAR		0.642			0.68	
		10g SAR		0.34			0.36	
		Deviation		0.05			0.05	
20MHz QPSK1RB	Bottom edge 0mm	1g SAR			3.43			3.93
		10g SAR			1.58			1.81
		Deviation			0.08			0.08
20MHz QPSK1RB	Rear 0mm	1g SAR			3.34			3.83
		10g SAR			1.57			1.80
		Deviation			0.04			0.04



Table 14-19 LTE700-FDD71 #1 Head

LTE700-FDD71 #1 Head								
Ambient Temperature: 22.7				Liquid Temperature: 22.4				
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			133372	133297	133222	133372	133297	133222
			M	M	M	M	M	M
20MHz QPSK1RB	Tune-up		24.00	24.00	24.00	Scaling factor*		
	Measured Power [dBm]		23.88	23.69	23.68	1.03	1.07	1.08
	Left Cheek	1g SAR	0.19			0.20		
		10g SAR	0.152			0.16		
		Deviation	0.07			0.07		
	Left Tilt	1g SAR	0.141			0.14		
		10g SAR	0.112			0.12		
		Deviation	-0.12			-0.12		
	Right Cheek	1g SAR	0.195			0.20		
		10g SAR	0.156			0.16		
		Deviation	0.07			0.07		
	Right Tilt	1g SAR	0.143			0.15		
		10g SAR	0.118			0.12		
		Deviation	-0.01			-0.01		
	TRUE	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]	
133372				133297	133222	133372	133297	133222
			M	M	H	M	M	H
20MHz QPSK50% RB	Tune-up		23.00	23.00	23.00	Scaling factor*		
	Measured Power [dBm]		22.71	22.65	22.74	1.07	1.08	1.06
	Left Cheek	1g SAR			0.124			0.13
		10g SAR			0.1			0.11
		Deviation			0.11			0.11
	Left Tilt	1g SAR			0.103			0.11
		10g SAR			0.083			0.09
		Deviation			-0.06			-0.06
	Right Cheek	1g SAR			0.151			0.16
		10g SAR			0.121			0.13
		Deviation			0.08			0.08
	Right Tilt	1g SAR			0.116			0.12
		10g SAR			0.095			0.10
		Deviation			-0.14			-0.14



Table 14-20 LTE700-FDD71 #1 Body

LTE700-FDD71 #1 Body									
Ambient Temperature:			22.7			Liquid Temperature:			22.4
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]			
			133372	133297	133222	133372	133297	133222	
			M	M	M	M	M	M	
20MHz QPSK1RB	Tune-up		24.00	24.00	24.00	Scaling factor*			
	Measured Power [dBm]		23.88	23.69	23.68	1.03	1.07	1.08	
	Front	1g SAR	0.184			0.19			
		10g SAR	0.147			0.15			
		Deviation	0.05			0.05			
	Rear	1g SAR	0.243			0.25			
		10g SAR	0.193			0.20			
		Deviation	-0.16			-0.16			
	Left edge	1g SAR	0.198			0.20			
		10g SAR	0.145			0.15			
		Deviation	0.03			0.03			
	Right edge	1g SAR	0.212			0.22			
		10g SAR	0.157			0.16			
		Deviation	0.09			0.09			
	Bottom edge	1g SAR	0.021			0.02			
		10g SAR	0.015			0.02			
		Deviation	0.07			0.07			
Mode	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]			
			133372	133297	133222	133372	133297	133222	
			M	M	H				
20MHz QPSK50% RB	Tune-up		23.00	23.00	23.00	Scaling factor*			
	Measured Power [dBm]		22.71	22.65	22.74	1.07	1.08	1.06	
	Front	1g SAR			0.148			0.16	
		10g SAR			0.117			0.12	
		Deviation			0.12			0.12	
	Rear	1g SAR			0.201			0.21	
		10g SAR			0.157			0.17	
		Deviation			0.04			0.04	
	Left edge	1g SAR			0.129			0.14	
		10g SAR			0.095			0.10	
		Deviation			0.08			0.08	
	Right edge	1g SAR			0.136			0.14	
		10g SAR			0.101			0.11	
		Deviation			0.01			0.01	
	Bottom edge	1g SAR			0.018			0.02	
		10g SAR			0.012			0.01	
		Deviation			0.06			0.06	



14.2 Full SAR

Test Band	Channel	Frequency	Tune-Up	Measured Power	Test Position	Measured 10g SAR	Measured 1g SAR	Reported 10g SAR	Reported 1g SAR	Power Drift	Figure
GSM850	251	848.8 MHz	29	28.75	Left Cheek	0.307	0.518	0.32	0.55	-0.09	<a href="#">Fig A.1</a>
GSM850	251	848.8 MHz	29	28.75	Rear	0.306	0.391	0.32	0.41	-0.05	<a href="#">Fig A.2</a>
PCS1900	661	1880 MHz	30.5	29.70	Left Cheek	0.149	0.241	0.18	0.29	-0.05	<a href="#">Fig A.3</a>
PCS1900	512	1850.2 MHz	30.5	29.70	Bottom edge	0.485	0.847	0.58	1.02	0.07	<a href="#">Fig A.4</a>
WCDMA1900-B1I	9538	1907.6 MHz	25	24.85	Left Cheek	0.089	0.142	0.09	0.15	0.04	<a href="#">Fig A.5</a>
WCDMA1900-B1I	9400	1880 MHz	25	24.75	Rear	0.647	1.19	0.69	1.26	-0.01	<a href="#">Fig A.6</a>
WCDMA1700-B1V	1513	1752.6 MHz	25	24.67	Left Cheek	0.271	0.425	0.29	0.46	0.06	<a href="#">Fig A.7</a>
WCDMA1700-B1V	1513	1752.6 MHz	25	24.67	Rear	0.349	0.544	0.38	0.59	0.05	<a href="#">Fig A.8</a>
WCDMA850-BV	4233	846.6 MHz	25	24.72	Left Cheek	0.163	0.207	0.17	0.22	0.06	<a href="#">Fig A.9</a>
WCDMA850-BV	4233	846.6 MHz	25	24.72	Rear	0.198	0.255	0.21	0.27	-0.11	<a href="#">Fig A.10</a>
LTE1900-FDD2	19100	1900 MHz	25	24.54	Left Cheek	0.208	0.339	0.23	0.38	-0.06	<a href="#">Fig A.11</a>
LTE1900-FDD2	18900	1880 MHz	25	24.38	Bottom edge	0.564	0.993	0.65	1.15	-0.11	<a href="#">Fig A.12</a>
LTE850-FDD5	20600	844 MHz	24.5	24.26	Left Cheek	0.148	0.19	0.16	0.20	0.03	<a href="#">Fig A.13</a>
LTE850-FDD5	20600	844 MHz	24.5	24.26	Rear	0.235	0.3	0.25	0.32	-0.11	<a href="#">Fig A.14</a>
LTE700-FDD12	23130	711 MHz	24.5	23.99	Right Cheek	0.197	0.25	0.22	0.28	0.09	<a href="#">Fig A.15</a>
LTE700-FDD12	23130	711 MHz	24.5	23.99	Rear	0.274	0.351	0.31	0.39	-0.07	<a href="#">Fig A.16</a>
LTE1700-FDD66	132322	711 MHz	24.5	24.22	Left Cheek	0.138	0.214	0.15	0.23	0.02	<a href="#">Fig A.17</a>
LTE1700-FDD66	132072	711 MHz	24.5	24.03	Bottom edge	0.719	1.25	0.80	1.39	0.06	<a href="#">Fig A.18</a>
LTE700-FDD71	133372	711 MHz	24	23.88	Right Cheek	0.156	0.195	0.16	0.20	0.07	<a href="#">Fig A.19</a>
LTE700-FDD71	133372	711 MHz	24	23.88	Rear	0.193	0.243	0.20	0.25	-0.16	<a href="#">Fig A.20</a>



### 14.3 WLAN Evaluation

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

Note1: When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest estimated 1-g SAR conditions determined by area scans, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg.

Note2: 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.

Note3: 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.

**Table 14-21 WLAN2450 #1 Head Fast SAR**

WLAN2450 #1 Head Fast SAR								
Ambient Temperature: 22.7				Liquid Temperature: 22.4				
Rate	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			11 2462 MHz	6 2437 MHz	1 2412 MHz	11	6	1
802.11b 5.5Mbps	Tune up		19	19	19	Scaling factor*		
	Slot Average Power [dBm]		18.87	18.85	18.83	1.03	1.04	1.04
	Left Cheek	1g Fast SAR	0.731			0.75		
		10g SAR	0.359			0.37		
		Deviation	0.05			0.05		
	Left Tilt	1g Fast SAR	0.502			0.52		
		10g SAR	0.251			0.26		
		Deviation	-0.16			-0.16		
	Right Cheek	1g Fast SAR	0.472			0.49		
		10g SAR	0.238			0.25		
		Deviation	0.09			0.09		
	Right Tilt	1g Fast SAR	0.485			0.50		
		10g SAR	0.233			0.24		
		Deviation	0.04			0.04		

**Table 14-22 WLAN2450 #1 Head Full SAR**

WLAN2450 #1 Head Full SAR								
Ambient Temperature: 22.7				Liquid Temperature: 22.4				
Rate	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			11 2462 MHz	6 2437 MHz	1 2412 MHz	11	6	1
802.11b 5.5Mbps	Tune up		19	19	19	Scaling factor*		
	Slot Average Power [dBm]		18.87	18.85	18.83	1.03	1.04	1.04
	Left Cheek	1g Full SAR	0.744			0.77		
		10g SAR	0.336			0.35		
		Deviation	0.05			0.05		
	Left Tilt	1g Full SAR	0.481			0.50		
		10g SAR	0.232			0.24		
		Deviation	-0.16			-0.16		

**Table 14-23 WLAN2450 #1 Body Fast SAR**

WLAN2450 #1 Body Fast SAR								
Ambient Temperature: 22.7				Liquid Temperature: 22.4				
Rate	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			11	6	1	11	6	1
			2462 MHz	2437 MHz	2412 MHz			
802.11b 5.5Mbps	Tune up		19	19	19	Scaling factor*		
	Slot Average Power [dBm]		18.87	18.85	18.83	1.03	1.04	1.04
	Front	1g Fast SAR	0.182			0.19		
		10g SAR	0.096			0.10		
		Deviation	-0.04			-0.04		
	Rear	1g Fast SAR	0.171			0.18		
		10g SAR	0.09			0.09		
		Deviation	0.03			0.03		
	Top edge	1g Fast SAR	0.124			0.13		
		10g SAR	0.067			0.07		
		Deviation	-0.03			-0.03		
	Right edge	1g Fast SAR	0.1			0.10		
		10g SAR	0.048			0.05		
		Deviation	0.01			0.01		

**Table 14-24 WLAN2450 #1 Body Full SAR**

WLAN2450 #1 Body Full SAR								
Ambient Temperature: 22.7				Liquid Temperature: 22.4				
Rate	Device orientation	SAR measurement	Measured SAR [W/kg]			Reported SAR [W/kg]		
			11	6	1	11	6	1
			2462 MHz	2437 MHz	2412 MHz			
802.11b 5.5Mbps	Tune up		19	19	19	Scaling factor*		
	Slot Average Power [dBm]		18.87	18.85	18.83	1.03	1.04	1.04
	Front	1g Full SAR	0.188			0.19		
		10g SAR	0.101			0.10		
		Deviation	-0.04			-0.04		

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. The scaled reported SAR is presented as below

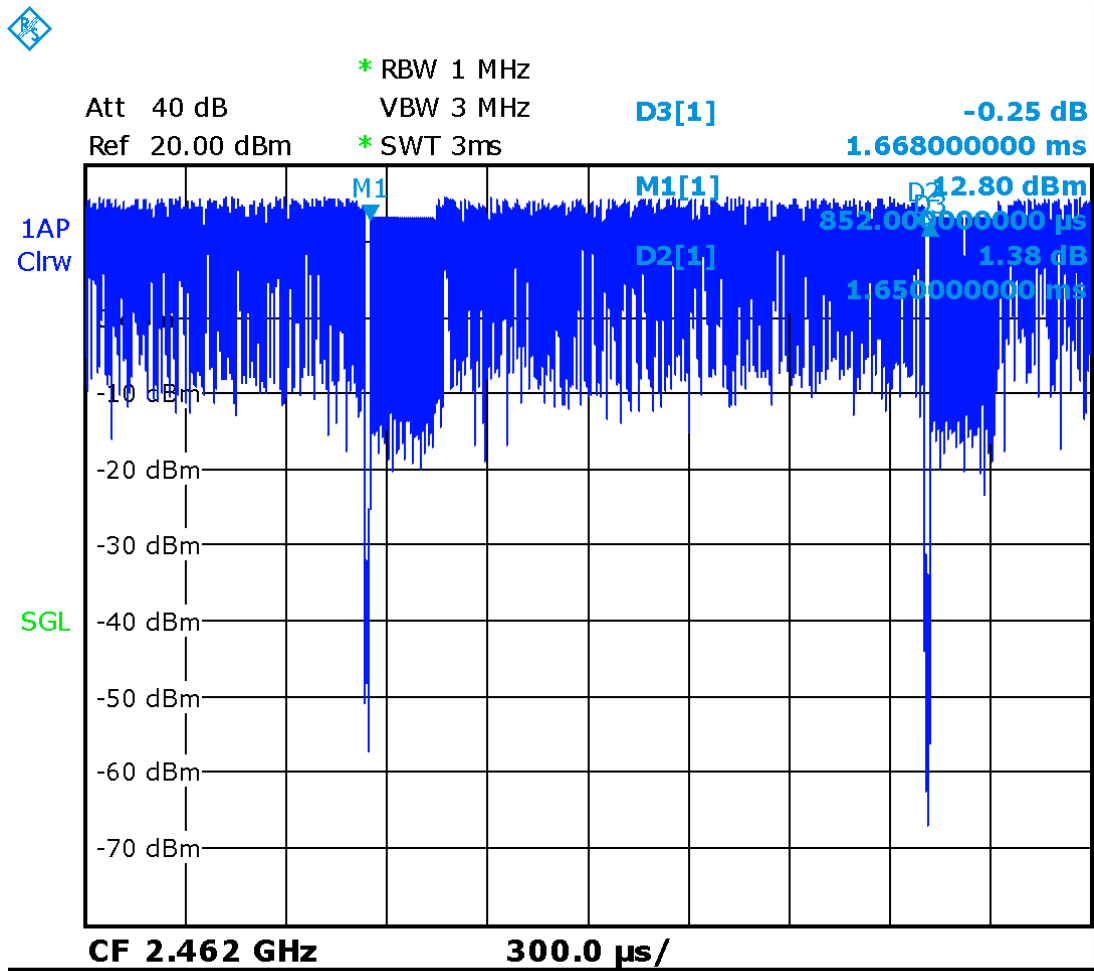
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR(1g)(W/kg)	Scaled reported SAR(1g)(W/kg)	Figure
MHz	Ch.						
2462 MHz	11	Left Cheek	98.92%	100%	0.77	0.77	Fig.A.21

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. The scaled reported SAR is presented as below

Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR(1g)(W/kg)	Scaled reported SAR(1g)(W/kg)	Figure
MHz	Ch.						
2462 MHz	11	Front	98.92%	100%	0.19	0.19	Fig.A.22

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





Picture 14.1 Duty factor plot

## 15 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  $\geq 0.80$  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  $\geq 1.45$  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  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ .

Mode	CH	Freq	Test Poisition	Original SAR (W/kg)	First Repeated SAR(W/kg)	The Ratio
PCS1900	512	1850.2 MHz	Bottom edge	0.847	0.839	1.01
WCDMA1900-BII	9400	1880 MHz	Rear	1.19	1.17	1.02
LTE1900-FDD2	18900	1880 MHz	Bottom edge	0.993	0.985	1.01
LTE1700-FDD66	132072	711 MHz	Bottom edge	1.25	1.22	1.02



## 16 Measurement Uncertainty

### 16.1 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
<b>Measurement system</b>										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	$\infty$
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	$\infty$
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	$\infty$
5	Detection limit	B	1.0	N	1	1	1	0.6	0.6	$\infty$
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	$\infty$
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	$\infty$
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
11	Probe positioned mech. restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	$\infty$
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	$\infty$
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
<b>Test sample related</b>										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	$\infty$
<b>Phantom and set-up</b>										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	$\infty$
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521

Combined standard uncertainty	$u_c = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$						9.55	9.43	257
Expanded uncertainty (confidence interval of 95 %)	$u_e = 2u_c$						19.1	18.9	

### 16.2 Measurement Uncertainty for Normal SAR Tests (3~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
<b>Measurement system</b>										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	∞
13	Post-processing	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
<b>Test sample related</b>										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
<b>Phantom and set-up</b>										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞



	(target)									
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u'_c = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$						10.7	10.6	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						21.4	21.1	

### 16.3 Measurement Uncertainty for Fast 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
<b>Measurement system</b>										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	7.0	R	$\sqrt{3}$	1	1	4.0	4.0	∞
<b>Test sample related</b>										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
<b>Phantom and set-up</b>										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞

19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$
20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	$\infty$
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c' = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						10.4	10.3	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						20.8	20.6	

#### 16.4 Measurement Uncertainty for Fast SAR Tests (3~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
<b>Measurement system</b>										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	$\infty$
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	$\infty$
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	$\infty$
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	$\infty$
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	$\infty$
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	$\infty$
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
11	Probe positioned mech. Restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	$\infty$
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
14	Fast SAR z-Approximation	B	14.0	R	$\sqrt{3}$	1	1	8.1	8.1	$\infty$
<b>Test sample related</b>										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71



16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	$\infty$
<b>Phantom and set-up</b>										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$
20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	$\infty$
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c' = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						13.5	13.4	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						27.0	26.8	



## 17 MAIN TEST INSTRUMENTS

Table 17.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	E5071C	MY46110673	January 24, 2018	One year
02	Power meter	NRVD	102083	November 01, 2017	One year
03	Power sensor	NRV-Z5	100542		
04	Signal Generator	E4438C	MY49071430	January 2, 2018	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	E5515C	MY50263375	January 23, 2018	One year
07	BTS	CMW500	149646	October 31, 2017	One year
08	E-field Probe	SPEAG EX3DV4	7514	August 27, 2018	One year
09	DAE	SPEAG DAE4	1525	September 18, 2018	One year
10	Dipole Validation Kit	SPEAG D750V3	1017	July 19, 2017	Three years
11	Dipole Validation Kit	SPEAG D835V2	4d069	July 19, 2017	Three years
12	Dipole Validation Kit	SPEAG D1750V2	1003	July 21, 2017	Three years
13	Dipole Validation Kit	SPEAG D1900V2	5d101	July 26, 2017	Three years
15	Dipole Validation Kit	SPEAG D2450V2	853	July 21, 2017	Three years

\*\*\*END OF REPORT BODY\*\*\*



## ANNEX A Graph Results

### GSM850\_CH251 Left Cheek

Date: 10/8/2018

Electronics: DAE4 Sn1525

Medium: head 835 MHz

Medium parameters used:  $f = 848.8$  MHz;  $\sigma = 0.902$  mho/m;  $\epsilon_r = 41.53$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: GSM850 848.8 MHz Duty Cycle: 1:2

Probe: EX3DV4 – SN7514 ConvF(9.09,9.09,9.09)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.359 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.999 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.04 W/kg

**SAR(1 g) = 0.518 W/kg; SAR(10 g) = 0.307 W/kg**

Maximum value of SAR (measured) = 0.343 W/kg

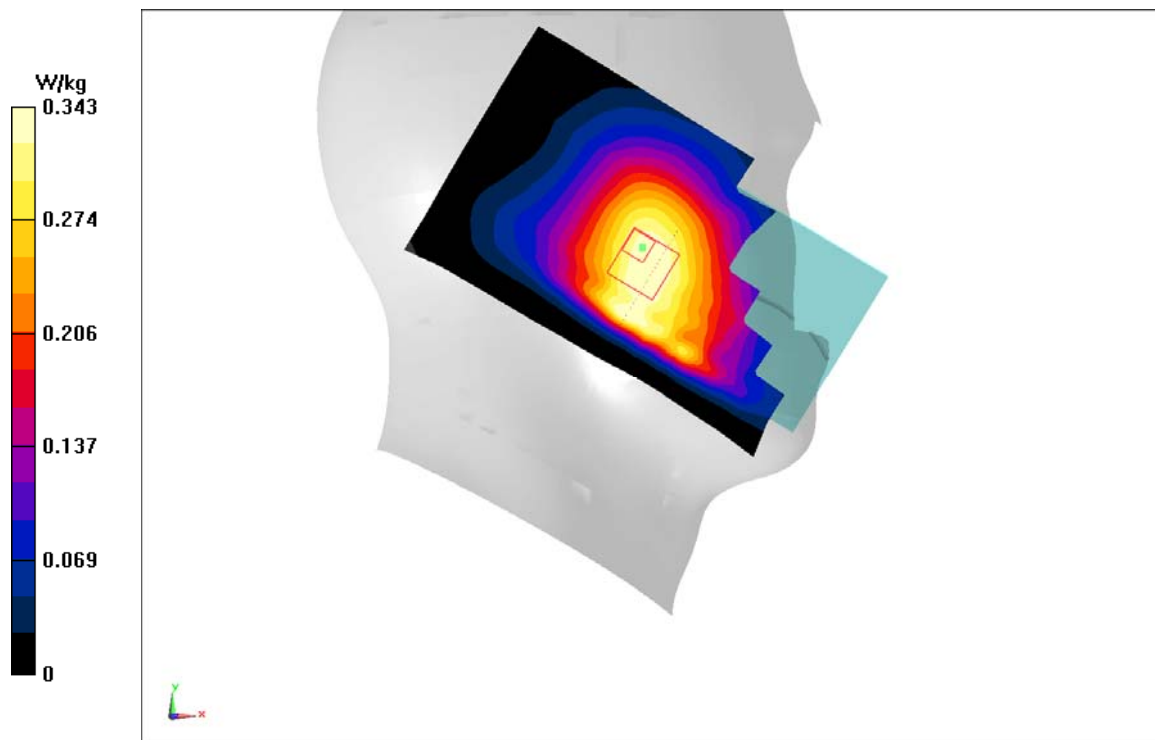


Fig A.1

**GSM850\_CH251 Rear**

Date: 10/8/2018

Electronics: DAE4 Sn1525

Medium: body 835 MHz

Medium parameters used:  $f = 848.8$  MHz;  $\sigma = 0.977$  mho/m;  $\epsilon_r = 54.27$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: GSM850 848.8 MHz Duty Cycle: 1:2

Probe: EX3DV4 – SN7514 ConvF(9.47,9.47,9.47)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.423 W/kg

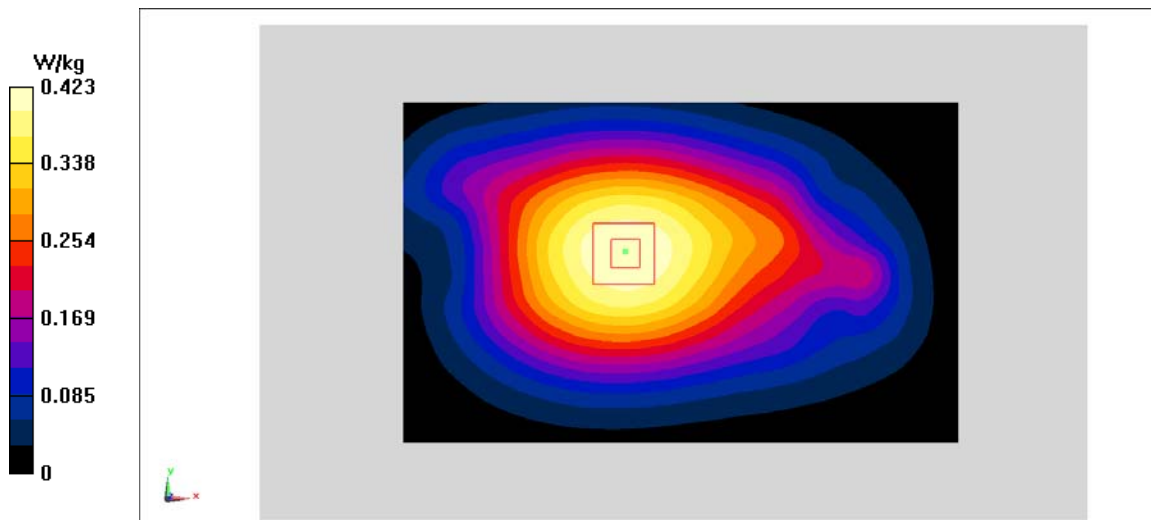
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 20.18 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.583 W/kg

**SAR(1 g) = 0.391 W/kg; SAR(10 g) = 0.306 W/kg**

Maximum value of SAR (measured) = 0.423 W/kg



**Fig A.2**



**PCS1900\_CH661 Left Cheek**

Date: 10/10/2018

Electronics: DAE4 Sn1525

Medium: head 1900 MHz

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.376$  mho/m;  $\epsilon_r = 39.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: PCS1900 1880 MHz Duty Cycle: 1:4

Probe: EX3DV4 – SN7514 ConvF(7.73,7.73,7.73)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.276 W/kg

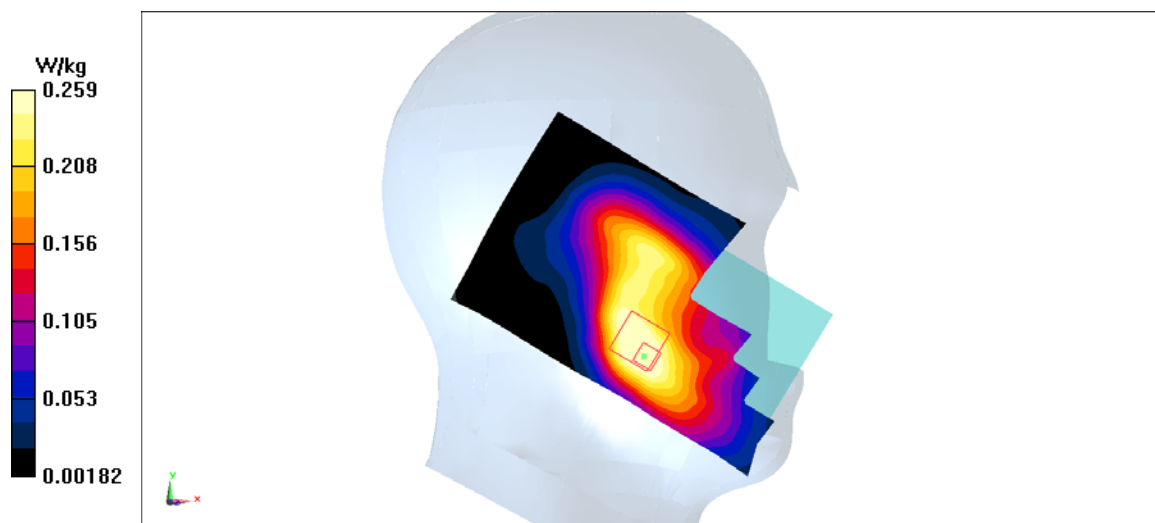
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.715 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.669 W/kg

**SAR(1 g) = 0.241 W/kg; SAR(10 g) = 0.149 W/kg**

Maximum value of SAR (measured) = 0.259 W/kg



**Fig A.3**

**PCS1900\_CH512 Bottom edge**

Date: 10/10/2018

Electronics: DAE4 Sn1525

Medium: body 1900 MHz

Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.458$  mho/m;  $\epsilon_r = 53.37$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: PCS1900 1850.2 MHz Duty Cycle: 1:4

Probe: EX3DV4 – SN7514 ConvF(7.53,7.53,7.53)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.03 W/kg

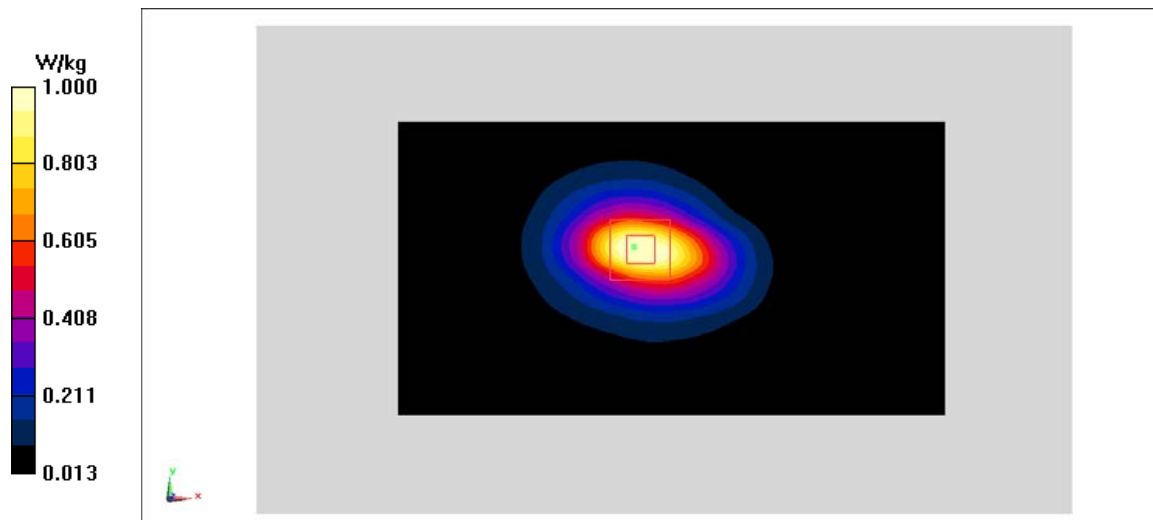
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.60 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.35 W/kg

**SAR(1 g) = 0.847 W/kg; SAR(10 g) = 0.485 W/kg**

Maximum value of SAR (measured) = 1.00 W/kg



**Fig A.4**

### WCDMA1900-BII\_CH9538 Left Cheek

Date: 10/10/2018

Electronics: DAE4 Sn1525

Medium: head 1900 MHz

Medium parameters used:  $f = 1907.6$  MHz;  $\sigma = 1.403$  mho/m;  $\epsilon_r = 39.27$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: WCDMA1900-BII 1907.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(7.73,7.73,7.73)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.169 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.793 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.219 W/kg

**SAR(1 g) = 0.142 W/kg; SAR(10 g) = 0.089 W/kg**

Maximum value of SAR (measured) = 0.154 W/kg

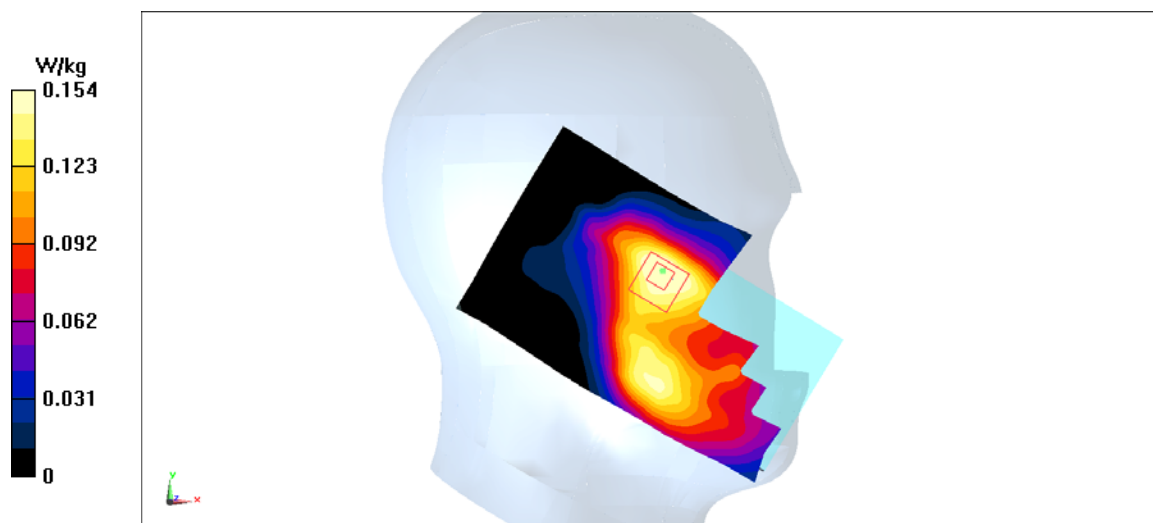


Fig A.5



**WCDMA1900-BII\_CH9400 Rear**

Date: 10/10/2018

Electronics: DAE4 Sn1525

Medium: body 1900 MHz

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.487$  mho/m;  $\epsilon_r = 53.33$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: WCDMA1900-BII 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(7.53,7.53,7.53)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 1.46 W/kg

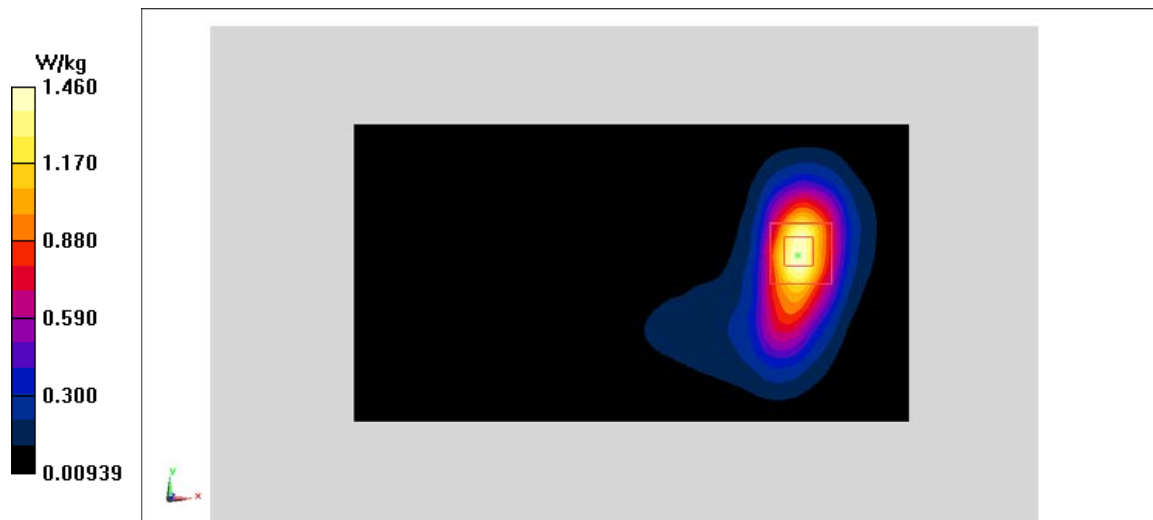
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 5.737 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.99 W/kg

**SAR(1 g) = 1.19 W/kg; SAR(10 g) = 0.647 W/kg**

Maximum value of SAR (measured) = 1.46 W/kg



**Fig A.6**

### WCDMA1700-BIV\_CH1513 Left Cheek

Date: 10/9/2018

Electronics: DAE4 Sn1525

Medium: head 1750 MHz

Medium parameters used:  $f = 1752.6$  MHz;  $\sigma = 1.354$  mho/m;  $\epsilon_r = 39.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: WCDMA1700-BIV 1752.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(8.10,8.10,8.10)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.481 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.668 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.654 W/kg

**SAR(1 g) = 0.425 W/kg; SAR(10 g) = 0.271 W/kg**

Maximum value of SAR (measured) = 0.453 W/kg

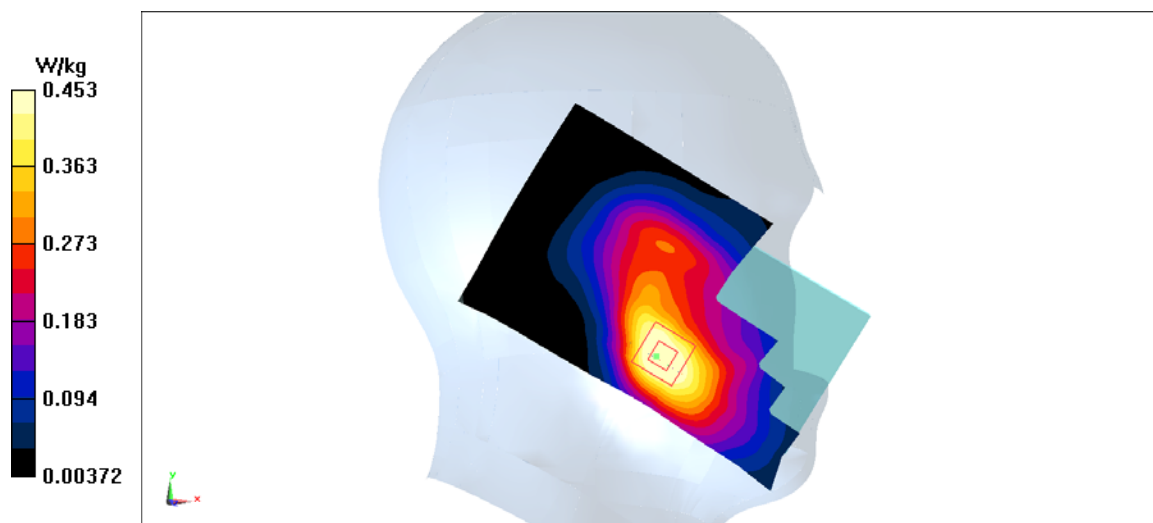


Fig A.7

### WCDMA1700-BIV\_CH1513 Rear

Date: 10/9/2018

Electronics: DAE4 Sn1525

Medium: body 1750 MHz

Medium parameters used:  $f = 1752.6$  MHz;  $\sigma = 1.514$  mho/m;  $\epsilon_r = 53.15$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: WCDMA1700-BIV 1752.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(7.82,7.82,7.82)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.688 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 10.89 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.911 W/kg

**SAR(1 g) = 0.544 W/kg; SAR(10 g) = 0.349 W/kg**

Maximum value of SAR (measured) = 0.661 W/kg

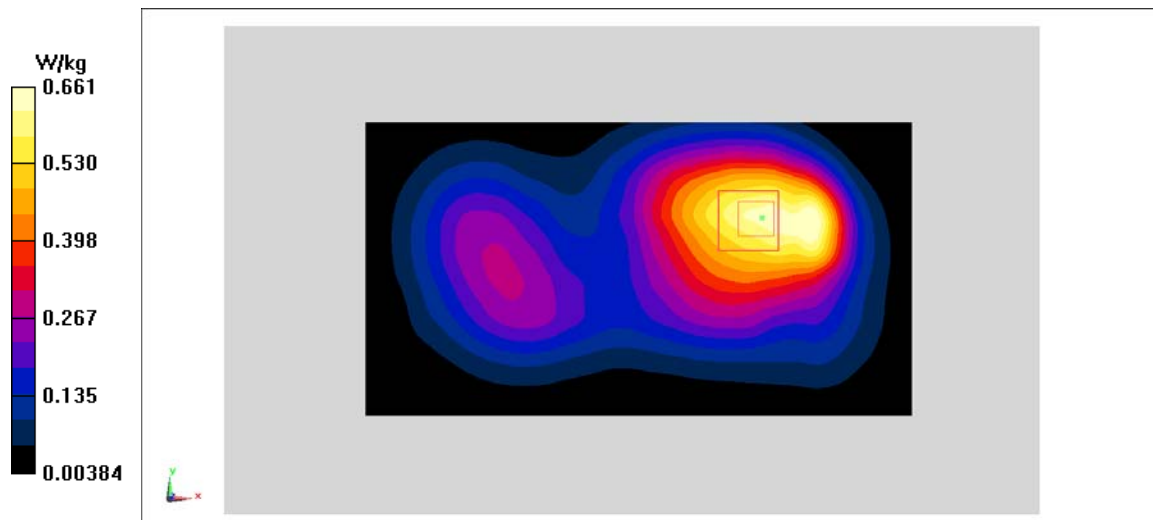


Fig A.8



### WCDMA850-BV\_CH4233 Left Cheek

Date: 10/8/2018

Electronics: DAE4 Sn1525

Medium: head 835 MHz

Medium parameters used:  $f = 846.6$  MHz;  $\sigma = 0.9$  mho/m;  $\epsilon_r = 41.54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: WCDMA850-BV 846.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(9.09,9.09,9.09)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.228 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.109 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.257 W/kg

**SAR(1 g) = 0.207 W/kg; SAR(10 g) = 0.163 W/kg**

Maximum value of SAR (measured) = 0.225 W/kg

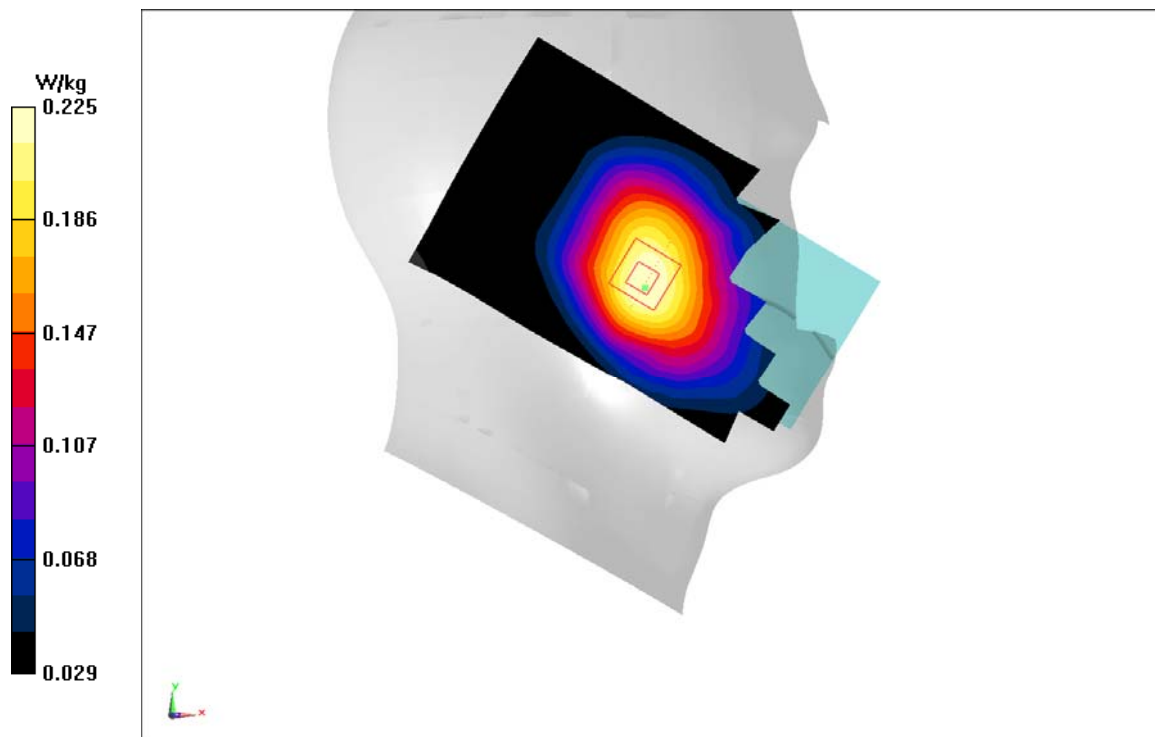


Fig A.9

**WCDMA850-BV\_CH4233 Rear**

Date: 10/8/2018

Electronics: DAE4 Sn1525

Medium: body 835 MHz

Medium parameters used:  $f = 846.6$  MHz;  $\sigma = 0.975$  mho/m;  $\epsilon_r = 54.28$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: WCDMA850-BV 846.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(9.47,9.47,9.47)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.280 W/kg

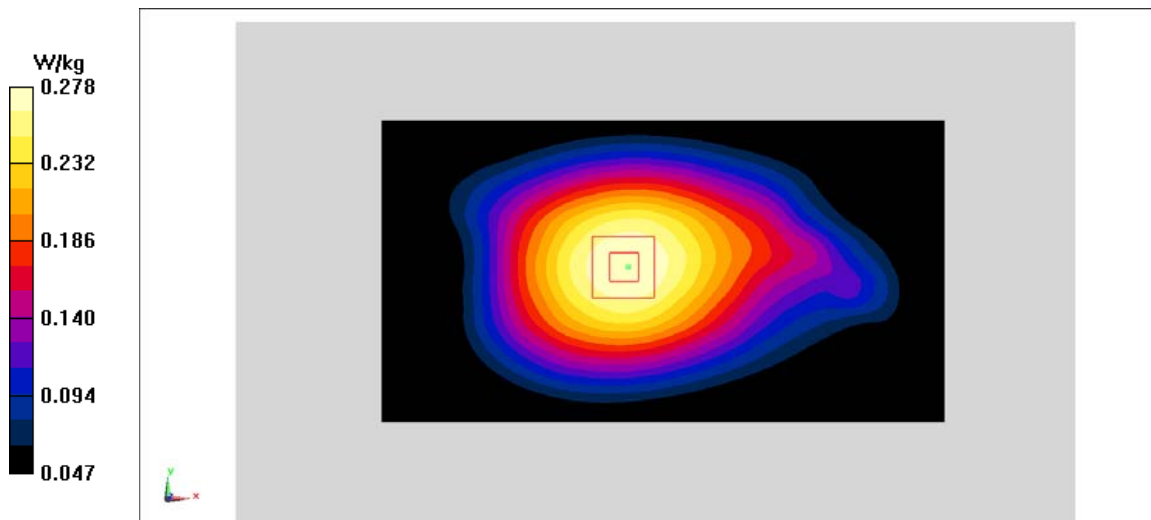
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.01 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.315 W/kg

**SAR(1 g) = 0.255 W/kg; SAR(10 g) = 0.198 W/kg**

Maximum value of SAR (measured) = 0.278 W/kg



**Fig A.10**

**LTE1900-FDD2\_CH19100 Left Cheek**

Date: 10/10/2018

Electronics: DAE4 Sn1525

Medium: head 1900 MHz

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.395$  mho/m;  $\epsilon_r = 39.28$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: LTE1900-FDD2 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(7.73,7.73,7.73)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.391 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.390 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.536 W/kg

**SAR(1 g) = 0.339 W/kg; SAR(10 g) = 0.208 W/kg**

Maximum value of SAR (measured) = 0.366 W/kg

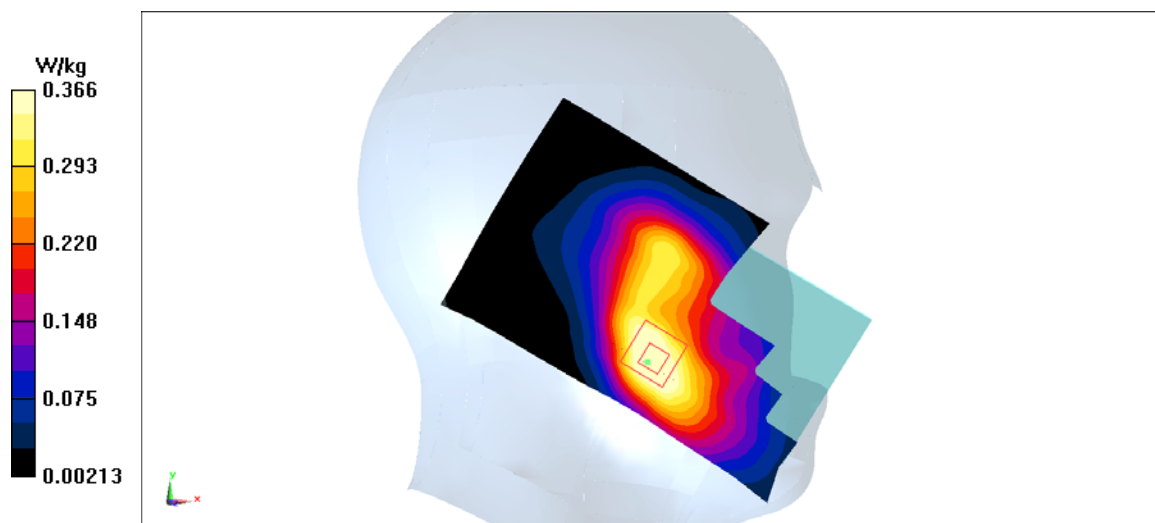


Fig A.11



**LTE1900-FDD2\_CH18900 Bottom edge**

Date: 10/10/2018

Electronics: DAE4 Sn1525

Medium: body 1900 MHz

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.487$  mho/m;  $\epsilon_r = 53.33$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: LTE1900-FDD2 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(7.53,7.53,7.53)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.21 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 24.38 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.61 W/kg

**SAR(1 g) = 0.993 W/kg; SAR(10 g) = 0.564 W/kg**

Maximum value of SAR (measured) = 1.16 W/kg

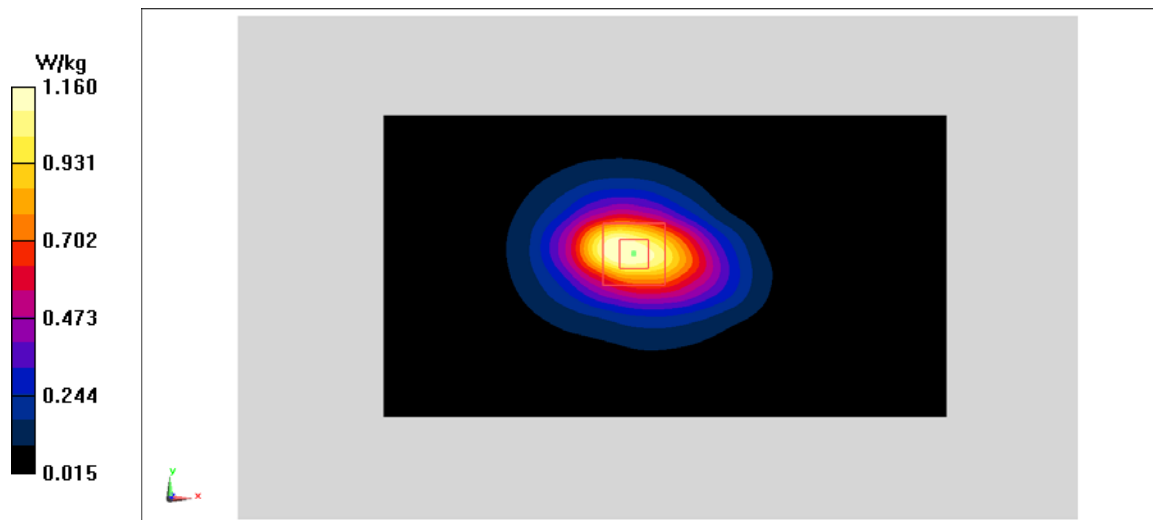


Fig A.12

**LTE850-FDD5\_CH20600 Left Cheek**

Date: 10/8/2018

Electronics: DAE4 Sn1525

Medium: head 835 MHz

Medium parameters used:  $f = 844$  MHz;  $\sigma = 0.898$  mho/m;  $\epsilon_r = 41.54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: LTE850-FDD5 844 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(9.09,9.09,9.09)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.208 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.479 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.237 W/kg

**SAR(1 g) = 0.19 W/kg; SAR(10 g) = 0.148 W/kg**

Maximum value of SAR (measured) = 0.205 W/kg

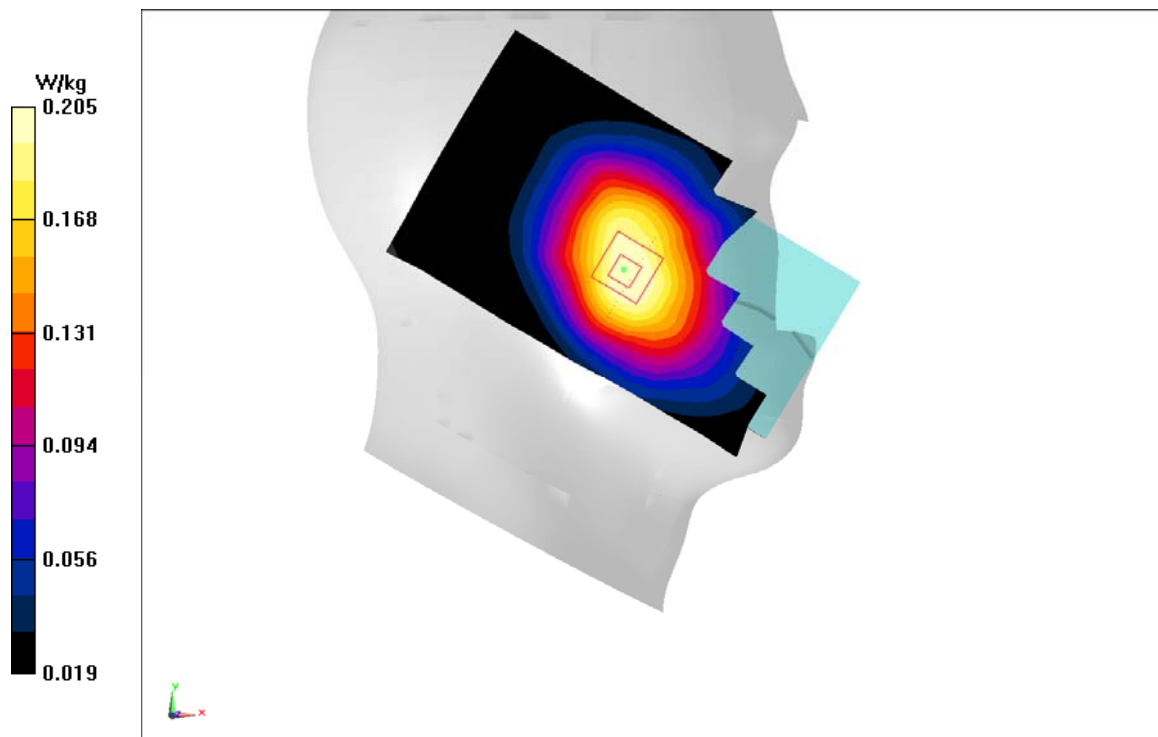


Fig A.13

**LTE850-FDD5\_CH20600 Rear**

Date: 10/8/2018

Electronics: DAE4 Sn1525

Medium: body 835 MHz

Medium parameters used:  $f = 844$  MHz;  $\sigma = 0.973$  mho/m;  $\epsilon_r = 54.28$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: LTE850-FDD5 844 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(9.47,9.47,9.47)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.317 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.63 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.359 W/kg

**SAR(1 g) = 0.3 W/kg; SAR(10 g) = 0.235 W/kg**

Maximum value of SAR (measured) = 0.313 W/kg

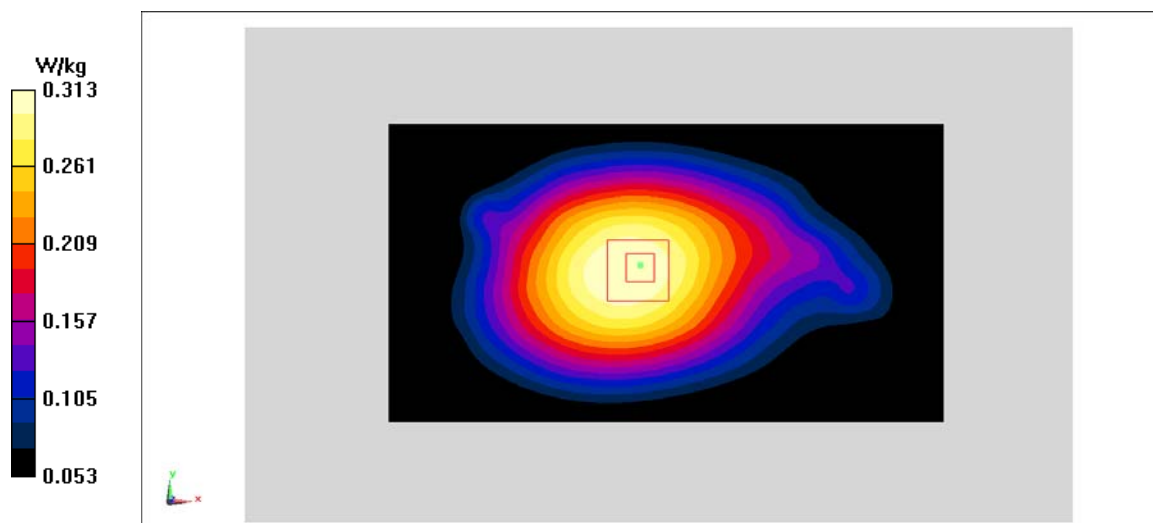


Fig A.14



**LTE700-FDD12\_CH23130 Right Cheek**

Date: 10/7/2018

Electronics: DAE4 Sn1525

Medium: head 750 MHz

Medium parameters used:  $f = 711$  MHz;  $\sigma = 0.835$  mho/m;  $\epsilon_r = 41.57$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: LTE700-FDD12 711 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(9.47,9.47,9.47)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.273 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.367 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.300 W/kg

**SAR(1 g) = 0.25 W/kg; SAR(10 g) = 0.197 W/kg**

Maximum value of SAR (measured) = 0.264 W/kg

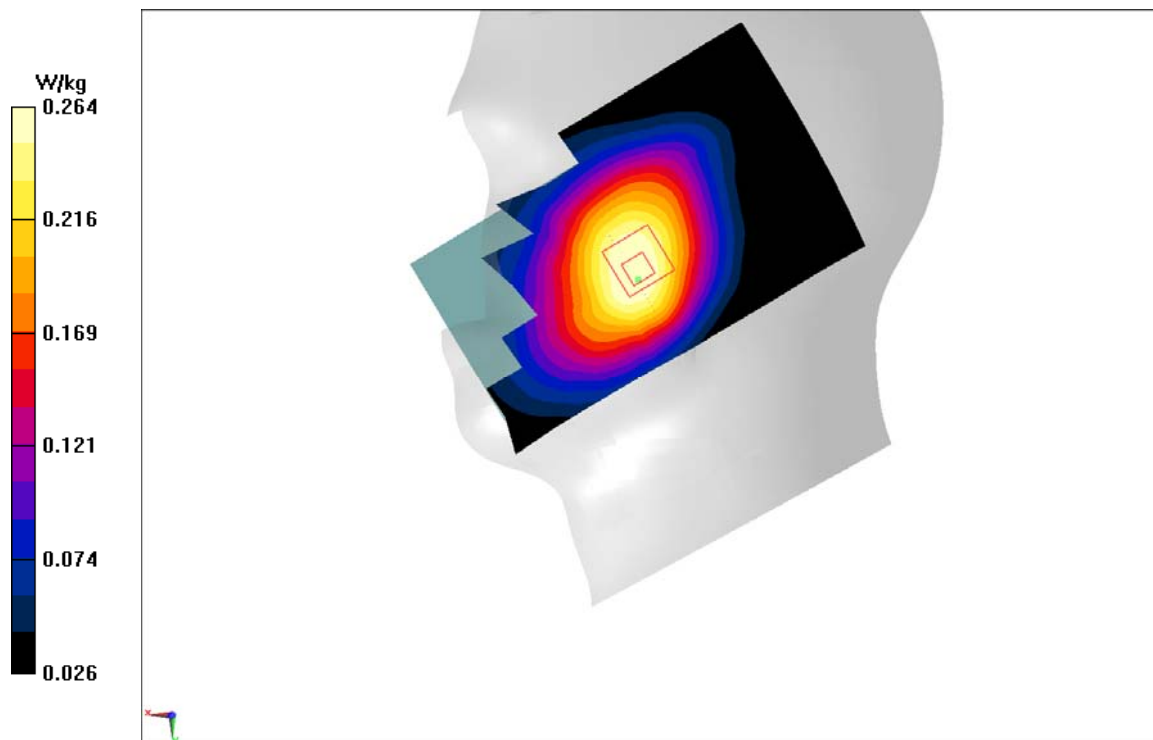


Fig A.15

**LTE700-FDD12\_CH23130 Rear**

Date: 10/7/2018

Electronics: DAE4 Sn1525

Medium: body 750 MHz

Medium parameters used:  $f = 711$  MHz;  $\sigma = 0.928$  mho/m;  $\epsilon_r = 55.24$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: LTE700-FDD12 711 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(9.68,9.68,9.68)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.376 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 19.92 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.424 W/kg

**SAR(1 g) = 0.351 W/kg; SAR(10 g) = 0.274 W/kg**

Maximum value of SAR (measured) = 0.366 W/kg

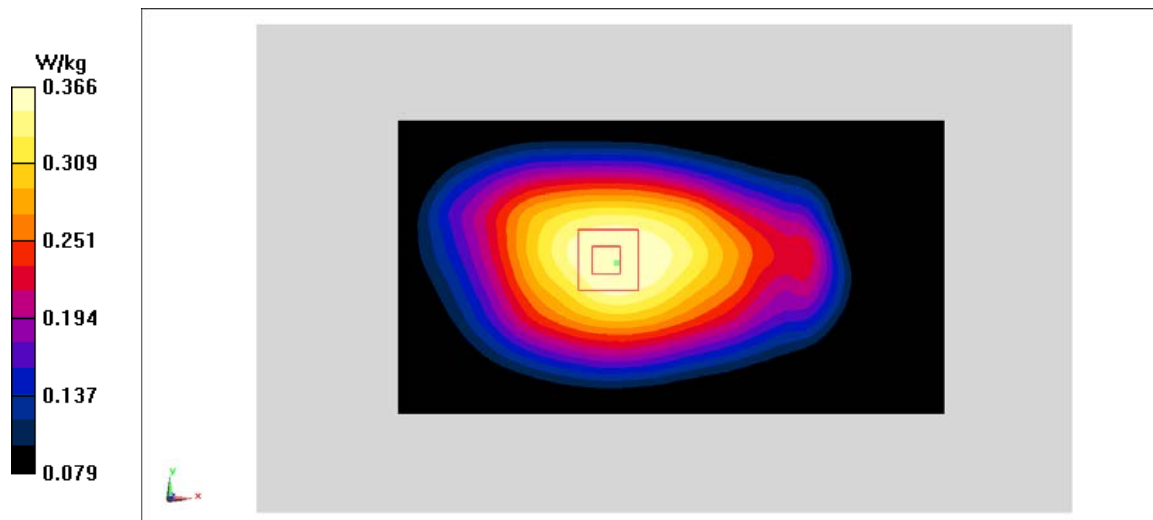


Fig A.16

**LTE1700-FDD66\_CH132322 Left Cheek**

Date: 10/9/2018

Electronics: DAE4 Sn1525

Medium: head 1750 MHz

Medium parameters used:  $f = 711$  MHz;  $\sigma = 0.364$  mho/m;  $\epsilon_r = 41.15$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: LTE1700-FDD66 711 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(8.10,8.10,8.10)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.240 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 3.199 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.326 W/kg

**SAR(1 g) = 0.214 W/kg; SAR(10 g) = 0.138 W/kg**

Maximum value of SAR (measured) = 0.228 W/kg

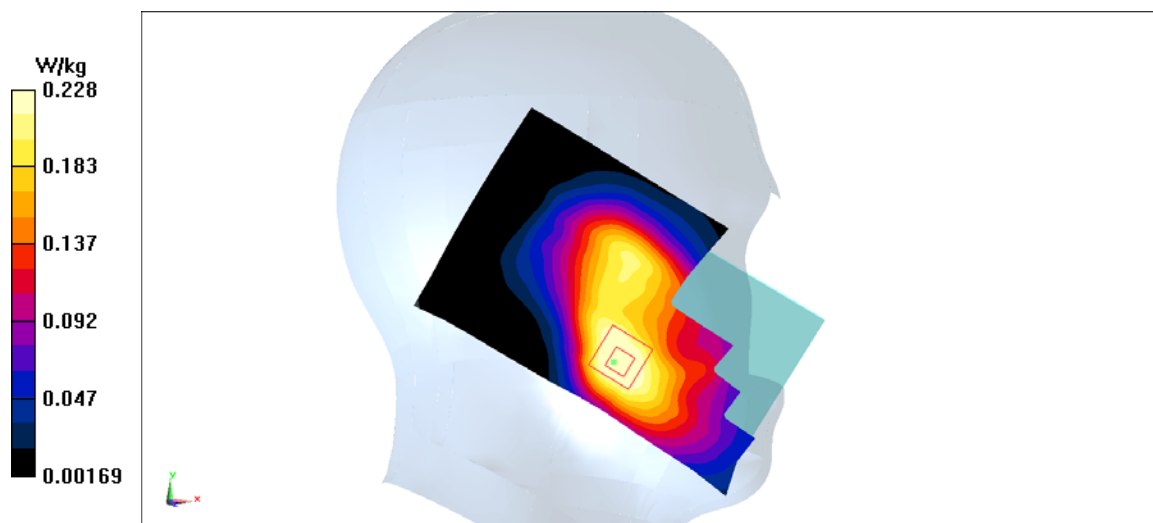


Fig A.17

**LTE1700-FDD66\_CH132072 Bottom edge**

Date: 10/9/2018

Electronics: DAE4 Sn1525

Medium: body 1750 MHz

Medium parameters used:  $f = 711$  MHz;  $\sigma = 0.524$  mho/m;  $\epsilon_r = 54.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: LTE1700-FDD66 711 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(7.82,7.82,7.82)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.59 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 29.55 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 2.00 W/kg

**SAR(1 g) = 1.25 W/kg; SAR(10 g) = 0.719 W/kg**

Maximum value of SAR (measured) = 1.51 W/kg

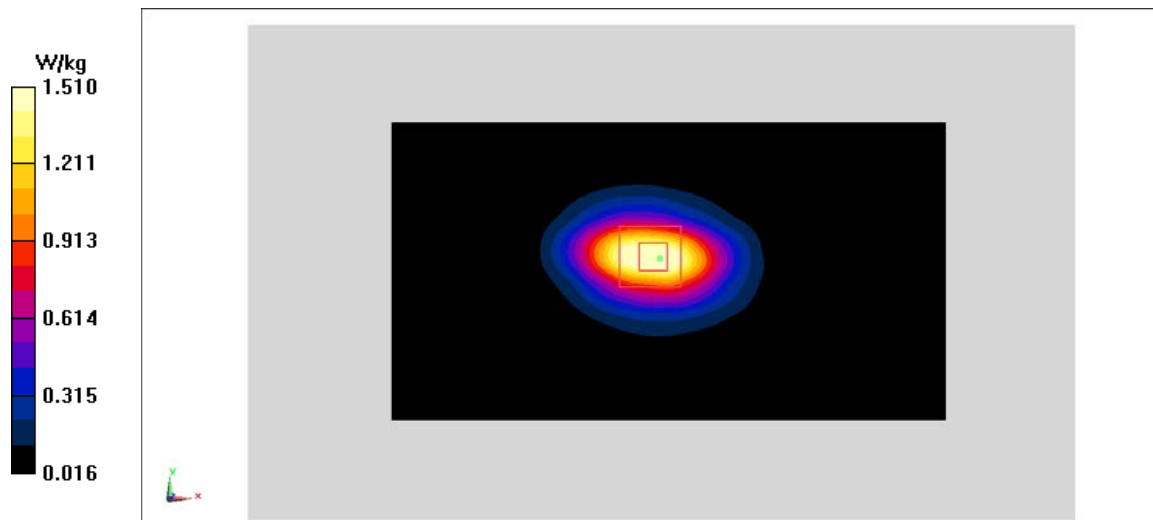


Fig A.18



**LTE700-FDD71\_CH133372 Right Cheek**

Date: 10/7/2018

Electronics: DAE4 Sn1525

Medium: head 750 MHz

Medium parameters used:  $f = 711$  MHz;  $\sigma = 0.835$  mho/m;  $\epsilon_r = 41.57$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: LTE700-FDD71 711 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(9.47,9.47,9.47)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.218 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.153 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.241 W/kg

**SAR(1 g) = 0.195 W/kg; SAR(10 g) = 0.156 W/kg**

Maximum value of SAR (measured) = 0.210 W/kg

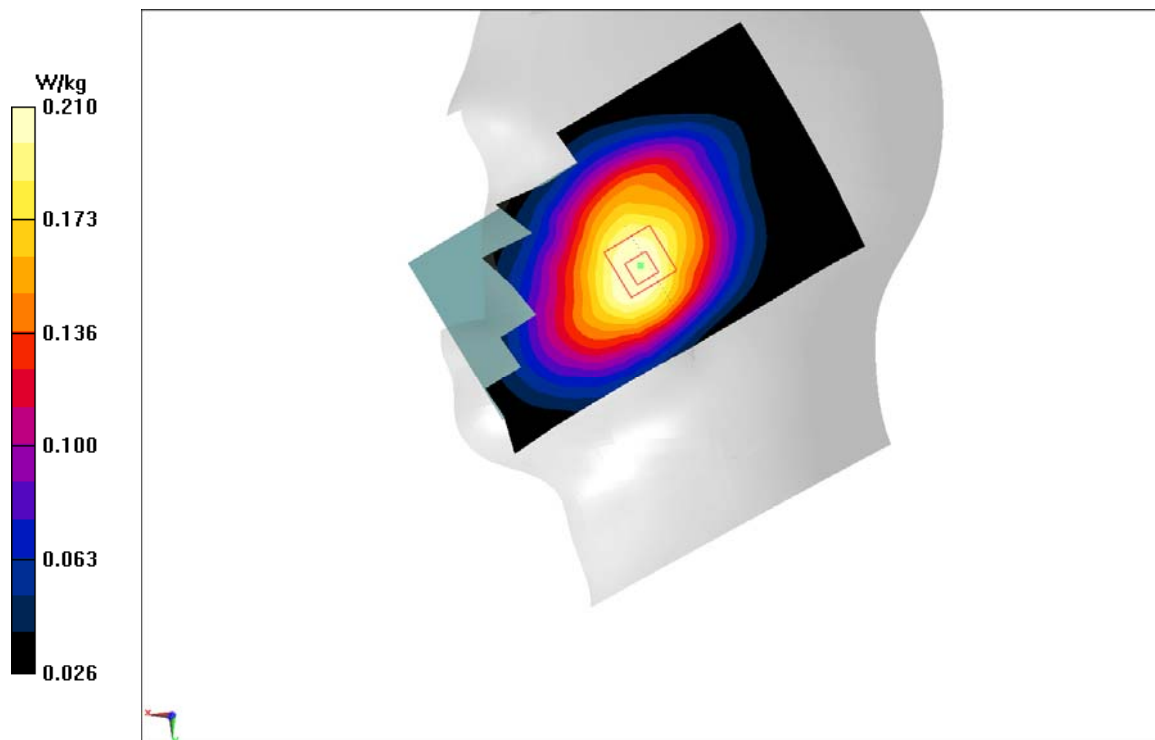


Fig A.19

**LTE700-FDD71\_CH133372 Rear**

Date: 10/7/2018

Electronics: DAE4 Sn1525

Medium: body 750 MHz

Medium parameters used:  $f = 711$  MHz;  $\sigma = 0.928$  mho/m;  $\epsilon_r = 55.24$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: LTE700-FDD71 711 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(9.68,9.68,9.68)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.272 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 17.57 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.298 W/kg

**SAR(1 g) = 0.243 W/kg; SAR(10 g) = 0.193 W/kg**

Maximum value of SAR (measured) = 0.263 W/kg

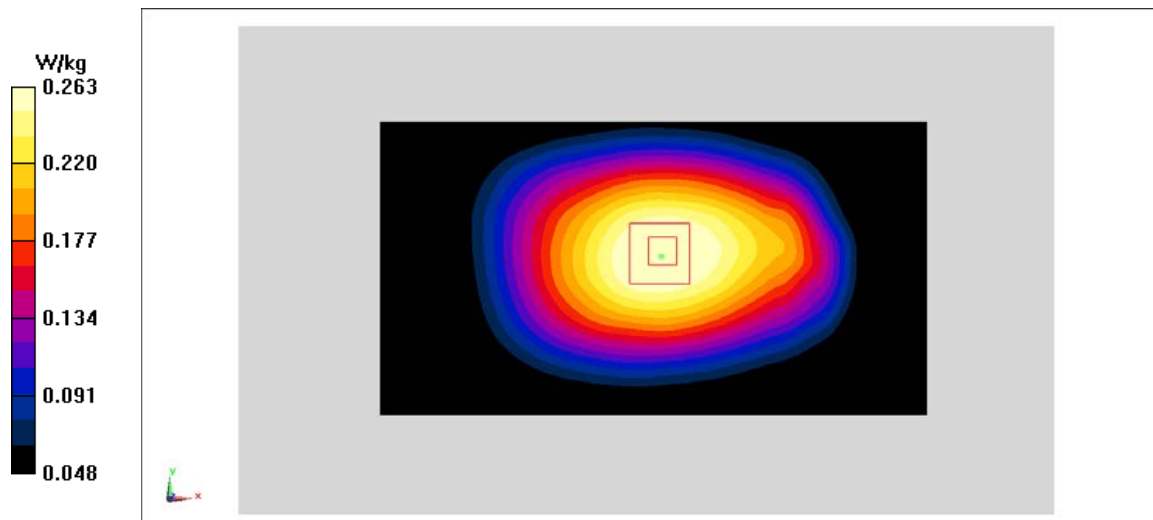


Fig A.20

**WLAN2450\_CH11 Left Cheek**

Date: 10/15/2018

Electronics: DAE4 Sn1525

Medium: head 2450 MHz

Medium parameters used:  $f = 2462$  MHz;  $\sigma = 1.803$  mho/m;  $\epsilon_r = 39.34$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.7°C, Liquid Temperature: 22.4°C

Communication System: WLAN2450 2462 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(6.95,6.95,6.95)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.09 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.05 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.81 W/kg

**SAR(1 g) = 0.744 W/kg; SAR(10 g) = 0.336 W/kg**

Maximum value of SAR (measured) = 1.01 W/kg

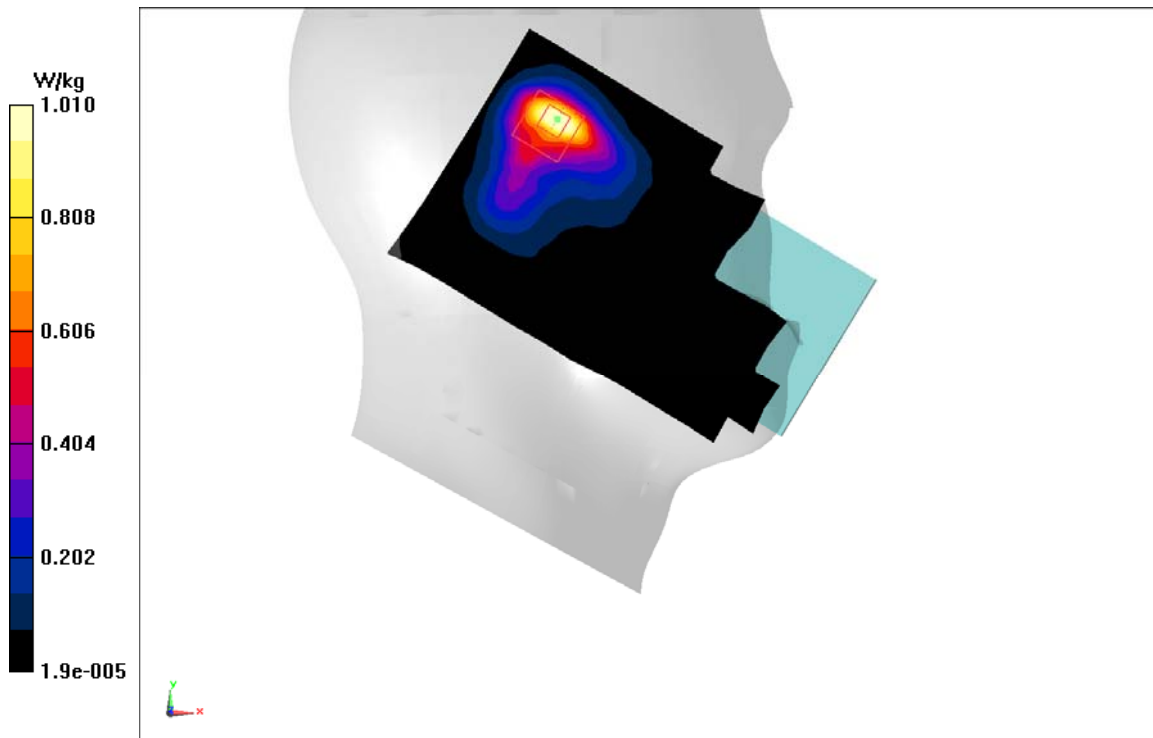


Fig A.21