

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41 PC3	5 MHz	1	0	39675	2498.5	24.1	23.3
				40148	2545.8	24.1	23.2
				40620	2593.0	24.3	22.9
				41093	2640.3	24.3	23.4
				41565	2687.5	24.0	23.3
			12	39675	2498.5	24.0	23.4
				40148	2545.8	24.4	22.9
				40620	2593.0	24.1	23.5
				41093	2640.3	24.0	22.9
				41565	2687.5	24.4	23.1
			24	39675	2498.5	24.1	23.4
				40148	2545.8	24.0	23.4
		40620		2593.0	24.0	22.9	
		41093		2640.3	24.1	23.4	
		41565		2687.5	24.0	23.2	
		12	0	39675	2498.5	23.2	22.0
				40148	2545.8	23.4	22.0
				40620	2593.0	23.1	22.5
				41093	2640.3	23.0	22.0
				41565	2687.5	23.1	22.2
			6	39675	2498.5	22.8	21.9
				40148	2545.8	22.9	22.2
				40620	2593.0	22.9	22.0
				41093	2640.3	23.0	22.3
				41565	2687.5	23.2	21.8
			13	39675	2498.5	23.3	22.1
				40148	2545.8	23.1	22.5
		40620		2593.0	23.5	22.0	
		41093		2640.3	23.2	22.2	
		41565		2687.5	23.1	22.5	
		25	0	39675	2498.5	23.4	21.8
				40148	2545.8	23.4	22.0
				40620	2593.0	23.4	21.9
				41093	2640.3	23.0	22.3
				41565	2687.5	23.5	21.9

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41 PC3	10 MHz	1	0	39700	2501.0	24.0	23.2
				40160	2547.0	24.3	23.3
				40620	2593.0	24.1	23.2
				41080	2639.0	24.0	23.0
				41540	2685.0	24.2	23.0
			24	39700	2501.0	24.5	23.5
				40160	2547.0	24.3	23.0
				40620	2593.0	23.8	23.4
				41080	2639.0	24.1	22.8
				41540	2685.0	24.5	22.8
			49	39700	2501.0	24.4	23.3
				40160	2547.0	24.2	23.5
				40620	2593.0	24.1	23.3
				41080	2639.0	24.4	23.4
				41540	2685.0	24.3	23.2
		25	0	39700	2501.0	22.8	21.9
				40160	2547.0	23.3	22.3
				40620	2593.0	23.1	22.0
				41080	2639.0	23.2	22.2
				41540	2685.0	22.8	22.1
			13	39700	2501.0	22.9	21.8
				40160	2547.0	23.1	21.9
				40620	2593.0	22.8	22.5
				41080	2639.0	22.9	22.2
				41540	2685.0	23.2	22.1
			25	39700	2501.0	23.4	22.2
				40160	2547.0	23.0	22.5
				40620	2593.0	22.8	21.9
				41080	2639.0	23.3	22.3
				41540	2685.0	23.1	22.0
		50	0	39700	2501.0	22.8	22.5
				40160	2547.0	23.1	22.0
40620	2593.0			22.9	22.3		
41080	2639.0			22.9	21.9		
41540	2685.0			22.9	22.3		

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41 PC3	15 MHz	1	0	39725	2503.5	23.9	22.9
				40173	2548.3	24.4	23.1
				40620	2593.0	23.9	22.8
				41068	2637.8	24.3	22.9
				41515	2682.5	24.2	23.4
			37	39725	2503.5	24.1	23.0
				40173	2548.3	24.2	23.3
				40620	2593.0	24.2	23.4
				41068	2637.8	24.5	23.1
				41515	2682.5	24.2	23.0
			74	39725	2503.5	24.3	23.5
				40173	2548.3	24.1	23.0
		40620		2593.0	23.9	23.2	
		41068		2637.8	24.0	22.9	
		41515		2682.5	24.0	23.0	
		36	0	39725	2503.5	23.4	22.4
				40173	2548.3	23.4	22.1
				40620	2593.0	22.9	22.3
				41068	2637.8	23.3	22.0
				41515	2682.5	23.0	21.9
			19	39725	2503.5	23.4	22.0
				40173	2548.3	22.9	21.8
				40620	2593.0	23.0	22.3
				41068	2637.8	22.8	22.3
				41515	2682.5	22.9	22.1
			39	39725	2503.5	23.3	22.1
				40173	2548.3	23.5	21.9
				40620	2593.0	23.4	22.0
				41068	2637.8	23.5	22.3
				41515	2682.5	23.3	22.1
		75	0	39725	2503.5	23.1	21.8
				40173	2548.3	23.3	22.5
40620	2593.0			23.2	22.0		
41068	2637.8			23.1	22.0		
41515	2682.5			22.9	22.3		

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41 PC3	20 MHz	1	0	39750	2506.0	24.3	23.0
				40185	2549.5	24.5	22.8
				40620	2593.0	24.4	23.2
				41055	2636.5	24.1	23.2
				41490	2680.0	24.2	23.1
			49	39750	2506.0	24.3	23.4
				40185	2549.5	24.5	23.0
				40620	2593.0	23.9	23.0
				41055	2636.5	24.5	23.4
			99	41490	2680.0	23.8	23.2
				39750	2506.0	24.1	23.2
				40185	2549.5	24.4	23.3
		40620		2593.0	24.0	23.3	
		50	0	41055	2636.5	23.9	22.8
				41490	2680.0	24.4	23.3
				39750	2506.0	23.0	22.0
				40185	2549.5	23.5	22.1
			24	40620	2593.0	22.9	22.1
				41055	2636.5	22.9	22.4
				41490	2680.0	23.1	22.1
				39750	2506.0	22.9	22.3
			50	40185	2549.5	23.4	22.2
				40620	2593.0	23.0	22.1
				41055	2636.5	22.8	22.0
				41490	2680.0	23.4	22.2
		100	0	39750	2506.0	22.9	22.2
				40185	2549.5	23.1	22.3
				40620	2593.0	23.3	22.5
				41055	2636.5	22.9	22.3
			0	41490	2680.0	23.0	21.8
				39750	2506.0	23.0	22.0
				40185	2549.5	23.1	22.4
40620	2593.0			22.8	22.2		
41055	2636.5	22.9	22.2				
41490	2680.0	23.2	22.3				

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41 PC2	5 MHz	1	0	39675	2498.5	27.0	26.4
				40148	2545.8	27.3	26.0
				40620	2593.0	27.5	26.4
				41093	2640.3	27.3	26.1
				41565	2687.5	27.0	25.9
			12	39675	2498.5	27.1	25.9
				40148	2545.8	27.4	26.3
				40620	2593.0	27.2	26.0
				41093	2640.3	26.8	25.9
				41565	2687.5	27.1	25.9
			24	39675	2498.5	27.4	26.0
				40148	2545.8	26.8	26.1
		40620		2593.0	27.5	26.5	
		41093		2640.3	27.1	25.8	
		41565		2687.5	27.5	26.3	
		12	0	39675	2498.5	26.2	24.9
				40148	2545.8	26.0	25.1
				40620	2593.0	26.1	25.2
				41093	2640.3	26.2	25.1
				41565	2687.5	26.4	25.0
			6	39675	2498.5	25.9	24.8
				40148	2545.8	26.4	25.1
				40620	2593.0	25.9	24.9
				41093	2640.3	26.4	24.8
				41565	2687.5	26.3	24.9
			13	39675	2498.5	26.3	25.0
				40148	2545.8	26.1	25.1
				40620	2593.0	26.5	24.9
				41093	2640.3	26.3	25.0
				41565	2687.5	26.2	24.9
		25	0	39675	2498.5	26.4	25.3
				40148	2545.8	25.9	25.3
				40620	2593.0	25.9	25.5
				41093	2640.3	26.3	24.9
				41565	2687.5	26.3	24.9

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41 PC2	10 MHz	1	0	39700	2501.0	27.1	26.2
				40160	2547.0	27.3	26.1
				40620	2593.0	27.2	26.0
				41080	2639.0	27.3	26.0
				41540	2685.0	26.8	26.2
			24	39700	2501.0	27.5	25.9
				40160	2547.0	27.1	26.3
				40620	2593.0	27.5	26.1
				41080	2639.0	26.9	26.2
				41540	2685.0	27.4	26.4
			49	39700	2501.0	27.0	26.3
				40160	2547.0	27.1	26.1
				40620	2593.0	27.2	26.1
				41080	2639.0	26.9	26.3
				41540	2685.0	27.1	26.1
		25	0	39700	2501.0	25.9	25.2
				40160	2547.0	26.4	24.9
				40620	2593.0	26.3	25.4
				41080	2639.0	26.3	25.4
				41540	2685.0	26.0	24.9
			13	39700	2501.0	26.2	25.1
				40160	2547.0	26.2	25.4
				40620	2593.0	26.0	25.0
				41080	2639.0	26.4	25.1
				41540	2685.0	25.9	24.9
			25	39700	2501.0	26.0	25.1
				40160	2547.0	25.9	24.8
				40620	2593.0	26.4	24.9
				41080	2639.0	26.4	25.2
				41540	2685.0	26.3	25.0
		50	0	39700	2501.0	25.8	25.2
				40160	2547.0	25.9	25.1
				40620	2593.0	26.3	25.2
				41080	2639.0	26.3	25.0
				41540	2685.0	26.5	24.8

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41 PC2	15 MHz	1	0	39725	2503.5	27.2	26.1
				40173	2548.3	26.9	26.4
				40620	2593.0	27.5	26.3
				41068	2637.8	27.2	26.4
			37	41515	2682.5	27.0	26.4
				39725	2503.5	27.3	26.0
				40173	2548.3	27.5	26.3
				40620	2593.0	27.4	26.5
			74	41068	2637.8	27.3	26.5
				41515	2682.5	27.2	26.2
				39725	2503.5	27.2	26.1
				40173	2548.3	27.0	26.2
		36	0	40620	2593.0	27.0	26.3
				41068	2637.8	27.3	26.5
				41515	2682.5	26.9	26.4
				39725	2503.5	26.5	25.0
			19	40173	2548.3	26.3	25.0
				40620	2593.0	26.4	25.0
				41068	2637.8	26.5	25.5
				41515	2682.5	26.1	25.5
			39	39725	2503.5	26.1	25.3
				40173	2548.3	25.9	24.9
				40620	2593.0	26.5	25.3
				41068	2637.8	26.4	25.0
		75	41515	2682.5	26.2	25.3	
			39725	2503.5	26.0	25.2	
			40173	2548.3	26.3	25.2	
			40620	2593.0	26.2	25.5	
		0	41068	2637.8	26.3	25.4	
			41515	2682.5	26.4	25.0	
			39725	2503.5	26.2	25.2	
			40173	2548.3	26.1	24.8	
		0	40620	2593.0	26.0	25.1	
			41068	2637.8	25.9	25.0	
			41515	2682.5	25.9	25.4	
			39725	2503.5	25.9	25.4	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41 PC2	20 MHz	1	0	39750	2506.0	27.1	25.9
				40185	2549.5	27.2	26.1
				40620	2593.0	27.4	26.1
				41055	2636.5	27.2	26.0
				41490	2680.0	27.5	26.4
			49	39750	2506.0	27.1	26.2
				40185	2549.5	27.3	25.9
				40620	2593.0	27.3	25.9
				41055	2636.5	27.1	25.8
				41490	2680.0	27.3	26.5
			99	39750	2506.0	27.2	26.4
				40185	2549.5	27.3	26.2
				40620	2593.0	27.1	26.3
				41055	2636.5	26.9	26.2
				41490	2680.0	27.0	25.8
		50	0	39750	2506.0	25.9	25.5
				40185	2549.5	25.9	25.2
				40620	2593.0	26.2	24.9
				41055	2636.5	26.0	25.3
				41490	2680.0	26.4	25.4
			24	39750	2506.0	26.4	25.2
				40185	2549.5	25.9	25.4
				40620	2593.0	25.8	25.2
				41055	2636.5	26.4	25.3
				41490	2680.0	25.8	25.4
			50	39750	2506.0	26.5	25.3
				40185	2549.5	26.2	24.8
				40620	2593.0	26.1	25.4
				41055	2636.5	26.3	25.2
				41490	2680.0	26.0	25.0
		100	0	39750	2506.0	25.9	25.2
				40185	2549.5	26.2	24.8
				40620	2593.0	26.2	25.0
				41055	2636.5	26.2	24.9
				41490	2680.0	26.1	24.9

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
48	5 MHz	1	0	55265	3552.5	21.2	19.8
				55627	3588.7	21.1	19.8
				55990	3625.0	20.9	20.2
				56352	3661.2	20.8	20.0
				56715	3697.5	20.9	19.9
			12	55265	3552.5	21.4	20.2
				55627	3588.7	20.8	20.3
				55990	3625.0	21.1	20.0
				56352	3661.2	21.4	20.2
				56715	3697.5	21.2	20.2
			24	55265	3552.5	21.4	20.4
				55627	3588.7	21.5	20.4
		55990		3625.0	21.1	20.4	
		56352		3661.2	20.8	19.9	
		56715		3697.5	21.2	20.2	
		12	0	55265	3552.5	20.2	19.3
				55627	3588.7	20.3	18.8
				55990	3625.0	20.2	19.4
				56352	3661.2	20.0	19.3
				56715	3697.5	20.1	18.9
			6	55265	3552.5	20.2	19.0
				55627	3588.7	20.2	19.2
				55990	3625.0	20.0	18.9
				56352	3661.2	20.2	19.2
			13	56715	3697.5	20.1	19.0
				55265	3552.5	20.3	19.1
				55627	3588.7	20.0	19.0
				55990	3625.0	20.3	19.0
				56352	3661.2	19.9	18.9
			25	0	56715	3697.5	20.2
		55265			3552.5	20.5	19.0
		55627			3588.7	20.4	19.0
55990	3625.0	19.8			19.1		
56352	3661.2	20.3			18.9		
				56715	3697.5	20.1	19.4

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
48	10 MHz	1	0	55290	3555.0	20.9	20.0
				55640	3590.0	21.1	20.2
				55990	3625.0	21.3	20.2
				56340	3660.0	21.3	20.1
				56690	3695.0	20.9	20.3
			24	55290	3555.0	21.1	20.1
				55640	3590.0	21.4	19.9
				55990	3625.0	21.0	19.8
				56340	3660.0	21.1	20.2
				56690	3695.0	21.5	19.8
			49	55290	3555.0	21.0	20.5
				55640	3590.0	21.5	20.4
				55990	3625.0	21.1	20.3
				56340	3660.0	21.3	20.1
				56690	3695.0	21.1	20.0
		25	0	55290	3555.0	19.9	19.3
				55640	3590.0	19.9	19.0
				55990	3625.0	20.1	19.2
				56340	3660.0	19.9	19.0
				56690	3695.0	20.5	18.9
			13	55290	3555.0	20.5	19.5
				55640	3590.0	19.9	18.9
				55990	3625.0	20.4	19.1
				56340	3660.0	20.4	19.4
				56690	3695.0	19.9	19.3
			25	55290	3555.0	20.0	19.0
				55640	3590.0	20.4	18.9
				55990	3625.0	19.8	19.4
				56340	3660.0	19.8	19.1
				56690	3695.0	19.9	19.0
		50	0	55290	3555.0	20.4	19.4
				55640	3590.0	20.0	19.5
				55990	3625.0	20.4	19.1
				56340	3660.0	19.8	19.1
				56690	3695.0	20.1	19.0

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM		
48	15 MHz	1	0	55315	3557.5	21.2	20.1		
				55652	3591.2	21.4	20.3		
				55990	3625.0	21.3	20.3		
				56327	3658.7	21.2	20.2		
				56665	3692.5	21.3	20.5		
			37	55315	3557.5	21.5	19.9		
				55652	3591.2	21.2	20.2		
				55990	3625.0	21.1	19.8		
				56327	3658.7	21.2	20.3		
			74	56665	3692.5	21.0	19.9		
				55315	3557.5	21.1	20.2		
				55652	3591.2	21.4	20.5		
		55990		3625.0	21.4	20.4			
		56327		3658.7	21.4	20.3			
		36	0	56665	3692.5	21.4	20.1		
				55315	3557.5	20.2	19.0		
				55652	3591.2	20.0	19.3		
				55990	3625.0	20.2	19.4		
				56327	3658.7	20.5	18.8		
			19	56665	3692.5	19.8	18.8		
				55315	3557.5	20.5	19.2		
				55652	3591.2	20.0	18.9		
				55990	3625.0	19.9	18.9		
			39	56327	3658.7	20.4	19.0		
				56665	3692.5	19.8	19.0		
				55315	3557.5	19.8	19.2		
				55652	3591.2	20.2	19.0		
				55990	3625.0	20.4	19.3		
			75	0	56327	3658.7	20.4	18.8	
		56665			3692.5	20.3	19.3		
		55315			3557.5	20.0	19.5		
		55652			3591.2	20.0	19.4		
		55990			3625.0	20.1	19.4		
						56327	3658.7	20.0	19.2
						56665	3692.5	20.0	18.8

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
48	20 MHz	1	0	55340	3560.0	21.1	20.4
				55665	3592.5	21.0	20.5
				55990	3625.0	21.0	20.1
				56315	3657.5	21.3	20.1
				56640	3690.0	21.4	20.2
			49	55340	3560.0	20.8	20.4
				55665	3592.5	21.3	20.1
				55990	3625.0	21.5	20.1
				56315	3657.5	20.9	19.9
				56640	3690.0	21.1	20.5
			99	55340	3560.0	21.2	20.2
				55665	3592.5	21.4	20.4
		55990		3625.0	21.3	20.1	
		56315		3657.5	20.9	20.0	
		56640		3690.0	20.9	20.3	
		50	0	55340	3560.0	20.2	19.1
				55665	3592.5	20.2	19.2
				55990	3625.0	19.8	19.4
				56315	3657.5	19.8	19.0
				56640	3690.0	20.0	19.0
			24	55340	3560.0	20.4	19.0
				55665	3592.5	20.1	18.9
				55990	3625.0	20.0	19.1
				56315	3657.5	20.1	19.4
				56640	3690.0	20.2	19.3
			50	55340	3560.0	20.0	19.1
				55665	3592.5	20.3	18.9
				55990	3625.0	20.2	19.4
				56315	3657.5	20.4	18.8
				56640	3690.0	19.9	19.0
		100	0	55340	3560.0	20.2	19.5
				55665	3592.5	20.4	18.8
				55990	3625.0	20.1	19.4
				56315	3657.5	20.1	19.2
				56640	3690.0	20.5	19.2

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM		
66	1.4 MHz	1	0	131979	1710.7	24.1	22.8		
				132322	1745.0	24.0	23.1		
				132665	1779.3	24.3	23.4		
			3	3	131979	1710.7	24.2	22.9	
					132322	1745.0	24.1	23.4	
					132665	1779.3	24.5	22.9	
				5	131979	1710.7	24.3	23.3	
					132322	1745.0	24.1	23.0	
					132665	1779.3	24.2	23.5	
		3	0	131979	1710.7	24.2	22.9		
				132322	1745.0	23.9	23.3		
				132665	1779.3	24.3	23.4		
				1	131979	1710.7	23.9	23.1	
					132322	1745.0	24.2	23.2	
					132665	1779.3	23.8	23.4	
			3	131979	1710.7	24.1	23.4		
				132322	1745.0	24.3	23.3		
				132665	1779.3	24.3	23.5		
			6	0	131979	1710.7	23.3	22.2	
					132322	1745.0	23.3	22.3	
					132665	1779.3	23.4	22.3	
		3 MHz	1	0	131987	1711.5	24.4	22.9	
					132322	1745.0	24.1	23.5	
					132657	1778.5	24.4	23.2	
	7				131987	1711.5	23.9	23.2	
					132322	1745.0	24.0	23.1	
					132657	1778.5	24.2	23.3	
	14			131987	1711.5	24.3	22.9		
				132322	1745.0	24.1	23.1		
				132657	1778.5	24.0	23.0		
				8	0	131987	1711.5	23.5	22.0
						132322	1745.0	22.9	22.0
						132657	1778.5	23.2	22.2
	7				131987	1711.5	22.9	22.2	
					132322	1745.0	22.8	22.3	
					132657	1778.5	22.8	21.8	
	14			131987	1711.5	23.4	22.0		
				132322	1745.0	23.2	22.3		
				132657	1778.5	23.4	21.8		
			15	0	131987	1711.5	22.9	22.4	
					132322	1745.0	23.1	22.1	
					132657	1778.5	23.1	21.8	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
66	5 MHz	1	0	131997	1712.5	24.2	23.0	
				132322	1745.0	24.4	23.0	
				132646	1777.4	24.0	23.3	
			12	131997	1712.5	24.3	23.4	
				132322	1745.0	24.3	23.4	
				132646	1777.4	23.8	23.4	
			24	131997	1712.5	23.9	23.0	
				132322	1745.0	24.0	23.2	
				132646	1777.4	24.0	23.1	
		12	0	131997	1712.5	23.4	21.8	
				132322	1745.0	22.9	22.2	
				132646	1777.4	23.4	21.9	
			6	131997	1712.5	22.8	22.5	
				132322	1745.0	23.1	22.3	
				132646	1777.4	23.2	22.0	
			13	131997	1712.5	22.9	22.1	
				132322	1745.0	23.3	22.1	
				132646	1777.4	23.0	22.1	
		25	0	131997	1712.5	23.2	22.1	
				132322	1745.0	23.1	22.0	
				132646	1777.4	23.4	22.3	
		10 MHz	1	0	132033	1716.1	24.4	23.1
					132322	1745.0	24.0	23.2
					132621	1774.9	24.3	23.4
	24			132033	1716.1	24.0	23.4	
				132322	1745.0	24.4	23.4	
				132621	1774.9	24.5	23.5	
	49			132033	1716.1	24.3	23.2	
				132322	1745.0	24.1	22.8	
				132621	1774.9	24.5	23.5	
	25			0	132033	1716.1	23.5	22.1
					132322	1745.0	23.1	21.9
					132621	1774.9	23.3	22.4
				13	132033	1716.1	23.1	22.3
					132322	1745.0	23.2	22.0
					132621	1774.9	22.9	22.5
			25	132033	1716.1	22.9	22.5	
				132322	1745.0	22.8	22.0	
				132621	1774.9	23.2	22.3	
	50		0	132033	1716.1	23.0	22.5	
				132322	1745.0	23.4	22.3	
				132621	1774.9	23.4	21.9	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
66	15 MHz	1	0	132047	1717.5	24.4	23.0	
				132322	1745.0	24.3	23.4	
				132596	1772.4	23.9	23.4	
			37	132047	1717.5	24.3	23.0	
				132322	1745.0	24.4	23.2	
				132596	1772.4	24.0	23.3	
			74	132047	1717.5	24.1	23.4	
				132322	1745.0	24.4	23.5	
				132596	1772.4	24.3	23.5	
		36	0	132047	1717.5	23.1	22.3	
				132322	1745.0	22.9	22.0	
				132596	1772.4	23.3	21.9	
			19	132047	1717.5	23.1	22.2	
				132322	1745.0	23.3	22.4	
				132596	1772.4	22.9	22.0	
			39	132047	1717.5	22.9	22.0	
				132322	1745.0	23.4	21.8	
				132596	1772.4	23.4	22.0	
		75	0	132047	1717.5	23.0	22.0	
				132322	1745.0	23.3	22.4	
				132596	1772.4	22.9	21.8	
		20 MHz	1	0	132072	1720.0	24.3	22.9
					132322	1745.0	23.9	23.1
					132571	1769.9	24.2	23.1
	49			132072	1720.0	24.1	23.5	
				132322	1745.0	24.4	23.0	
				132571	1769.9	24.0	22.8	
	99			132072	1720.0	24.4	23.5	
				132322	1745.0	24.4	23.4	
				132571	1769.9	24.3	23.3	
	50			0	132072	1720.0	23.1	22.2
					132322	1745.0	23.1	22.2
					132571	1769.9	23.4	22.1
			24	132072	1720.0	23.2	22.2	
				132322	1745.0	23.3	22.1	
				132571	1769.9	23.1	22.5	
	50		132072	1720.0	23.0	22.3		
			132322	1745.0	23.0	22.2		
			132571	1769.9	23.1	22.4		
	100		0	132072	1720.0	23.0	22.4	
				132322	1745.0	23.4	22.3	
				132571	1769.9	22.9	22.1	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM		
71	5 MHz	1	0	133147	665.5	23.5	22.6		
				133297	680.5	23.7	22.7		
				133447	695.5	23.6	22.7		
			12	12	133147	665.5	24.0	22.8	
					133297	680.5	23.8	22.5	
					133447	695.5	23.5	22.3	
				24	133147	665.5	23.9	22.4	
					133297	680.5	23.5	22.6	
					133447	695.5	23.5	22.4	
		12	0	133147	665.5	22.3	21.8		
				133297	680.5	22.7	21.4		
				133447	695.5	22.9	21.3		
			6	133147	665.5	22.5	21.5		
					133297	680.5	22.7	21.9	
					133447	695.5	22.3	21.7	
				13	133147	665.5	22.6	21.5	
					133297	680.5	22.7	21.4	
					133447	695.5	22.7	21.5	
			25	0	133147	665.5	22.4	21.9	
					133297	680.5	22.8	21.8	
					133447	695.5	22.4	21.8	
			10 MHz	1	0	133172	668.0	23.5	22.3
						133297	680.5	23.6	22.8
						133422	693.0	23.6	22.9
	24	133172				668.0	23.5	22.6	
		133297				680.5	24.0	22.9	
		133422				693.0	23.4	22.4	
	49	133172			668.0	23.8	22.6		
					133297	680.5	23.6	22.7	
					133422	693.0	23.5	22.8	
		25			0	133172	668.0	22.9	21.8
						133297	680.5	23.0	21.6
						133422	693.0	22.9	21.4
	13				133172	668.0	23.0	21.8	
					133297	680.5	22.9	21.8	
					133422	693.0	22.5	21.6	
	25	133172			668.0	22.9	21.6		
					133297	680.5	22.5	21.7	
					133422	693.0	22.9	21.4	
		50		0	133172	668.0	23.0	21.4	
					133297	680.5	22.5	21.7	
					133422	693.0	22.7	21.9	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
71	15 MHz	1	0	133197	670.5	23.9	23.0	
				133297	680.5	23.4	22.7	
				133397	690.5	23.8	22.5	
			37	133197	670.5	23.9	22.9	
				133297	680.5	23.9	22.6	
				133397	690.5	23.8	22.5	
			74	133197	670.5	23.6	22.7	
				133297	680.5	24.0	22.7	
				133397	690.5	23.7	22.4	
		36	0	133197	670.5	22.4	21.8	
				133297	680.5	22.8	21.7	
				133397	690.5	22.9	22.0	
			19	133197	670.5	22.5	21.8	
				133297	680.5	22.7	21.3	
				133397	690.5	22.5	21.9	
			39	133197	670.5	22.5	21.9	
				133297	680.5	22.9	21.3	
				133397	690.5	22.9	22.0	
		75	0	133197	670.5	22.6	21.7	
				133297	680.5	22.9	22.0	
				133397	690.5	22.9	21.9	
		20 MHz	1	0	133222	673.0	23.9	22.8
					133297	680.5	23.7	22.5
					133372	688.0	23.4	22.5
	49			133222	673.0	23.7	22.4	
				133297	680.5	23.9	22.6	
				133372	688.0	23.7	22.6	
	99			133222	673.0	23.9	22.6	
				133297	680.5	24.0	22.7	
				133372	688.0	23.9	22.6	
	50			0	133222	673.0	22.9	21.4
					133297	680.5	22.3	21.6
					133372	688.0	22.8	21.7
			24	133222	673.0	22.7	21.6	
				133297	680.5	22.7	21.7	
				133372	688.0	22.4	21.6	
			50	133222	673.0	22.7	22.0	
				133297	680.5	22.5	21.3	
				133372	688.0	22.8	21.8	
	100		0	133222	673.0	22.3	21.9	
				133297	680.5	22.8	21.9	
				133372	688.0	22.4	21.6	

Table 9.2 LTE Backoff Power Measurements

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
2	1.4 MHz	1	0	18607	1850.7	17.0	15.8	
				18900	1880.0	16.8	16.1	
				19193	1909.3	17.0	16.1	
			3	3	18607	1850.7	17.3	16.3
					18900	1880.0	17.3	16.1
					19193	1909.3	17.1	16.4
				5	18607	1850.7	17.4	16.4
					18900	1880.0	17.2	16.0
					19193	1909.3	17.1	15.9
		3	0	18607	1850.7	17.2	16.5	
				18900	1880.0	17.3	16.1	
				19193	1909.3	17.4	16.0	
				1	18607	1850.7	16.8	15.9
					18900	1880.0	17.4	16.0
					19193	1909.3	17.5	16.0
			3	18607	1850.7	17.2	16.3	
				18900	1880.0	17.0	16.0	
				19193	1909.3	17.4	15.8	
			6	0	18607	1850.7	16.1	15.0
					18900	1880.0	15.8	15.4
					19193	1909.3	16.1	15.0
		3 MHz	1	0	18615	1851.5	17.4	16.2
					18900	1880.0	17.2	16.4
					19185	1908.5	17.2	16.0
	7				18615	1851.5	16.8	16.4
					18900	1880.0	17.0	16.0
					19185	1908.5	17.1	15.8
	14			18615	1851.5	17.3	16.2	
				18900	1880.0	16.8	16.2	
				19185	1908.5	17.4	16.2	
	8			0	18615	1851.5	16.1	15.1
					18900	1880.0	15.8	15.0
					19185	1908.5	16.4	15.3
			7		18615	1851.5	16.4	14.9
					18900	1880.0	16.2	14.9
					19185	1908.5	16.0	15.2
			14	18615	1851.5	15.9	15.3	
				18900	1880.0	15.8	14.8	
				19185	1908.5	16.4	14.9	
	15		0	18615	1851.5	16.5	15.4	
				18900	1880.0	16.3	15.4	
				19185	1908.5	16.5	15.4	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
2	5 MHz	1	0	18625	1852.5	16.8	16.2	
				18900	1880.0	17.0	16.3	
				19175	1907.5	17.5	16.1	
			12	18625	1852.5	17.4	15.8	
				18900	1880.0	17.3	16.0	
				19175	1907.5	17.0	15.9	
			24	18625	1852.5	17.3	16.2	
				18900	1880.0	16.9	15.9	
				19175	1907.5	17.1	15.9	
		12	0	18625	1852.5	16.3	14.8	
				18900	1880.0	16.2	14.9	
				19175	1907.5	16.2	15.3	
			6	18625	1852.5	15.9	15.5	
				18900	1880.0	16.3	15.0	
				19175	1907.5	16.2	15.4	
			13	18625	1852.5	15.9	15.1	
				18900	1880.0	16.5	14.9	
				19175	1907.5	15.9	15.1	
		25	0	18625	1852.5	15.9	15.3	
				18900	1880.0	16.1	15.4	
				19175	1907.5	16.3	14.9	
		10 MHz	1	0	18650	1855.0	17.3	15.9
					18900	1880.0	17.2	16.2
					19150	1905.0	17.4	16.0
	24			18650	1855.0	17.4	16.1	
				18900	1880.0	17.1	15.9	
				19150	1905.0	17.4	16.4	
	49			18650	1855.0	17.1	16.0	
				18900	1880.0	17.2	16.4	
				19150	1905.0	17.3	16.1	
	25			0	18650	1855.0	16.1	15.1
					18900	1880.0	15.9	15.3
					19150	1905.0	16.2	15.2
			13	18650	1855.0	16.4	14.8	
				18900	1880.0	16.0	15.0	
				19150	1905.0	16.4	14.9	
			25	18650	1855.0	16.3	15.4	
				18900	1880.0	16.3	15.2	
				19150	1905.0	15.8	15.4	
	50		0	18650	1855.0	16.2	15.3	
				18900	1880.0	16.4	14.9	
				19150	1905.0	16.4	15.0	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
2	15 MHz	1	0	18675	1857.5	v	17.4	
				18900	1880.0	19.0	17.5	
				19125	1902.5	18.7	17.8	
			37	18675	1857.5	18.6	17.6	
				18900	1880.0	18.7	17.7	
				19125	1902.5	18.9	17.5	
			74	18675	1857.5	18.5	17.6	
				18900	1880.0	18.3	17.7	
				19125	1902.5	18.7	17.6	
		36	0	18675	1857.5	17.5	16.9	
				18900	1880.0	18.0	16.6	
				19125	1902.5	17.7	16.7	
			19	18675	1857.5	17.4	16.6	
				18900	1880.0	17.9	16.4	
				19125	1902.5	17.4	16.7	
			39	18675	1857.5	17.4	16.7	
				18900	1880.0	17.3	16.4	
				19125	1902.5	17.7	17.0	
		75	0	18675	1857.5	17.5	16.3	
				18900	1880.0	17.6	16.6	
				19125	1902.5	17.7	16.9	
		20 MHz	1	0	18700	1860.0	18.8	17.9
					18900	1880.0	18.5	17.4
					19100	1900.0	18.3	17.8
	49			18700	1860.0	18.8	17.6	
				18900	1880.0	18.4	17.7	
				19100	1900.0	18.4	17.3	
	99			18700	1860.0	18.8	17.8	
				18900	1880.0	18.4	17.8	
				19100	1900.0	18.7	17.7	
	50			0	18700	1860.0	17.7	16.4
					18900	1880.0	17.9	17.0
					19100	1900.0	17.7	16.7
			24	18700	1860.0	17.4	16.8	
				18900	1880.0	17.5	16.9	
				19100	1900.0	17.4	16.5	
			50	18700	1860.0	17.8	16.7	
				18900	1880.0	18.0	16.3	
				19100	1900.0	17.8	16.8	
	100		0	18700	1860.0	17.4	16.9	
				18900	1880.0	17.4	16.6	
				19100	1900.0	17.6	16.9	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
4	1.4 MHz	1	0	19957	1710.7	19.1	18.0	
				20175	1732.5	19.2	18.2	
				20393	1754.3	18.9	18.4	
			3	19957	1710.7	19.1	17.9	
				20175	1732.5	19.4	18.4	
				20393	1754.3	19.5	17.9	
			5	19957	1710.7	18.9	17.9	
				20175	1732.5	19.1	17.9	
				20393	1754.3	18.8	18.2	
		3	0	19957	1710.7	19.1	18.3	
				20175	1732.5	19.0	17.9	
				20393	1754.3	18.8	18.3	
			1	19957	1710.7	19.5	18.0	
				20175	1732.5	19.2	18.3	
				20393	1754.3	19.1	17.9	
			3	19957	1710.7	19.5	18.3	
				20175	1732.5	19.2	17.9	
				20393	1754.3	19.2	17.9	
	6	0	19957	1710.7	18.4	17.4		
			20175	1732.5	18.4	16.8		
			20393	1754.3	18.4	17.1		
	3 MHz	1	0	19965	1711.5	19.4	18.0	
				20175	1732.5	19.4	17.9	
				20385	1753.5	19.4	18.2	
			7	19965	1711.5	19.0	17.9	
				20175	1732.5	19.0	18.2	
				20385	1753.5	19.1	18.2	
			14	19965	1711.5	18.9	17.9	
				20175	1732.5	19.3	18.2	
				20385	1753.5	19.1	18.1	
			8	0	19965	1711.5	18.1	16.9
					20175	1732.5	17.9	17.2
					20385	1753.5	18.2	17.4
				7	19965	1711.5	18.2	16.9
					20175	1732.5	18.2	17.2
					20385	1753.5	18.2	17.4
		14		19965	1711.5	18.0	17.4	
				20175	1732.5	18.2	17.1	
				20385	1753.5	18.0	16.8	
		15	0	19965	1711.5	18.2	17.4	
				20175	1732.5	18.4	17.2	
				20385	1753.5	18.2	17.4	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
4	5 MHz	1	0	19975	1712.5	19.3	18.0	
				20175	1732.5	19.0	18.4	
				20375	1752.5	19.1	18.2	
			12	19975	1712.5	19.0	18.5	
				20175	1732.5	19.2	17.9	
				20375	1752.5	19.0	17.9	
			24	19975	1712.5	18.9	18.2	
				20175	1732.5	18.9	17.9	
				20375	1752.5	18.9	18.0	
		12	0	19975	1712.5	17.9	17.0	
				20175	1732.5	18.4	17.3	
				20375	1752.5	18.4	17.2	
			6	19975	1712.5	18.3	17.3	
				20175	1732.5	18.0	17.0	
				20375	1752.5	17.9	17.1	
			13	19975	1712.5	18.0	17.1	
				20175	1732.5	18.3	17.4	
				20375	1752.5	18.1	17.1	
		25	0	19975	1712.5	17.8	17.0	
				20175	1732.5	18.3	17.3	
				20375	1752.5	18.3	16.9	
		10 MHz	1	0	20000	1715.0	19.3	18.4
					20175	1732.5	19.1	18.5
					20350	1750.0	18.8	18.0
	24			20000	1715.0	19.1	18.4	
				20175	1732.5	19.5	18.5	
				20350	1750.0	19.4	18.2	
	49			20000	1715.0	18.9	18.0	
				20175	1732.5	19.1	17.9	
				20350	1750.0	19.0	18.2	
	25			0	20000	1715.0	18.0	17.1
					20175	1732.5	18.0	17.0
					20350	1750.0	18.4	17.4
				13	20000	1715.0	18.0	17.3
					20175	1732.5	18.4	17.3
					20350	1750.0	17.8	17.0
			25	20000	1715.0	18.2	16.9	
				20175	1732.5	17.9	17.2	
				20350	1750.0	18.5	17.2	
	50		0	20000	1715.0	18.1	16.9	
				20175	1732.5	18.0	17.2	
				20350	1750.0	18.5	17.4	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
4	15 MHz	1	0	20025	1717.5	18.9	18.2	
				20175	1732.5	19.0	18.0	
				20325	1747.5	18.9	18.3	
			37	20025	1717.5	19.4	18.5	
				20175	1732.5	19.4	18.3	
				20325	1747.5	19.4	18.3	
			74	20025	1717.5	19.4	18.4	
				20175	1732.5	19.4	18.2	
				20325	1747.5	19.4	17.9	
		36	0	20025	1717.5	18.1	17.0	
				20175	1732.5	18.4	17.5	
				20325	1747.5	18.0	17.0	
			19	20025	1717.5	18.3	17.4	
				20175	1732.5	18.4	16.9	
				20325	1747.5	17.8	17.1	
			39	20025	1717.5	18.4	16.8	
				20175	1732.5	18.3	17.3	
				20325	1747.5	17.9	17.1	
		75	0	20025	1717.5	17.8	17.2	
				20175	1732.5	17.9	17.2	
				20325	1747.5	18.4	17.4	
		20 MHz	1	0	20050	1720.0	19.3	18.3
					20175	1732.5	19.4	18.0
					20300	1745.0	18.9	18.5
	49			20050	1720.0	18.9	17.8	
				20175	1732.5	18.8	18.0	
				20300	1745.0	19.4	18.1	
	99			20050	1720.0	18.9	18.4	
				20175	1732.5	19.0	18.2	
				20300	1745.0	19.1	18.3	
	50			0	20050	1720.0	18.2	17.5
					20175	1732.5	18.1	16.9
					20300	1745.0	18.2	17.3
			24	20050	1720.0	18.2	17.0	
				20175	1732.5	18.4	17.1	
				20300	1745.0	18.5	16.8	
			50	20050	1720.0	18.5	17.4	
				20175	1732.5	18.2	17.1	
				20300	1745.0	18.0	16.8	
	100		0	20050	1720.0	17.9	16.8	
				20175	1732.5	17.9	16.8	
				20300	1745.0	18.3	17.3	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM		
7	5 MHz	1	0	20775	2502.5	19.0	18.2		
				21100	2535.0	18.8	18.3		
				21425	2567.5	18.9	18.3		
			12	20775	2502.5	19.1	17.9		
				21100	2535.0	19.2	18.2		
				21425	2567.5	18.9	18.2		
			24	20775	2502.5	18.8	18.4		
				21100	2535.0	19.5	18.3		
				21425	2567.5	19.3	17.9		
		12	0	20775	2502.5	18.0	17.4		
				21100	2535.0	18.3	16.9		
				21425	2567.5	18.3	16.8		
			6	20775	2502.5	18.1	17.0		
				21100	2535.0	18.0	17.5		
				21425	2567.5	18.1	17.0		
			13	20775	2502.5	18.2	17.3		
				21100	2535.0	17.8	17.0		
				21425	2567.5	18.3	17.1		
		25	0	20775	2502.5	18.1	17.1		
				21100	2535.0	18.3	17.0		
				21425	2567.5	18.1	17.4		
		10 MHz	1	0	20800	2505.0	19.2	17.8	
					21100	2535.0	19.3	18.4	
					21400	2565.0	19.2	18.3	
	24				20800	2505.0	18.9	18.5	
					21100	2535.0	19.1	17.9	
					21400	2565.0	19.1	17.9	
	49			20800	2505.0	19.2	18.4		
				21100	2535.0	19.2	18.1		
				21400	2565.0	19.2	17.8		
				25	0	20800	2505.0	18.3	17.0
						21100	2535.0	18.3	17.1
						21400	2565.0	17.9	17.2
	13				20800	2505.0	18.4	17.4	
					21100	2535.0	18.1	17.3	
					21400	2565.0	18.4	16.9	
	25			25	20800	2505.0	18.1	17.0	
					21100	2535.0	18.2	17.0	
					21400	2565.0	18.0	17.5	
			50	0	20800	2505.0	18.3	17.1	
					21100	2535.0	18.0	16.8	
					21400	2565.0	18.4	17.2	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
7	15 MHz	1	0	20825	2507.5	19.1	18.1	
				21100	2535.0	19.2	18.5	
				21375	2562.5	19.0	18.2	
			37	20825	2507.5	19.1	18.2	
				21100	2535.0	19.0	18.0	
				21375	2562.5	19.1	18.3	
			74	20825	2507.5	19.0	18.1	
				21100	2535.0	18.9	18.1	
				21375	2562.5	19.3	18.1	
		36	0	20825	2507.5	18.1	17.0	
				21100	2535.0	18.0	17.3	
				21375	2562.5	18.2	17.3	
			19	20825	2507.5	18.5	17.5	
				21100	2535.0	18.3	17.0	
				21375	2562.5	18.2	17.3	
			39	20825	2507.5	17.9	16.8	
				21100	2535.0	17.9	17.3	
				21375	2562.5	18.0	17.5	
		75	0	20825	2507.5	18.3	17.5	
				21100	2535.0	17.9	17.3	
				21375	2562.5	18.3	17.0	
		20 MHz	1	0	20850	2510.0	19.4	17.9
					21100	2535.0	18.9	18.5
					21350	2560.0	18.8	18.3
	49			20850	2510.0	19.0	18.4	
				21100	2535.0	19.2	18.1	
				21350	2560.0	19.3	18.3	
	99			20850	2510.0	19.4	18.5	
				21100	2535.0	19.4	17.9	
				21350	2560.0	19.2	18.4	
	50			0	20850	2510.0	18.4	17.4
					21100	2535.0	17.9	17.0
					21350	2560.0	18.4	17.1
			24	20850	2510.0	18.5	16.9	
				21100	2535.0	18.2	17.2	
				21350	2560.0	17.9	17.4	
			50	20850	2510.0	18.0	17.3	
				21100	2535.0	18.3	17.3	
				21350	2560.0	18.1	17.0	
	100		0	20850	2510.0	17.9	17.3	
				21100	2535.0	18.3	17.0	
				21350	2560.0	18.2	16.8	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
25	1.4 MHz	1	0	26047	1850.7	17.3	16.1	
				26365	1882.5	17.1	16.1	
				26683	1914.3	16.8	16.2	
			3	26047	1850.7	17.0	16.4	
				26365	1882.5	16.9	16.0	
				26683	1914.3	17.5	16.3	
			5	26047	1850.7	17.2	15.9	
				26365	1882.5	17.3	16.3	
				26683	1914.3	17.5	16.1	
		3	0	26047	1850.7	16.8	16.1	
				26365	1882.5	17.3	16.0	
				26683	1914.3	17.3	15.9	
			1	26047	1850.7	17.2	16.4	
				26365	1882.5	17.3	16.2	
				26683	1914.3	17.1	16.3	
			3	26047	1850.7	16.9	15.8	
				26365	1882.5	16.9	16.2	
				26683	1914.3	17.2	16.5	
		6	0	26047	1850.7	16.2	15.4	
				26365	1882.5	16.1	15.5	
				26683	1914.3	16.1	15.4	
		3 MHz	1	0	26055	1851.5	17.0	16.2
					26365	1882.5	17.3	16.2
					26675	1913.5	17.4	15.8
	7			26055	1851.5	17.4	15.9	
				26365	1882.5	17.0	16.4	
				26675	1913.5	17.0	16.3	
	14			26055	1851.5	17.2	16.5	
				26365	1882.5	17.4	15.9	
				26675	1913.5	17.4	16.4	
	8			0	26055	1851.5	15.8	15.3
					26365	1882.5	16.1	14.9
					26675	1913.5	16.3	15.2
				7	26055	1851.5	16.3	15.4
					26365	1882.5	16.3	15.3
					26675	1913.5	16.2	15.5
			14	26055	1851.5	16.2	14.9	
				26365	1882.5	16.1	15.3	
				26675	1913.5	15.9	15.4	
	15		0	26055	1851.5	16.4	15.4	
				26365	1882.5	16.2	14.8	
				26675	1913.5	16.2	15.4	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
25	5 MHz	1	0	26065	1852.5	16.8	16.2	
				26365	1882.5	17.3	16.4	
				26665	1912.5	17.4	16.2	
			12	24	26065	1852.5	16.9	16.4
					26365	1882.5	17.4	16.0
					26665	1912.5	17.5	16.1
				6	26065	1852.5	17.5	16.4
					26365	1882.5	17.1	16.4
					26665	1912.5	17.0	16.2
		12	0	26065	1852.5	16.4	15.5	
				26365	1882.5	16.2	15.2	
				26665	1912.5	16.4	14.9	
			6	26065	1852.5	16.3	15.0	
				26365	1882.5	15.9	15.5	
				26665	1912.5	15.8	15.3	
				13	26065	1852.5	16.2	14.8
					26365	1882.5	16.3	15.0
					26665	1912.5	16.3	15.0
		25	0	26065	1852.5	16.1	14.9	
				26365	1882.5	16.3	15.4	
				26665	1912.5	16.2	14.9	
		10 MHz	1	0	26090	1855.0	17.3	16.2
					26365	1882.5	17.2	15.8
					26640	1910.0	17.4	15.8
	24			26090	1855.0	16.8	16.3	
				26365	1882.5	16.8	16.2	
				26640	1910.0	17.5	15.9	
	49			26090	1855.0	17.0	16.3	
				26365	1882.5	17.4	15.8	
				26640	1910.0	17.0	16.3	
	25			0	26090	1855.0	16.2	15.1
					26365	1882.5	16.4	15.4
					26640	1910.0	15.9	15.1
			13	26090	1855.0	16.3	14.9	
				26365	1882.5	16.3	15.2	
				26640	1910.0	16.4	15.2	
			25	26090	1855.0	15.8	14.9	
				26365	1882.5	16.2	14.9	
				26640	1910.0	16.0	15.4	
	50		0	26090	1855.0	15.8	14.8	
				26365	1882.5	16.1	15.4	
				26640	1910.0	16.2	14.8	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
25	15 MHz	1	0	26115	1857.5	17.0	16.4	
				26365	1882.5	17.0	16.5	
				26615	1907.5	17.1	16.0	
			37	26115	1857.5	17.2	16.2	
				26365	1882.5	16.8	16.4	
				26615	1907.5	16.9	15.9	
			74	26115	1857.5	17.1	16.4	
				26365	1882.5	17.3	15.8	
				26615	1907.5	17.0	16.0	
		36	0	26115	1857.5	16.4	15.1	
				26365	1882.5	16.4	15.4	
				26615	1907.5	16.3	14.8	
			19	26115	1857.5	16.0	15.0	
				26365	1882.5	16.1	14.8	
				26615	1907.5	16.1	15.0	
			39	26115	1857.5	16.2	15.5	
				26365	1882.5	16.3	15.0	
				26615	1907.5	16.2	15.2	
		75	0	26115	1857.5	16.4	14.9	
				26365	1882.5	15.8	15.2	
				26615	1907.5	16.5	15.4	
		20 MHz	1	0	26140	1860.0	17.4	16.0
					26365	1882.5	17.3	16.5
					26590	1905.0	16.9	16.0
	49			26140	1860.0	17.1	16.3	
				26365	1882.5	17.4	16.1	
				26590	1905.0	17.4	16.1	
	99			26140	1860.0	16.9	16.3	
				26365	1882.5	16.9	16.4	
				26590	1905.0	17.4	16.1	
	50			0	26140	1860.0	16.3	15.4
					26365	1882.5	16.5	15.4
					26590	1905.0	16.3	15.1
			24	26140	1860.0	16.2	14.9	
				26365	1882.5	16.5	15.0	
				26590	1905.0	16.4	14.9	
			50	26140	1860.0	16.3	15.2	
				26365	1882.5	16.5	15.1	
				26590	1905.0	16.3	14.8	
	100		0	26140	1860.0	16.0	14.9	
				26365	1882.5	15.9	15.1	
				26590	1905.0	16.0	15.2	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM		
38	5 MHz	1	0	37775	2572.5	19.1	18.3		
				38000	2595.0	18.8	18.5		
				38225	2617.5	19.1	18.2		
			12	12	37775	2572.5	18.8	18.2	
					38000	2595.0	19.4	18.1	
					38225	2617.5	19.1	18.2	
			24	24	37775	2572.5	19.2	18.2	
					38000	2595.0	19.0	18.2	
					38225	2617.5	19.0	18.3	
		12	0	0	37775	2572.5	17.9	17.0	
					38000	2595.0	18.4	17.1	
					38225	2617.5	17.8	17.2	
			6	6	37775	2572.5	18.1	17.5	
					38000	2595.0	17.9	17.2	
					38225	2617.5	18.1	17.2	
			13	13	37775	2572.5	18.2	16.8	
					38000	2595.0	18.4	17.1	
					38225	2617.5	17.9	17.0	
		25	0	37775	2572.5	18.2	17.3		
				38000	2595.0	18.3	17.0		
				38225	2617.5	17.9	17.5		
		10 MHz	1	0	37800	2575.0	19.3	18.1	
					38000	2595.0	19.3	17.9	
					38200	2615.0	19.3	17.8	
				24	24	37800	2575.0	19.3	18.4
						38000	2595.0	18.9	17.9
						38200	2615.0	18.9	17.9
	49			49	37800	2575.0	19.3	18.4	
					38000	2595.0	19.1	18.5	
					38200	2615.0	19.3	18.0	
	25			0	0	37800	2575.0	17.9	17.5
						38000	2595.0	18.1	17.1
						38200	2615.0	18.5	17.3
				13	13	37800	2575.0	18.1	17.3
						38000	2595.0	18.1	17.3
						38200	2615.0	17.9	17.4
				25	25	37800	2575.0	18.4	17.3
						38000	2595.0	17.9	17.5
						38200	2615.0	18.4	17.0
			50	0	37800	2575.0	18.3	17.0	
					38000	2595.0	18.4	17.1	
					38200	2615.0	18.2	17.0	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
38	15 MHz	1	0	37825	2577.5	19.4	18.0	
				38000	2595.0	19.5	18.2	
				38175	2612.5	19.4	18.3	
			37	37825	2577.5	19.0	18.3	
				38000	2595.0	19.2	18.1	
				38175	2612.5	18.9	18.3	
			74	37825	2577.5	19.1	18.0	
				38000	2595.0	18.9	18.1	
				38175	2612.5	19.3	18.0	
		36	0	37825	2577.5	18.4	17.0	
				38000	2595.0	18.3	16.8	
				38175	2612.5	17.9	17.2	
			19	37825	2577.5	18.1	17.2	
				38000	2595.0	18.3	17.1	
				38175	2612.5	17.9	17.3	
			39	37825	2577.5	18.1	17.2	
				38000	2595.0	18.1	16.9	
				38175	2612.5	18.2	17.1	
			75	0	37825	2577.5	17.8	17.4
					38000	2595.0	18.4	17.0
					38175	2612.5	18.3	17.3
		20 MHz	1	0	37850	2580.0	19.0	18.4
					38000	2595.0	19.3	17.9
					38150	2610.0	19.4	18.4
	49			37850	2580.0	19.1	18.0	
				38000	2595.0	19.3	18.3	
				38150	2610.0	19.1	18.5	
	99			37850	2580.0	19.4	18.4	
				38000	2595.0	19.0	18.5	
				38150	2610.0	19.4	17.9	
	50			0	37850	2580.0	18.4	17.0
					38000	2595.0	17.8	17.5
					38150	2610.0	18.2	17.4
			24	37850	2580.0	18.2	17.0	
				38000	2595.0	18.4	17.0	
				38150	2610.0	18.1	17.1	
			50	37850	2580.0	18.2	17.0	
				38000	2595.0	18.3	17.3	
				38150	2610.0	18.5	17.1	
	100		0	37850	2580.0	17.9	17.2	
				38000	2595.0	17.8	17.0	
				38150	2610.0	18.3	17.1	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41 PC3 & PC2	5 MHz	1	0	39675	2498.5	19.0	18.1
				40148	2545.8	19.2	18.2
				40620	2593.0	19.4	18.0
				41093	2640.3	18.9	18.1
				41565	2687.5	18.8	18.2
			12	39675	2498.5	19.4	18.1
				40148	2545.8	18.9	18.3
				40620	2593.0	18.9	18.3
				41093	2640.3	19.4	18.5
				41565	2687.5	18.9	18.1
			24	39675	2498.5	19.0	17.8
				40148	2545.8	19.4	18.2
				40620	2593.0	19.1	18.1
				41093	2640.3	18.9	18.2
				41565	2687.5	19.1	18.1
		12	0	39675	2498.5	17.9	17.3
				40148	2545.8	18.0	17.1
				40620	2593.0	17.8	17.2
				41093	2640.3	18.4	17.2
				41565	2687.5	17.8	16.9
			6	39675	2498.5	18.1	17.0
				40148	2545.8	18.2	17.1
				40620	2593.0	17.9	17.3
				41093	2640.3	18.1	17.3
				41565	2687.5	17.8	17.4
			13	39675	2498.5	18.1	16.9
				40148	2545.8	17.8	17.2
				40620	2593.0	18.2	17.2
				41093	2640.3	17.8	17.4
				41565	2687.5	18.2	17.3
		25	0	39675	2498.5	18.5	17.4
				40148	2545.8	18.0	17.4
				40620	2593.0	18.4	17.0
				41093	2640.3	18.4	17.4
				41565	2687.5	18.2	17.5

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41 PC3 & PC2	10 MHz	1	0	39700	2501.0	19.1	18.2
				40160	2547.0	19.4	18.4
				40620	2593.0	19.3	18.1
				41080	2639.0	19.0	17.9
				41540	2685.0	19.2	18.4
			24	39700	2501.0	19.2	17.9
				40160	2547.0	19.1	18.4
				40620	2593.0	18.9	18.1
				41080	2639.0	19.3	18.3
				41540	2685.0	19.1	18.2
			49	39700	2501.0	19.1	18.4
				40160	2547.0	18.9	18.0
				40620	2593.0	19.0	18.2
				41080	2639.0	19.2	17.8
				41540	2685.0	18.9	18.4
		25	0	39700	2501.0	18.2	17.0
				40160	2547.0	18.1	17.3
				40620	2593.0	18.1	17.5
				41080	2639.0	17.8	17.3
				41540	2685.0	18.2	17.3
			13	39700	2501.0	18.1	16.9
				40160	2547.0	18.1	17.0
				40620	2593.0	17.9	17.5
				41080	2639.0	18.2	16.8
				41540	2685.0	17.8	17.0
			25	39700	2501.0	18.0	16.9
				40160	2547.0	18.5	16.9
				40620	2593.0	18.2	16.9
				41080	2639.0	18.1	16.8
				41540	2685.0	18.4	17.5
		50	0	39700	2501.0	18.1	17.1
				40160	2547.0	18.0	17.1
40620	2593.0			18.2	17.5		
41080	2639.0			18.1	17.3		
41540	2685.0			18.4	17.1		

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM		
41 PC3	15 MHz	1	0	39725	2503.5	19.5	18.3		
				40173	2548.3	18.9	18.3		
				40620	2593.0	19.5	18.3		
				41068	2637.8	19.3	18.1		
				41515	2682.5	19.0	18.3		
			37	39725	2503.5	19.4	18.4		
				40173	2548.3	19.4	18.2		
				40620	2593.0	19.0	18.0		
				41068	2637.8	19.1	18.2		
			74	41515	2682.5	19.3	17.9		
				39725	2503.5	19.1	18.4		
				40173	2548.3	19.0	18.4		
		40620		2593.0	19.4	18.3			
		36	0	0	41068	2637.8	19.3	18.4	
					41515	2682.5	19.2	18.3	
					39725	2503.5	18.1	16.9	
					40173	2548.3	18.0	17.2	
					40620	2593.0	18.0	17.2	
			19	41068	2637.8	18.3	17.4		
				41515	2682.5	18.3	16.8		
				39725	2503.5	18.3	17.4		
				40173	2548.3	18.4	17.0		
			39	40620	2593.0	18.0	17.4		
				41068	2637.8	18.4	17.4		
				41515	2682.5	18.2	17.1		
				39725	2503.5	18.2	17.5		
			75	0	0	40173	2548.3	18.1	17.2
						40620	2593.0	18.2	17.2
		41068				2637.8	18.3	16.9	
		41515				2682.5	18.1	17.0	
		39725				2503.5	18.2	17.2	
		0	0	0	40173	2548.3	18.3	17.2	
40620	2593.0				18.4	17.4			
41068	2637.8				18.4	17.2			
41515	2682.5				17.9	17.5			

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM		
41 PC3 & PC2	20 MHz	1	0	39750	2506.0	19.2	18.3		
				40185	2549.5	18.9	18.0		
				40620	2593.0	19.3	18.4		
				41055	2636.5	19.2	18.0		
				41490	2680.0	19.2	18.1		
			49	39750	2506.0	19.1	18.2		
				40185	2549.5	18.9	18.2		
				40620	2593.0	18.8	18.5		
				41055	2636.5	19.0	17.9		
			99	41490	2680.0	19.3	18.4		
				39750	2506.0	18.9	18.3		
				40185	2549.5	19.0	18.2		
		40620		2593.0	19.2	18.2			
		50	0	0	41055	2636.5	19.4	18.5	
					41490	2680.0	19.4	18.2	
					39750	2506.0	18.1	17.2	
					40185	2549.5	18.3	17.2	
			24	24	24	40620	2593.0	17.9	17.5
						41055	2636.5	17.8	16.9
						41490	2680.0	18.0	17.1
						39750	2506.0	18.1	17.5
			50	50	50	40185	2549.5	18.2	16.9
						40620	2593.0	17.8	17.1
						41055	2636.5	18.1	16.8
						41490	2680.0	18.4	17.0
		100	0	0	39750	2506.0	18.1	17.4	
					40185	2549.5	18.5	16.8	
					40620	2593.0	18.1	17.4	
					41055	2636.5	18.0	17.3	
					41490	2680.0	18.3	17.3	
					39750	2506.0	18.2	17.4	
					40185	2549.5	18.0	16.8	
40620	2593.0				18.4	17.3			
41055	2636.5	18.2	17.4						
41490	2680.0	18.3	17.4						

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
66	1.4 MHz	1	0	131979	1710.7	18.9	18.5	
				132322	1745.0	18.8	18.1	
				132665	1779.3	19.1	18.0	
			3	131979	1710.7	19.5	18.2	
				132322	1745.0	19.2	18.1	
				132665	1779.3	19.5	18.2	
			5	131979	1710.7	19.0	18.1	
				132322	1745.0	19.0	18.2	
				132665	1779.3	19.3	18.3	
		3	0	131979	1710.7	19.3	18.2	
				132322	1745.0	19.4	18.2	
				132665	1779.3	19.1	18.2	
			1	131979	1710.7	18.8	18.0	
				132322	1745.0	19.4	18.1	
				132665	1779.3	19.4	18.3	
			3	131979	1710.7	19.0	18.5	
				132322	1745.0	19.4	18.0	
				132665	1779.3	19.0	18.4	
		6	0	131979	1710.7	18.0	16.8	
				132322	1745.0	18.4	17.4	
				132665	1779.3	18.1	16.9	
		3 MHz	1	0	131987	1711.5	19.3	17.8
					132322	1745.0	19.1	18.3
					132657	1778.5	18.8	18.4
	7			131987	1711.5	19.0	18.1	
				132322	1745.0	19.0	18.0	
				132657	1778.5	19.1	18.4	
	14			131987	1711.5	19.0	18.3	
				132322	1745.0	19.4	18.0	
				132657	1778.5	19.1	18.2	
	8			0	131987	1711.5	18.2	16.9
					132322	1745.0	18.2	17.1
					132657	1778.5	18.2	17.0
			7	131987	1711.5	18.1	17.1	
				132322	1745.0	18.5	17.2	
				132657	1778.5	18.2	16.9	
			14	131987	1711.5	18.5	17.4	
				132322	1745.0	18.2	17.4	
				132657	1778.5	18.4	17.0	
	15		0	131987	1711.5	18.0	16.9	
				132322	1745.0	18.1	17.1	
				132657	1778.5	18.0	17.3	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
66	5 MHz	1	0	131997	1712.5	19.2	18.2	
				132322	1745.0	19.3	18.4	
				132646	1777.4	19.4	18.1	
			12	131997	1712.5	19.1	18.1	
				132322	1745.0	19.0	18.3	
				132646	1777.4	19.3	18.2	
			24	131997	1712.5	18.9	18.2	
				132322	1745.0	18.9	18.0	
				132646	1777.4	19.3	18.4	
		12	0	131997	1712.5	18.0	17.1	
				132322	1745.0	18.5	17.3	
				132646	1777.4	18.2	17.2	
			6	131997	1712.5	18.0	17.4	
				132322	1745.0	17.8	17.4	
				132646	1777.4	18.2	16.8	
			13	131997	1712.5	17.8	17.1	
				132322	1745.0	18.1	17.1	
				132646	1777.4	18.0	16.9	
		25	0	131997	1712.5	18.4	17.3	
				132322	1745.0	17.9	17.4	
				132646	1777.4	18.0	17.4	
		10 MHz	1	0	132033	1716.1	19.3	18.5
					132322	1745.0	19.0	17.9
					132621	1774.9	19.4	18.2
	24			132033	1716.1	19.1	18.2	
				132322	1745.0	19.2	18.0	
				132621	1774.9	19.5	18.3	
	49			132033	1716.1	19.3	18.1	
				132322	1745.0	19.2	18.0	
				132621	1774.9	19.4	18.0	
	25			0	132033	1716.1	17.9	17.2
					132322	1745.0	17.9	17.2
					132621	1774.9	18.0	17.4
				13	132033	1716.1	17.9	16.9
					132322	1745.0	17.9	17.4
					132621	1774.9	18.2	17.1
			25	132033	1716.1	18.3	17.1	
				132322	1745.0	18.3	17.1	
				132621	1774.9	18.1	17.4	
	50		0	132033	1716.1	18.0	17.5	
				132322	1745.0	17.8	17.3	
				132621	1774.9	18.2	17.4	

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM	
66	15 MHz	1	0	132047	1717.5	18.8	18.2	
				132322	1745.0	19.0	17.8	
				132596	1772.4	19.3	18.4	
			37	132047	1717.5	19.0	17.8	
				132322	1745.0	18.8	17.9	
				132596	1772.4	18.9	18.3	
			74	132047	1717.5	18.9	18.3	
				132322	1745.0	19.1	18.1	
				132596	1772.4	19.5	18.2	
		36	0	132047	1717.5	18.1	17.3	
				132322	1745.0	18.4	17.2	
				132596	1772.4	18.2	17.3	
			19	132047	1717.5	17.8	17.3	
				132322	1745.0	18.0	17.0	
				132596	1772.4	17.8	17.0	
			39	132047	1717.5	18.3	17.3	
				132322	1745.0	18.3	17.2	
				132596	1772.4	18.1	17.4	
		75	0	132047	1717.5	18.4	17.4	
				132322	1745.0	18.1	17.3	
				132596	1772.4	18.1	17.0	
		20 MHz	1	0	132072	1720.0	19.2	17.9
					132322	1745.0	19.5	18.5
					132571	1769.9	19.2	18.0
	49			132072	1720.0	19.0	18.4	
				132322	1745.0	19.4	17.9	
				132571	1769.9	18.8	18.3	
	99			132072	1720.0	19.1	18.3	
				132322	1745.0	18.9	18.2	
				132571	1769.9	19.5	18.4	
	50			0	132072	1720.0	18.3	17.0
					132322	1745.0	18.2	17.0
					132571	1769.9	18.3	17.2
			24	132072	1720.0	18.2	17.1	
				132322	1745.0	18.0	17.1	
				132571	1769.9	18.4	17.1	
			50	132072	1720.0	18.5	17.3	
				132322	1745.0	18.5	16.9	
				132571	1769.9	18.4	17.0	
	100		0	132072	1720.0	18.4	17.0	
				132322	1745.0	18.4	16.9	
				132571	1769.9	18.2	17.0	

Band	Mode	Bandwidth (MHz)	Channel	Frequency (MHz)	Data Rate	Antenna	Avg Power (dBm)	Tune-up Pwr (dBm)	
2450 MHz	802.11b	20	2	2417	1 Mbps	Tx0	17.89	18.00	
			6	2437			17.86	18.00	
			10	2457			17.84	18.00	
			2	2417		Tx1	17.89	18.00	
			6	2437			17.80	18.00	
			10	2457			17.82	18.00	
	802.11g	20	20	2	2417	6 Mbps	Tx0	17.88	18.00
				6	2437			17.97	18.00
				10	2457			17.99	18.00
				2	2417		Tx1	17.92	18.00
				6	2437			17.86	18.00
				10	2457			17.87	18.00
	802.11n	20	20	2	2417	MCS0	Tx0	18.00	18.00
				6	2437			17.81	18.00
				10	2457			17.81	18.00
				2	2417		Tx1	17.86	18.00
				6	2437			17.96	18.00
				10	2457			17.85	18.00
	802.11ax/ac	20	20	2	2417	MCS0	Tx0	17.85	18.00
				6	2437			17.89	18.00
				10	2457			17.86	18.00
				2	2417		Tx1	17.82	18.00
				6	2437			17.90	18.00
				10	2457			17.90	18.00
5.15-5.25 GHz	802.11a	20	38	5190	6 Mbps	Tx0	12.85	13.00	
			40	5200			12.95	13.00	
			44	5220			12.89	13.00	
			48	5240			12.92	13.00	
			36	5180		Tx1	12.91	13.00	
			40	5200			12.99	13.00	
			44	5220			12.81	13.00	
			48	5240			12.97	13.00	
	802.11n	20	20	38	5190	MCS0	Tx0	12.94	13.00
				40	5200			12.88	13.00
				44	5220			12.93	13.00
				46	5230			12.94	13.00
				36	5180		Tx1	12.82	13.00
				40	5200			12.80	13.00
				44	5220			12.82	13.00
				46	5230			12.89	13.00
	802.11ax/ac	20	20	38	5190	MCS0	Tx0	12.00	13.00
				40	5200			12.82	13.00
				44	5220			12.99	13.00
				46	5230			12.98	13.00
				36	5180		Tx1	12.88	13.00
				40	5200			12.97	13.00
				44	5220			12.94	13.00
				46	5230			12.86	13.00

Band	Mode	Bandwidth (MHz)	Channel	Frequency (MHz)	Data Rate	Antenna	Avg Power (dBm)	Tune-up Pwr (dBm)
5800 MHz	802.11a	20	149	5745	6 Mbps	Tx0	17.95	18.00
			153	5765			17.87	18.00
			157	5785			17.93	18.00
			161	5805			17.81	18.00
			165	5825			17.96	18.00
			149	5745		Tx1	15.84	16.00
			153	5765			15.87	16.00
			157	5785			15.94	16.00
			161	5805			15.99	16.00
			165	5825			15.83	16.00
	802.11n	20	MCS0	149	5745	Tx0	17.88	18.00
				153	5765		17.85	18.00
				157	5785		17.95	18.00
				161	5805		17.91	18.00
				165	5825		17.95	18.00
				149	5745	Tx1	15.84	16.00
				153	5765		15.96	16.00
				157	5785		15.95	16.00
				161	5805		15.98	16.00
				165	5825		15.93	16.00
	802.11ax/ac	20	MCS0	149	5745	Tx0	17.85	18.00
				153	5765		17.92	18.00
				157	5785		17.94	18.00
				161	5805		17.94	18.00
				165	5825		17.89	18.00
				149	5745	Tx1	15.99	16.00
				153	5765		15.83	16.00
157				5785	15.82		16.00	
161				5805	15.87		16.00	
165				5825	15.92		16.00	

10. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - d. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.

UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4/B5/B12/B17 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 4/17 SAR test was covered by Band 66/12; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. The maximum output power, including tolerance, for the smaller band is \leq the larger band to qualify for the SAR test exclusion.
 - b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II_Ant 0	RMC 12.2Kbps	Side A	10mm	9400	1880	16.48	16.50	0.239	0.24
	WCDMA II_Ant 0	RMC 12.2Kbps	Side B	10mm	9400	1880	16.48	16.50	0.0136	0.01
	WCDMA II_Ant 0	RMC 12.2Kbps	Side C	10mm	9400	1880	16.48	16.50	0.279	0.28
	WCDMA II_Ant 0	RMC 12.2Kbps	Side D	10mm	9400	1880	16.48	16.50	0.162	0.16
9	WCDMA II_Ant 0	RMC 12.2Kbps	Side F	10mm	9262	1852.4	16.44	16.50	0.859	0.87
	WCDMA II_Ant 0	RMC 12.2Kbps		10mm	9400	1880	16.48	16.50	0.839	0.84
	WCDMA II_Ant 0	RMC 12.2Kbps		10mm	9538	1907.6	16.34	16.50	0.647	0.67
	WCDMA II_Ant 0	RMC 12.2Kbps	Side F	20mm	9262	1852.4	23.87	24.00	0.729	0.75
	WCDMA IV_Ant 0	RMC 12.2Kbps	Side A	10mm	1413	1732.6	19.42	19.50	0.712	0.73
	WCDMA IV_Ant 0	RMC 12.2Kbps	Side B	10mm	1413	1732.6	19.42	19.50	0.0858	0.09
	WCDMA IV_Ant 0	RMC 12.2Kbps	Side C	10mm	1312	1712.4	19.39	19.50	0.730	0.75
7	WCDMA IV_Ant 0	RMC 12.2Kbps		10mm	1413	1732.6	19.42	19.50	0.861	0.88
	WCDMA IV_Ant 0	RMC 12.2Kbps		10mm	1513	1752.6	19.32	19.50	0.715	0.75
	WCDMA IV_Ant 0	RMC 12.2Kbps	Side D	10mm	1413	1732.6	19.42	19.50	0.0279	0.03
	WCDMA IV_Ant 0	RMC 12.2Kbps	Side F	10mm	1413	1732.6	19.42	19.50	0.586	0.60
	WCDMA IV_Ant 0	RMC 12.2Kbps	Side C	20mm	1413	1732.6	23.93	24.00	0.782	0.79
	WCDMA V_Ant 0	RMC 12.2Kbps	Side A	10mm	4132	826.4	23.94	24.00	0.832	0.84
5	WCDMA V_Ant 0	RMC 12.2Kbps		10mm	4183	836.6	23.98	24.00	0.878	0.88
	WCDMA V_Ant 0	RMC 12.2Kbps		10mm	4233	846.6	23.87	24.00	0.847	0.87
	WCDMA V_Ant 0	RMC 12.2Kbps	Side B	10mm	4183	836.6	23.98	24.00	0.573	0.58
	WCDMA V_Ant 0	RMC 12.2Kbps	Side C	10mm	4132	826.4	23.94	24.00	0.827	0.84
	WCDMA V_Ant 0	RMC 12.2Kbps		10mm	4183	836.6	23.98	24.00	0.864	0.87
	WCDMA V_Ant 0	RMC 12.2Kbps		10mm	4233	846.6	23.87	24.00	0.844	0.87
	WCDMA V_Ant 0	RMC 12.2Kbps	Side D	10mm	4183	836.6	23.98	24.00	0.402	0.40
	WCDMA V_Ant 0	RMC 12.2Kbps	Side F	10mm	4183	836.6	23.98	24.00	0.0712	0.07
	WCDMA V_Ant 0	RMC 12.2Kbps	Side A	20mm	4183	836.6	23.98	24.00	0.511	0.51

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2_Ant 8	20M	QPSK	1	49	Side A	10mm	18900	1880	17.36	17.50	0.189	0.20
	LTE Band 2_Ant 8	20M	QPSK	50	24		10mm	18900	1880	16.21	16.50	0.106	0.11
	LTE Band 2_Ant 8	20M	QPSK	1	49	Side C	10mm	18900	1880	17.36	17.50	0.315	0.33
	LTE Band 2_Ant 8	20M	QPSK	50	24		10mm	18900	1880	16.21	16.50	0.249	0.27
	LTE Band 2_Ant 8	20M	QPSK	1	49	Side D	10mm	18900	1880	17.36	17.50	0.365	0.38
	LTE Band 2_Ant 8	20M	QPSK	50	24		10mm	18900	1880	16.21	16.50	0.237	0.25
	LTE Band 2_Ant 8	20M	QPSK	1	49	Side D	20mm	18900	1880	24.22	24.50	0.307	0.33
	LTE Band 2_Ant 0	20M	QPSK	1	49	Side C	10mm	18900	1880	17.36	17.50	0.137	0.14
	LTE Band 4_Ant 8	20M	QPSK	1	49	Side A	10mm	20175	1732.5	19.46	19.50	0.103	0.10
	LTE Band 4_Ant 8	20M	QPSK	50	24		10mm	20175	1732.5	18.27	18.50	0.0922	0.10
	LTE Band 4_Ant 8	20M	QPSK	1	49	Side C	10mm	20175	1732.5	19.46	19.50	0.111	0.11
	LTE Band 4_Ant 8	20M	QPSK	50	24		10mm	20175	1732.5	18.27	18.50	0.0857	0.09
	LTE Band 4_Ant 8	20M	QPSK	1	49	Side D	10mm	20175	1732.5	19.46	19.50	0.322	0.32
	LTE Band 4_Ant 8	20M	QPSK	50	24		10mm	20175	1732.5	18.27	18.50	0.244	0.26
	LTE Band 4_Ant 8	20M	QPSK	1	49	Side D	20mm	20175	1732.5	24.35	24.50	0.297	0.31
	LTE Band 4_Ant 0	20M	QPSK	1	49	Side F	10mm	20175	1732.5	19.46	19.50	0.367	0.37
	LTE Band 5_Ant 1	10M	QPSK	1	24	Side A	10mm	20525	836.5	20.78	21.00	0.315	0.33
	LTE Band 5_Ant 1	10M	QPSK	25	12		10mm	20525	836.5	19.82	20.00	0.243	0.25
	LTE Band 5_Ant 1	10M	QPSK	1	24	Side B	10mm	20525	836.5	20.78	21.00	0.201	0.21
	LTE Band 5_Ant 1	10M	QPSK	25	12		10mm	20525	836.5	19.82	20.00	0.153	0.16
	LTE Band 5_Ant 1	10M	QPSK	1	24	Side C	10mm	20525	836.5	20.78	21.00	0.358	0.38
	LTE Band 5_Ant 1	10M	QPSK	25	12		10mm	20525	836.5	19.82	20.00	0.274	0.29
	LTE Band 5_Ant 1	10M	QPSK	1	24	Side D	10mm	20525	836.5	20.78	21.00	0.167	0.18
	LTE Band 5_Ant 1	10M	QPSK	25	12		10mm	20525	836.5	19.82	20.00	0.103	0.11
	LTE Band 5_Ant 1	10M	QPSK	1	24	Side E	10mm	20525	836.5	20.78	21.00	0.0314	0.03
	LTE Band 5_Ant 1	10M	QPSK	25	12		10mm	20525	836.5	19.82	20.00	0.0218	0.02
	LTE Band 5_Ant 0	10M	QPSK	1	24	Side C	10mm	20525	836.5	20.78	21.00	0.329	0.35
	LTE Band 5B_Ant 0	10M	QPSK	1	24	Side C	10mm	20450+20549	829	23.89	24.00	0.642	0.66
	LTE Band 7_Ant 0	20M	QPSK	1	49	Side A	10mm	21100	2535	19.20	19.50	0.559	0.60
	LTE Band 7_Ant 0	20M	QPSK	50	24		10mm	21100	2535	18.20	18.50	0.421	0.45
	LTE Band 7_Ant 0	20M	QPSK	1	49	Side B	10mm	21100	2535	19.20	19.50	0.0251	0.03
	LTE Band 7_Ant 0	20M	QPSK	50	24		10mm	21100	2535	18.20	18.50	0.0195	0.02
	LTE Band 7_Ant 0	20M	QPSK	1	49	Side C	10mm	21100	2535	19.20	19.50	0.241	0.26
	LTE Band 7_Ant 0	20M	QPSK	50	24		10mm	21100	2535	18.20	18.50	0.112	0.12
	LTE Band 7_Ant 0	20M	QPSK	1	49	Side D	10mm	21100	2535	19.20	19.50	0.0922	0.10
	LTE Band 7_Ant 0	20M	QPSK	50	24		10mm	21100	2535	18.20	18.50	0.0759	0.08
12	LTE Band 7_Ant 0	20M	QPSK	1	49	Side F	10mm	21100	2535	19.20	19.50	0.786	0.84
	LTE Band 7_Ant 0	20M	QPSK	50	24		10mm	21100	2535	18.20	18.50	0.654	0.70
	LTE Band 7_Ant 0	20M	QPSK	1	49	Side F	20mm	21100	2535	23.70	24.00	0.721	0.77
	LTE Band 7_Ant 0	20M	QPSK	1	49	Side F		21100	2535	16.30	16.50	0.411	0.43
	LTE Band 7_Ant 8	20M	QPSK	1	49	Side A	10mm	21100	2535	19.26	19.50	0.203	0.21
	LTE Band 7_Ant 8	20M	QPSK	50	24		10mm	21100	2535	18.39	18.50	0.152	0.16
	LTE Band 7_Ant 8	20M	QPSK	1	49	Side C	10mm	21100	2535	19.26	19.50	0.109	0.12
	LTE Band 7_Ant 8	20M	QPSK	50	24		10mm	21100	2535	18.39	18.50	0.0927	0.10
	LTE Band 7_Ant 8	20M	QPSK	1	49	Side D	10mm	21100	2535	19.26	19.50	0.223	0.24
	LTE Band 7_Ant 8	20M	QPSK	50	24		10mm	21100	2535	18.39	18.50	0.167	0.17
	LTE Band 7_Ant 8	20M	QPSK	1	49	Side D	20mm	21100	2535	23.79	24.00	0.197	0.21

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2	LTE Band 12_Ant 0	10M	QPSK	1	24	Side A	10mm	23095	707.5	23.70	24.00	0.157	0.17
	LTE Band 12_Ant 0	10M	QPSK	25	12		10mm	23095	707.5	22.60	23.00	0.113	0.12
	LTE Band 12_Ant 0	10M	QPSK	1	24	Side B	10mm	23095	707.5	23.70	24.00	0.0888	0.10
	LTE Band 12_Ant 0	10M	QPSK	25	12		10mm	23095	707.5	22.60	23.00	0.0811	0.09
	LTE Band 12_Ant 0	10M	QPSK	1	24	Side C	10mm	23095	707.5	23.70	24.00	0.148	0.16
	LTE Band 12_Ant 0	10M	QPSK	25	12		10mm	23095	707.5	22.60	23.00	0.101	0.11
	LTE Band 12_Ant 0	10M	QPSK	1	24	Side D	10mm	23095	707.5	23.70	24.00	0.0888	0.10
	LTE Band 12_Ant 0	10M	QPSK	25	12		10mm	23095	707.5	22.60	23.00	0.0826	0.09
	LTE Band 12_Ant 0	10M	QPSK	1	24	Side F	10mm	23095	707.5	23.70	24.00	0.0819	0.09
	LTE Band 12_Ant 0	10M	QPSK	25	12		10mm	23095	707.5	22.60	23.00	0.0786	0.09
LTE Band 12_Ant 0	10M	QPSK	1	24	Side A	10mm	23095	707.5	20.80	21.00	0.0751	0.08	
3	LTE Band 13_Ant 0	10M	QPSK	1	24	Side A	10mm	23230	782	23.50	24.00	0.441	0.50
	LTE Band 13_Ant 0	10M	QPSK	25	12		10mm	23230	782	22.90	23.00	0.359	0.37
	LTE Band 13_Ant 0	10M	QPSK	1	24	Side B	10mm	23230	782	23.50	24.00	0.314	0.35
	LTE Band 13_Ant 0	10M	QPSK	25	12		10mm	23230	782	22.90	23.00	0.246	0.25
	LTE Band 13_Ant 0	10M	QPSK	1	24	Side C	10mm	23230	782	23.50	24.00	0.393	0.44
	LTE Band 13_Ant 0	10M	QPSK	25	12		10mm	23230	782	22.90	23.00	0.259	0.27
	LTE Band 13_Ant 0	10M	QPSK	1	24	Side D	10mm	23230	782	23.50	24.00	0.211	0.24
	LTE Band 13_Ant 0	10M	QPSK	25	12		10mm	23230	782	22.90	23.00	0.184	0.19
	LTE Band 13_Ant 0	10M	QPSK	1	24	Side F	10mm	23230	782	23.50	24.00	0.050	0.06
	LTE Band 13_Ant 0	10M	QPSK	25	12		10mm	23230	782	22.90	23.00	0.0499	0.05
LTE Band 13_Ant 0	10M	QPSK	1	24	Side A	10mm	23230	782	20.70	21.00	0.246	0.26	
4	LTE Band 14_Ant 0	10M	QPSK	1	24	Side A	10mm	23330	793	23.90	24.00	0.467	0.48
	LTE Band 14_Ant 0	10M	QPSK	25	12		10mm	23330	793	22.60	23.00	0.355	0.39
	LTE Band 14_Ant 0	10M	QPSK	1	24	Side B	10mm	23330	793	23.90	24.00	0.203	0.21
	LTE Band 14_Ant 0	10M	QPSK	25	12		10mm	23330	793	22.60	23.00	0.167	0.18
	LTE Band 14_Ant 0	10M	QPSK	1	24	Side C	10mm	23330	793	23.90	24.00	0.450	0.46
	LTE Band 14_Ant 0	10M	QPSK	25	12		10mm	23330	793	22.60	23.00	0.344	0.38
	LTE Band 14_Ant 0	10M	QPSK	1	24	Side D	10mm	23330	793	23.90	24.00	0.150	0.15
	LTE Band 14_Ant 0	10M	QPSK	25	12		10mm	23330	793	22.60	23.00	0.0987	0.11
	LTE Band 14_Ant 0	10M	QPSK	1	24	Side F	10mm	23330	793	23.90	24.00	0.0726	0.07
	LTE Band 14_Ant 0	10M	QPSK	25	12		10mm	23330	793	22.60	23.00	0.0649	0.07
LTE Band 14_Ant 0	10M	QPSK	1	24	Side A	10mm	23330	793	20.80	21.00	0.218	0.23	
10	LTE Band 25_Ant 0	20M	QPSK	1	49	Side A	10mm	26365	1882.5	17.40	17.50	0.196	0.20
	LTE Band 25_Ant 0	20M	QPSK	50	24		10mm	26365	1882.5	16.50	16.50	0.122	0.12
	LTE Band 25_Ant 0	20M	QPSK	1	49	Side B	10mm	26365	1882.5	17.40	17.50	0.179	0.18
	LTE Band 25_Ant 0	20M	QPSK	50	24		10mm	26365	1882.5	16.50	16.50	0.113	0.11
	LTE Band 25_Ant 0	20M	QPSK	1	49	Side C	10mm	26365	1882.5	17.40	17.50	0.391	0.40
	LTE Band 25_Ant 0	20M	QPSK	50	24		10mm	26365	1882.5	16.50	16.50	0.287	0.29
	LTE Band 25_Ant 0	20M	QPSK	1	49	Side D	10mm	26365	1882.5	17.40	17.50	0.574	0.59
	LTE Band 25_Ant 0	20M	QPSK	50	24		10mm	26365	1882.5	16.50	16.50	0.468	0.47
	LTE Band 25_Ant 0	20M	QPSK	1	49	Side F	10mm	26365	1882.5	17.40	17.50	0.795	0.81
	LTE Band 25_Ant 0	20M	QPSK	1	49		10mm	26365	1882.5	16.50	16.50	0.721	0.72
LTE Band 25_Ant 0	20M	QPSK	1	49	Side F	20mm	26365	1882.5	23.80	24.00	0.687	0.72	
LTE Band 25_Ant 0	20M	QPSK	1	49	Side F	10mm	26365	1882.5	14.30	14.50	0.387	0.41	

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
6	LTE Band 26_Ant 0	10M	QPSK	1	24	Side A	10mm	26865	831.5	23.70	24.00	0.688	0.74
	LTE Band 26_Ant 0	10M	QPSK	25	12		10mm	26865	831.5	22.70	23.00	0.574	0.62
	LTE Band 26_Ant 0	10M	QPSK	1	24	Side B	10mm	26865	831.5	23.70	24.00	0.432	0.46
	LTE Band 26_Ant 0	10M	QPSK	25	12		10mm	26865	831.5	22.70	23.00	0.397	0.43
	LTE Band 26_Ant 0	10M	QPSK	1	24	Side C	10mm	26865	831.5	23.70	24.00	0.694	0.74
	LTE Band 26_Ant 0	10M	QPSK	25	12		10mm	26865	831.5	22.70	23.00	0.625	0.67
	LTE Band 26_Ant 0	10M	QPSK	1	24	Side D	10mm	26865	831.5	23.70	24.00	0.328	0.35
	LTE Band 26_Ant 0	10M	QPSK	25	12		10mm	26865	831.5	22.70	23.00	0.257	0.28
	LTE Band 26_Ant 0	10M	QPSK	1	24	Side F	10mm	26865	831.5	23.70	24.00	0.0736	0.08
	LTE Band 26_Ant 0	10M	QPSK	25	12		10mm	26865	831.5	22.70	23.00	0.0667	0.07
LTE Band 26_Ant 0	10M	QPSK	1	24	Side C	10mm	26865	831.5	20.90	21.00	0.358	0.37	
11	LTE Band 30_Ant 0	10M	QPSK	1	24	Side A	10mm	27710	2310	23.30	24.00	0.258	0.30
	LTE Band 30_Ant 0	10M	QPSK	25	12		10mm	27710	2310	22.70	23.00	0.203	0.22
	LTE Band 30_Ant 0	10M	QPSK	1	24	Side B	10mm	27710	2310	23.30	24.00	0.0152	0.02
	LTE Band 30_Ant 0	10M	QPSK	25	12		10mm	27710	2310	22.70	23.00	0.0116	0.01
	LTE Band 30_Ant 0	10M	QPSK	1	24	Side C	10mm	27710	2310	23.30	24.00	0.242	0.28
	LTE Band 30_Ant 0	10M	QPSK	25	12		10mm	27710	2310	22.70	23.00	0.216	0.23
	LTE Band 30_Ant 0	10M	QPSK	1	24	Side D	10mm	27710	2310	23.30	24.00	0.633	0.74
	LTE Band 30_Ant 0	10M	QPSK	25	12		10mm	27710	2310	22.70	23.00	0.574	0.62
	LTE Band 30_Ant 0	10M	QPSK	1	24	Side F	10mm	27710	2310	23.30	24.00	0.280	0.33
	LTE Band 30_Ant 0	10M	QPSK	25	12		10mm	27710	2310	22.70	23.00	0.229	0.25
LTE Band 30_Ant 0	10M	QPSK	1	24	Side D	10mm	27710	2310	20.50	21.00	0.315	0.35	
13	LTE Band 41_Ant 0	20M	QPSK	1	49	Side A	10mm	40620	2593	18.80	19.50	0.499	0.59
	LTE Band 41_Ant 0	20M	QPSK	50	24		10mm	40620	2593	17.80	18.50	0.328	0.39
	LTE Band 41_Ant 0	20M	QPSK	1	49	Side B	10mm	40620	2593	18.80	19.50	0.294	0.35
	LTE Band 41_Ant 0	20M	QPSK	50	24		10mm	40620	2593	17.80	18.50	0.201	0.24
	LTE Band 41_Ant 0	20M	QPSK	1	49	Side C	10mm	40620	2593	18.80	19.50	0.495	0.58
	LTE Band 41_Ant 0	20M	QPSK	50	24		10mm	40620	2593	17.80	18.50	0.384	0.45
	LTE Band 41_Ant 0	20M	QPSK	1	49	Side D	10mm	40620	2593	18.80	19.50	0.258	0.30
	LTE Band 41_Ant 0	20M	QPSK	50	24		10mm	40620	2593	17.80	18.50	0.199	0.23
	LTE Band 41_Ant 0	20M	QPSK	1	49	Side F	10mm	40620	2593	18.80	19.50	0.769	0.90
	LTE Band 41_Ant 0	20M	QPSK	50	24		10mm	40620	2593	17.80	18.50	0.713	0.84
LTE Band 41_Ant 0	20M	QPSK	1	49	Side F	20mm	40620	2593	27.30	27.50	0.768	0.80	
14	LTE Band 48_Ant 4	20M	QPSK	1	49	Side A	10mm	55990	3625	21.50	21.50	0.610	0.61
	LTE Band 48_Ant 4	20M	QPSK	50	24		10mm	55990	3625	20.00	20.50	0.575	0.65
	LTE Band 48_Ant 4	20M	QPSK	1	49	Side B	10mm	55990	3625	21.50	21.50	0.144	0.14
	LTE Band 48_Ant 4	20M	QPSK	50	24		10mm	55990	3625	20.00	20.50	0.102	0.11
	LTE Band 48_Ant 4	20M	QPSK	1	49	Side C	10mm	55990	3625	21.50	21.50	0.327	0.33
	LTE Band 48_Ant 4	20M	QPSK	50	24		10mm	55990	3625	20.00	20.50	0.269	0.30
	LTE Band 48_Ant 4	20M	QPSK	1	49	Side F	10mm	55990	3625	21.50	21.50	0.680	0.68
	LTE Band 48_Ant 4	20M	QPSK	50	24		10mm	55990	3625	20.00	20.50	0.592	0.66
	LTE Band 48_Ant 4	20M	QPSK	1	49	Side F	10mm	55990	3625	18.30	18.50	0.324	0.34
	LTE Band 48C_Ant 4	20M	QPSK	1	49	Side F	10mm	55340+55538	3560	16.90	17.00	0.657	0.67

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	
8	LTE Band 66_Ant 0	20M	QPSK	1	49	Side A	10mm	132322	1745	19.40	19.50	0.504	0.52	
	LTE Band 66_Ant 0	20M	QPSK	50	24		10mm	132322	1745	18.00	18.50	0.452	0.51	
	LTE Band 66_Ant 0	20M	QPSK	1	49	Side B	10mm	132322	1745	19.40	19.50	0.0620	0.06	
	LTE Band 66_Ant 0	20M	QPSK	50	24		10mm	132322	1745	18.00	18.50	0.0522	0.06	
	LTE Band 66_Ant 0	20M	QPSK	1	49	Side C	10mm	132322	1745	19.40	19.50	0.642	0.66	
	LTE Band 66_Ant 0	20M	QPSK	50	24		10mm	132322	1745	18.00	18.50	0.598	0.67	
	LTE Band 66_Ant 0	20M	QPSK	1	49	Side D	10mm	132322	1745	19.40	19.50	0.190	0.19	
	LTE Band 66_Ant 0	20M	QPSK	50	24		10mm	132322	1745	18.00	18.50	0.187	0.21	
	LTE Band 66_Ant 0	20M	QPSK	1	49	Side F	10mm	132322	1745	19.40	19.50	0.786	0.80	
	LTE Band 66_Ant 0	20M	QPSK	50	24		10mm	132322	1745	18.50	18.50	0.721	0.72	
	LTE Band 66_Ant 0	20M	QPSK	1	49	Side F	20mm	132322	1745	24.30	24.50	0.729	0.76	
	LTE Band 66_Ant 0	20M	QPSK	1	49	Side F	10mm	132322	1745	16.20	16.50	0.324	0.35	
	LTE Band 66B_Ant 0	20M	QPSK	1	49	Side F	10mm	132047+132140	1717.5	24.40	24.50	0.744	0.76	
	LTE Band 66C_Ant 0	20M	QPSK	1	49	Side F	10mm	132072+132270	1720	24.30	24.50	0.756	0.79	
	1	LTE Band 66_Ant 8	20M	QPSK	1	49	Side A	10mm	132322	1745	19.40	19.50	0.482	0.49
		LTE Band 66_Ant 8	20M	QPSK	50	24		10mm	132322	1745	18.00	18.50	0.379	0.43
LTE Band 66_Ant 8		20M	QPSK	1	49	Side C	10mm	132322	1745	19.40	19.50	0.511	0.52	
LTE Band 66_Ant 8		20M	QPSK	50	24		10mm	132322	1745	18.00	18.50	0.458	0.51	
LTE Band 66_Ant 8		20M	QPSK	1	49	Side D	10mm	132322	1745	19.40	19.50	0.685	0.70	
LTE Band 66_Ant 8		20M	QPSK	50	24		10mm	132322	1745	18.00	18.50	0.624	0.70	
LTE Band 66_Ant 8		20M	QPSK	1	49	Side D	20mm	132322	1745	24.40	24.50	0.614	0.63	
LTE Band 71_Ant 0		20M	QPSK	1	49	Side A	10mm	133222	680.5	23.90	24.00	0.169	0.17	
LTE Band 71_Ant 0	20M	QPSK	50	24	10mm		133222	680.5	22.70	23.00	0.111	0.12		
LTE Band 71_Ant 0	20M	QPSK	1	49	Side B	10mm	133222	680.5	23.90	24.00	0.0740	0.08		
LTE Band 71_Ant 0	20M	QPSK	50	24		10mm	133222	680.5	22.70	23.00	0.0722	0.08		
LTE Band 71_Ant 0	20M	QPSK	1	49	Side C	10mm	133222	680.5	23.90	24.00	0.160	0.16		
LTE Band 71_Ant 0	20M	QPSK	50	24		10mm	133222	680.5	22.70	23.00	0.134	0.14		
LTE Band 71_Ant 0	20M	QPSK	1	49	Side D	10mm	133222	680.5	23.90	24.00	0.105	0.11		
LTE Band 71_Ant 0	20M	QPSK	50	24		10mm	133222	680.5	22.70	23.00	0.0987	0.11		
LTE Band 71_Ant 0	20M	QPSK	1	49	Side F	10mm	133222	680.5	23.90	24.00	0.023	0.02		
LTE Band 71_Ant 0	20M	QPSK	50	24		10mm	133222	680.5	22.70	23.00	0.0152	0.02		
LTE Band 71_Ant 0	20M	QPSK	1	49	Side F	10mm	133222	680.5	20.80	21.00	0.0814	0.09		

Plot No.	Band	BW (MHz)	Modulation	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	2.45 GHz Ant 0	20M	CCK	Side A	10mm	6	2437	17.86	18.00	0.188	0.19
	2.45 GHz Ant 1	20M	CCK		10mm	6	2437	17.80	18.00	0.189	0.20
	2.45 GHz Ant 1	20M	CCK	Side B	10mm	6	2437	17.80	18.00	0.0838	0.09
	2.45 GHz Ant 0	20M	CCK	Side C	10mm	6	2437	17.86	18.00	0.130	0.13
	2.45 GHz Ant 1	20M	CCK		10mm	6	2437	17.80	18.00	0.175	0.18
15	2.45 GHz Ant 0	20M	CCK	Side D	10mm	6	2437	17.86	18.00	0.207	0.21
	2.45 GHz Ant 0	20M	CCK	Side E	10mm	6	2437	17.86	18.00	0.0428	0.04
	2.45 GHz Ant 1	20M	CCK	Side F	10mm	6	2437	17.80	18.00	0.0616	0.07
	5.25 GHz Ant 0	20M	OFDM	Side A	10mm	44	5220	12.89	13.00	0.205	0.21
	5.25 GHz Ant 1	20M	OFDM		10mm	44	5220	12.99	13.00	0.129	0.13
	5.25 GHz Ant 1	20M	OFDM	Side B	10mm	44	5220	12.99	13.00	0.192	0.19
	5.25 GHz Ant 0	20M	OFDM	Side C	10mm	44	5220	12.89	13.00	0.244	0.25
	5.25 GHz Ant 1	20M	OFDM		10mm	44	5220	12.99	13.00	0.144	0.14
16	5.25 GHz Ant 0	20M	OFDM	Side D	10mm	44	5220	12.89	13.00	0.253	0.26
	5.25 GHz Ant 0	20M	OFDM	Side E	10mm	44	5220	12.89	13.00	0.116	0.12
	5.25 GHz Ant 1	20M	OFDM	Side F	10mm	44	5220	12.99	13.00	0.0631	0.06
	5.25 GHz Ant 0	20M	OFDM	Side A	10mm	157	5785	17.93	18.00	0.214	0.22
	5.25 GHz Ant 1	20M	OFDM		10mm	157	5785	15.94	16.00	0.183	0.19
	5.25 GHz Ant 1	20M	OFDM	Side B	10mm	157	5785	15.94	16.00	0.209	0.21
	5.25 GHz Ant 0	20M	OFDM	Side C	10mm	157	5785	17.93	18.00	0.234	0.24
	5.25 GHz Ant 1	20M	OFDM		10mm	157	5785	15.94	16.00	0.207	0.21
17	5.25 GHz Ant 0	20M	OFDM	Side D	10mm	157	5785	17.93	18.00	0.243	0.25
	5.25 GHz Ant 0	20M	OFDM	Side E	10mm	157	5785	17.93	18.00	0.167	0.17
	5.25 GHz Ant 1	20M	OFDM	Side F	10mm	157	5785	15.94	16.00	0.164	0.17

11. Simultaneous Transmission Analysis

The FR1 and FR2 data are located in report number SAR.20220611 and SAR.20220612. The data listed in the tables below was extracted from the reports filed with this report.

Sim-Tx configuration

No.	Simultaneous Transmission Configuration	Exposure Positions
		Body
1	UMTS + 2.4 GHz Wifi 0 + 2.4 GHz WiFi 1	Yes
2	UMTS + 5 GHz Wifi 0 + 5 GHz WiFi 1	Yes
3	LTE + 2.4 GHz Wifi 0 + 2.4 GHz WiFi 1	Yes
4	LTE + 5 GHz Wifi 0 + 5 GHz WiFi 1	Yes
5	FR1 + 2.4 GHz Wifi 0 + 2.4 GHz WiFi 1	Yes
6	FR1 + 5 GHz Wifi 0 + 5 GHz WiFi 1	Yes
7	LTE + FR2 + 2.4 GHz WiFi 0 + 2.4 GHz WiFi 1	Yes
8	LTE + FR2 + 5 GHz WiFi 0 + 5 GHz WiFi 1	Yes

General Note:

1. The worst case WLAN reported SAR for each configuration was used for SAR summation, regardless of whether the WLAN channel has Hotspot capability. Therefore, the following summations represent the absolute worst cases for simultaneous transmission with WLAN.
2. The Scaled SAR summation is calculated based on the same configuration and test position.

Body Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+4+5 Summed 1g SAR (W/kg)
		WWAN	2.4GHz Wi-Fi 0	2.4GHz Wi-Fi 1	5GHz Wi-Fi 0	5GHz Wi-Fi 1		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
WCDMA II Ant 0	Side A	0.24	0.19	0.20	0.22	0.19	0.63	0.65
	Side B	0.01		0.09		0.21	0.10	0.22
	Side C	0.28	0.13	0.18	0.25	0.21	0.59	0.74
	Side D	0.16	0.21		0.26		0.37	0.42
	Side E		0.04		0.17		0.04	0.17
	Side F	0.87		0.07		0.17	0.94	1.04
WCDMA IV Ant 0	Side A	0.73	0.19	0.20	0.22	0.19	1.12	1.14
	Side B	0.09		0.09		0.21	0.18	0.30
	Side C	0.88	0.13	0.18	0.25	0.21	1.19	1.34
	Side D	0.03	0.21		0.26		0.24	0.29
	Side E		0.04		0.17		0.04	0.17
	Side F	0.60		0.07		0.17	0.67	0.77
WCDMA V Ant 0	Side A	0.88	0.19	0.20	0.22	0.19	1.27	1.29
	Side B	0.58		0.09		0.21	0.67	0.79
	Side C	0.87	0.13	0.18	0.25	0.21	1.18	1.33
	Side D	0.40	0.21		0.26		0.61	0.66
	Side E		0.04		0.17		0.04	0.17
	Side F	0.07		0.07		0.17	0.14	0.24
LTE Band 7 Ant 0	Side A	0.60	0.19	0.20	0.22	0.19	0.99	1.01
	Side B	0.03		0.09		0.21	0.12	0.24
	Side C	0.26	0.13	0.18	0.25	0.21	0.57	0.72
	Side D	0.10	0.21		0.26		0.31	0.36
	Side E		0.04		0.17		0.04	0.17
	Side F	0.84		0.07		0.17	0.91	1.01
LTE Band 12 Ant 0	Side A	0.17	0.19	0.20	0.22	0.19	0.56	0.58
	Side B	0.10		0.09		0.21	0.19	0.31
	Side C	0.16	0.13	0.18	0.25	0.21	0.47	0.62
	Side D	0.10	0.21		0.26		0.31	0.36
	Side E		0.04		0.17		0.04	0.17
	Side F	0.09		0.07		0.17	0.16	0.26
LTE Band 13 Ant 0	Side A	0.50	0.19	0.20	0.22	0.19	0.89	0.91
	Side B	0.35		0.09		0.21	0.44	0.56
	Side C	0.44	0.13	0.18	0.25	0.21	0.75	0.90
	Side D	0.24	0.21		0.26		0.45	0.50
	Side E		0.04		0.17		0.04	0.17
	Side F	0.06		0.07		0.17	0.13	0.23
LTE Band 14 Ant 0	Side A	0.48	0.19	0.20	0.22	0.19	0.87	0.89
	Side B	0.21		0.09		0.21	0.30	0.42
	Side C	0.46	0.13	0.18	0.25	0.21	0.77	0.92
	Side D	0.15	0.21		0.26		0.36	0.41
	Side E		0.04		0.17		0.04	0.17
	Side F	0.07		0.07		0.17	0.14	0.24
LTE Band 25 Ant 0	Side A	0.20	0.19	0.20	0.22	0.19	0.59	0.61
	Side B	0.18		0.09		0.21	0.27	0.39
	Side C	0.40	0.13	0.18	0.25	0.21	0.71	0.86
	Side D	0.59	0.21		0.26		0.80	0.85
	Side E		0.04		0.17		0.04	0.17
	Side F	0.81		0.07		0.17	0.88	0.98

WWAN Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+4+5 Summed 1g SAR (W/kg)
		WWAN	2.4GHz Wi-Fi 0	2.4GHz Wi-Fi 1	5GHz Wi-Fi 0	5GHz Wi-Fi 1		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 26 Ant 0	Side A	0.74	0.19	0.20	0.22	0.19	1.13	1.15
	Side B	0.46		0.09		0.21	0.55	0.67
	Side C	0.74	0.13	0.18	0.25	0.21	1.05	1.20
	Side D	0.35	0.21		0.26		0.56	0.61
	Side E		0.04		0.17		0.04	0.17
	Side F	0.08		0.07		0.17	0.15	0.25
LTE Band 30 Ant 0	Side A	0.30	0.19	0.20	0.22	0.19	0.69	0.71
	Side B	0.02		0.09		0.21	0.11	0.23
	Side C	0.28	0.13	0.18	0.25	0.21	0.59	0.74
	Side D	0.74	0.21		0.26		0.95	1.00
	Side E		0.04		0.17		0.04	0.17
	Side F	0.33		0.07		0.17	0.40	0.50
LTE Band 41 Ant 0	Side A	0.59	0.19	0.20	0.22	0.19	0.98	1.00
	Side B	0.35		0.09		0.21	0.44	0.56
	Side C	0.58	0.13	0.18	0.25	0.21	0.89	1.04
	Side D	0.30	0.21		0.26		0.51	0.56
	Side E		0.04		0.17		0.04	0.17
	Side F	0.90		0.07		0.17	0.97	1.07
LTE Band 48 Ant 4	Side A	0.61	0.19	0.20	0.22	0.19	1.00	1.02
	Side B	0.14		0.09		0.21	0.23	0.35
	Side C	0.33	0.13	0.18	0.25	0.21	0.64	0.79
	Side D		0.21		0.26		0.21	0.26
	Side E		0.04		0.17		0.04	0.17
	Side F	0.68		0.07		0.17	0.75	0.85
LTE Band 66 Ant 0	Side A	0.52	0.19	0.20	0.22	0.19	0.91	0.93
	Side B	0.06		0.09		0.21	0.15	0.27
	Side C	0.66	0.13	0.18	0.25	0.21	0.97	1.12
	Side D	0.19	0.21		0.26		0.40	0.45
	Side E		0.04		0.17		0.04	0.17
	Side F	0.80		0.07		0.17	0.87	0.97
LTE Band 71 Ant 0	Side A	0.17	0.19	0.20	0.22	0.19	0.56	0.58
	Side B	0.08		0.09		0.21	0.17	0.29
	Side C	0.16	0.13	0.18	0.25	0.21	0.47	0.62
	Side D	0.11	0.21		0.26		0.32	0.37
	Side E		0.04		0.17		0.04	0.17
	Side F	0.02		0.07		0.17	0.09	0.19
FR1 Band n7 Ant 0	Side A	0.76	0.19	0.20	0.22	0.19	1.15	1.17
	Side B	0.12		0.09		0.21	0.21	0.33
	Side C	0.69	0.13	0.18	0.25	0.21	1.00	1.15
	Side D	0.11	0.21		0.26		0.32	0.37
	Side E		0.04		0.17		0.04	0.17
	Side F	0.89		0.07		0.17	0.96	1.06
FR1 Band n12 Ant 0	Side A	0.33	0.19	0.20	0.22	0.19	0.72	0.74
	Side B	0.16		0.09		0.21	0.25	0.37
	Side C	0.31	0.13	0.18	0.25	0.21	0.62	0.77
	Side D	0.18	0.21		0.26		0.39	0.44
	Side E		0.04		0.17		0.04	0.17
	Side F	0.02		0.07		0.17	0.09	0.19

WWAN Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+4+5 Summed 1g SAR (W/kg)
		WWAN	2.4GHz Wi-Fi 0	2.4GHz Wi-Fi 1	5GHz Wi-Fi 0	5GHz Wi-Fi 1		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
FR1 Band n13 Ant 0	Side A	0.41	0.19	0.20	0.22	0.19	0.80	0.82
	Side B	0.28		0.09		0.21	0.37	0.49
	Side C	0.37	0.13	0.18	0.25	0.21	0.68	0.83
	Side D	0.19	0.21		0.26		0.40	0.45
	Side E		0.04		0.17		0.04	0.17
	Side F	0.04		0.07		0.17	0.11	0.21
FR1 Band n14 Ant 0	Side A	0.37	0.19	0.20	0.22	0.19	0.76	0.78
	Side B	0.20		0.09		0.21	0.29	0.41
	Side C	0.35	0.13	0.18	0.25	0.21	0.66	0.81
	Side D	0.13	0.21		0.26		0.34	0.39
	Side E		0.04		0.17		0.04	0.17
	Side F	0.05		0.07		0.17	0.12	0.22
FR1 Band n25 Ant 0	Side A	0.31	0.19	0.20	0.22	0.19	0.70	0.72
	Side B	0.06		0.09		0.21	0.15	0.27
	Side C	0.32	0.13	0.18	0.25	0.21	0.63	0.78
	Side D	0.16	0.21		0.26		0.37	0.42
	Side E		0.04		0.17		0.04	0.17
	Side F	0.86		0.07		0.17	0.93	1.03
FR1 Band n26 Ant 0	Side A	0.44	0.19	0.20	0.22	0.19	0.83	0.85
	Side B	0.35		0.09		0.21	0.44	0.56
	Side C	0.54	0.13	0.18	0.25	0.21	0.85	1.00
	Side D	0.23	0.21		0.26		0.44	0.49
	Side E		0.04		0.17		0.04	0.17
	Side F	0.04		0.07		0.17	0.11	0.21
FR1 Band n30 Ant 0	Side A	0.35	0.19	0.20	0.22	0.19	0.74	0.76
	Side B	0.07		0.09		0.21	0.16	0.28
	Side C	0.26	0.13	0.18	0.25	0.21	0.57	0.72
	Side D	0.36	0.21		0.26		0.57	0.62
	Side E		0.04		0.17		0.04	0.17
	Side F	0.34		0.07		0.17	0.41	0.51
FR1 Band n41 Ant 0	Side A	0.75	0.19	0.20	0.22	0.19	1.14	1.16
	Side B			0.09		0.21	0.09	0.21
	Side C	0.28	0.13	0.18	0.25	0.21	0.59	0.74
	Side D	0.10	0.21		0.26		0.31	0.36
	Side E		0.04		0.17		0.04	0.17
	Side F			0.07		0.17	0.07	0.17
FR1 Band n48 Ant 4	Side A	0.90	0.19	0.20	0.22	0.19	1.29	1.31
	Side B	0.74		0.09		0.21	0.83	0.95
	Side C	0.39	0.13	0.18	0.25	0.21	0.70	0.85
	Side D		0.21		0.26		0.21	0.26
	Side E		0.04		0.17		0.04	0.17
	Side F	0.64		0.07		0.17	0.71	0.81
FR1 Band n66 Ant 0	Side A	0.68	0.19	0.20	0.22	0.19	1.07	1.09
	Side B	0.10		0.09		0.21	0.19	0.31
	Side C	0.83	0.13	0.18	0.25	0.21	1.14	1.29
	Side D	0.20	0.21		0.26		0.41	0.46
	Side E		0.04		0.17		0.04	0.17
	Side F	0.89		0.07		0.17	0.96	1.06

WWAN Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+4+5 Summed 1g SAR (W/kg)
		WWAN	2.4GHz Wi-Fi 0	2.4GHz Wi-Fi 1	5GHz Wi-Fi 0	5GHz Wi-Fi 1		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
FR1 Band n70 Ant 8	Side A	0.77	0.19	0.20	0.22	0.19	1.16	1.18
	Side B	0.21		0.09		0.21	0.30	0.42
	Side C	0.87	0.13	0.18	0.25	0.21	1.18	1.33
	Side D		0.21		0.26		0.21	0.26
	Side E		0.04		0.17		0.04	0.17
	Side F			0.07		0.17	0.07	0.17
FR1 Band n71 Ant 0	Side A	0.41	0.19	0.20	0.22	0.19	0.80	0.82
	Side B	0.23		0.09		0.21	0.32	0.44
	Side C	0.39	0.13	0.18	0.25	0.21	0.70	0.85
	Side D	0.26	0.21		0.26		0.47	0.52
	Side E		0.04		0.17		0.04	0.17
	Side F	0.02		0.07		0.17	0.09	0.19
FR1 Band n77 Ant 4	Side A	0.69	0.19	0.20	0.22	0.19	1.08	1.10
	Side B	0.74		0.09		0.21	0.83	0.95
	Side C	0.34	0.13	0.18	0.25	0.21	0.65	0.80
	Side D		0.21		0.26		0.21	0.26
	Side E		0.04		0.17		0.04	0.17
	Side F	0.51		0.07		0.17	0.58	0.68

LTE UL CA	SAR ₁	SAR ₂	WiFi Sum of Tx0 and Tx1	Total
2A-4A	0.14	0.31	0.47	0.92
2A-5A	0.14	0.38	0.47	0.99
2A-13A	0.33	0.26	0.47	1.06
2A-66A	0.14	0.32	0.47	0.93
4A-5A	0.37	0.38	0.47	1.22
4A-13A	0.31	0.26	0.47	1.04
5A-66A	0.38	0.35	0.47	1.20
13A-66A	0.26	0.32	0.47	1.05

FR1 UL ENDC-LTE (NSA)	SAR ₁	SAR ₂	WiFi Sum of Tx0 and Tx1	Total
5A-n2A	0.38	0.38	0.47	1.23
13A-n2A	0.26	0.54	0.47	1.27
66A-n2A	0.35	0.54	0.47	1.36
2A-n5A	0.14	0.50	0.47	1.11
48A-n5A	0.34	0.67	0.47	1.48
66A-n5A	0.35	0.50	0.47	1.32
2A-n66A	0.14	0.41	0.47	1.02
5A-n66A	0.38	0.39	0.47	1.24
7A-n66A	0.43	0.41	0.47	1.31
12A-n66A	0.08	0.41	0.47	0.96
13A-n66A	0.26	0.41	0.47	1.14
48A-n66A	0.34	0.38	0.47	1.19
2A-n71A	0.33	0.41	0.47	1.21
7A-n71A	0.24	0.41	0.47	1.12
66A-n71A	0.32	0.41	0.47	1.20
2A-n77A	0.14	0.37	0.47	0.98
5A-n77A	0.35	0.37	0.47	1.19
7A-n77A	0.43	0.37	0.47	1.27
12A-n77A	0.08	0.37	0.47	0.92
13A-n77A	0.26	0.37	0.47	1.10
14A-n77A	0.23	0.37	0.47	1.07
25A-n77A	0.41	0.37	0.47	1.25
66A-n77A	0.35	0.37	0.47	1.19
2A-n78A	0.14	0.37	0.47	0.98
5A-n78A	0.35	0.37	0.47	1.19
7A-n78A	0.43	0.37	0.47	1.27
12A-n78A	0.08	0.37	0.47	0.92
25A-n78A	0.41	0.37	0.47	1.25
66A-n78A	0.35	0.37	0.47	1.19

FR2 UL ENDG-LTE (NSA)		Ratio to Limit for LTE	Ratio to Limit for FR2	WiFi Ratio of Tx0 and Tx1	Total
1CC	2A-n260A	0.09	0.11	0.30	0.50
	5A-n260A	0.22	0.11	0.30	0.63
	12A-n260A	0.05	0.11	0.30	0.46
	13A-n260A	0.16	0.11	0.30	0.57
	48A-n260A	0.21	0.11	0.30	0.62
	66A-n260A	0.22	0.11	0.30	0.63
2CC	2A-n260G	0.09	0.25	0.30	0.64
	5A-n260G	0.22	0.25	0.30	0.77
	13A-n260G	0.16	0.25	0.30	0.71
	48A-n260G	0.21	0.25	0.30	0.76
	66A-n260G	0.22	0.25	0.30	0.77
1CC	2A-n261A	0.09	0.16	0.30	0.55
	5A-n261A	0.22	0.16	0.30	0.68
	13A-n261A	0.16	0.16	0.30	0.62
	48A-n261A	0.21	0.16	0.30	0.67
	66A-n261A	0.22	0.16	0.30	0.68
2CC	2A-n261G	0.09	0.27	0.30	0.66
	5A-n261G	0.22	0.27	0.30	0.79
	13A-n261G	0.16	0.27	0.30	0.73
	48A-n261G	0.21	0.27	0.30	0.78
	66A-n261G	0.22	0.27	0.30	0.79

12. Test Equipment List

Table 11.1 Equipment Specifications

Type	Calibration Due Date	Calibration Done Date	Serial Number
Staubli Robot TX60L	N/A	N/A	F07/55M6A1/A/01
Measurement Controller CS8c	N/A	N/A	1012
ELI4 Flat Phantom	N/A	N/A	1065
ELI5 Flat Phantom	N/A	N/A	1251
Device Holder	N/A	N/A	N/A
Data Acquisition Electronics 4	01/12/2023	01/12/2022	1321
Data Acquisition Electronics 4	08/06/2022	08/06/2021	759
SPEAG E-Field Probe EX3DV4	08/26/2022	08/26/2021	3693
SPEAG E-Field Probe EX3DV4	04/12/2023	04/12/2022	7531
Speag Validation Dipole D750V2	06/04/2023	06/04/2021	1053
Speag Validation Dipole D900V2	06/04/2023	06/04/2021	1d128
Speag Validation Dipole D1750V2	06/03/2023	06/03/2021	1061
Speag Validation Dipole D1900V2	06/04/2023	06/04/2021	5d147
Speag Validation Dipole D2300V2	06/03/2023	06/03/2021	1060
Speag Validation Dipole D2550V2	06/03/2023	06/03/2021	1003
Speag Validation Dipole D3500V2	04/13/2023	04/13/2021	1061
Speag Validation Dipole D3700V2	04/13/2023	04/13/2021	1024
Speag Validation Dipole D2450V2	06/03/2023	06/03/2021	881
Speag Validation Dipole D5GHzV2	06/08/2023	06/08/2021	1119
Agilent N1911A Power Meter	03/16/2023	03/16/2022	GB45100254
Agilent N1922A Power Sensor	03/17/2023	03/17/2022	MY45240464
Agilent (HP) 8561E Spectrum Analyzer	03/17/2023	03/17/2022	31720068
Agilent (HP) 83752A Synthesized Sweeper	03/17/2023	03/17/2022	3610A01048
Agilent (HP) 8753C Vector Network Analyzer	03/17/2023	03/17/2022	3135A01724
Agilent (HP) 85047A S-Parameter Test Set	03/16/2023	03/16/2022	2904A00595
Anritsu MT8821C	N/A	N/A	6201381721
Aprel Dielectric Probe Assembly	N/A	N/A	0011
Head Equivalent Matter (600 MHz)	N/A	N/A	N/A
Head Equivalent Matter (750 MHz)	N/A	N/A	N/A
Head Equivalent Matter (900 MHz)	N/A	N/A	N/A
Head Equivalent Matter (1750 MHz)	N/A	N/A	N/A
Head Equivalent Matter (1900 MHz)	N/A	N/A	N/A
Head Equivalent Matter (2300 MHz)	N/A	N/A	N/A
Head Equivalent Matter (2450 MHz)	N/A	N/A	N/A
Head Equivalent Matter (2550 MHz)	N/A	N/A	N/A
Head Equivalent Matter (3-6 GHz)	N/A	N/A	N/A

13. Conclusion

The SAR measurement indicates that the EUT complies with the RF radiation exposure limits of the FCC/IC. These measurements are taken to simulate the RF effects exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The tested device complies with the requirements in respect to all parameters subject to the test. The test results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body is a very complex phenomena that depends on the mass, shape, and size of the body; the orientation of the body with respect to the field vectors; and, the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because innumerable factors may interact to determine the specific biological outcome of an exposure to electromagnetic fields, any protection guide shall consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables.

14. References

- [1] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radio Frequency Radiation, August 1996
- [2] ANSI/IEEE C95.1 – 1992, American National Standard Safety Levels with respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300kHz to 100GHz, New York: IEEE, 1992.
- [3] ANSI/IEEE C95.3 – 1992, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave, New York: IEEE, 1992.
- [4] International Electrotechnical Commission, IEC 62209-2 (Edition 1.0), Human Exposure to radio frequency fields from hand-held and body mounted wireless communication devices – Human models, instrumentation, and procedures – Part 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.
- [5] IEEE Standard 1528 – 2013, IEEE Recommended Practice for Determining the Peak-Spatial Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communication Devices: Measurement Techniques, June 2013.
- [6] Industry Canada, RSS – 102 Issue 5, Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands), March 2015.
- [7] Health Canada, Safety Code 6, Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3kHz to 300 GHz, 2009.

Appendix A – System Validation Plots and Data

Test Result for UIM Dielectric Parameter

Mon 13/Jun/2022

Freq Frequency(GHz)

FCC_eH Limits for Head Epsilon

FCC_sH Limits for Head Sigma

Test_e Epsilon of UIM

Test_s Sigma of UIM

Freq	FCC_eH	FCC_sH	Test_e	Test_s
0.5800	42.82	0.88	42.22	0.91
0.5900	42.77	0.88	42.16	0.92
0.6000	42.72	0.88	42.11	0.92
0.6100	42.67	0.88	42.06	0.93
0.6200	42.62	0.88	42.01	0.93
0.6300	42.56	0.88	41.94	0.93
0.6400	42.51	0.88	41.88	0.93
0.6500	42.46	0.88	41.82	0.93
0.6600	42.41	0.88	41.76	0.94
0.6700	42.36	0.89	41.70	0.94
0.6730	42.345	0.89	41.682	0.94*
0.6800	42.31	0.89	41.64	0.94
0.6805	42.307	0.89	41.637	0.941*
0.6880	42.262	0.89	41.592	0.948*
0.6900	42.25	0.89	41.58	0.95
0.7000	42.20	0.89	41.52	0.95

* value intepolated

Test Result for UIM Dielectric Parameter

Mon 13/Jun/2022

Freq Frequency(GHz)

FCC_eH Limits for Head Epsilon

FCC_sH Limits for Head Sigma

Test_e Epsilon of UIM

Test_s Sigma of UIM

Freq	FCC_eH	FCC_sH	Test_e	Test_s
0.7000	42.20	0.89	41.76	0.86
0.7040	42.18	0.89	41.732	0.864*
0.7075	42.163	0.89	41.708	0.868*
0.7100	42.15	0.89	41.69	0.87
0.7110	42.145	0.89	41.685	0.871*
0.7200	42.10	0.89	41.64	0.88
0.7300	42.05	0.89	41.57	0.89
0.7400	41.99	0.89	41.51	0.89
0.7500	41.94	0.89	41.46	0.90
0.7600	41.89	0.89	41.40	0.91
0.7700	41.84	0.89	41.34	0.92
0.7800	41.79	0.90	41.28	0.92
0.7820	41.778	0.90	41.268	0.922*
0.7900	41.73	0.90	41.22	0.93
0.7930	41.715	0.90	41.208	0.93*
0.8000	41.68	0.90	41.18	0.93

* value interpolated

Test Result for UIM Dielectric Parameter
 Sun 12/Jun/2022
 Freq Frequency(GHz)
 eH Limits for Head Epsilon
 sH Limits for Head Sigma
 Test_e Epsilon of UIM
 Test_s Sigma of UIM

Freq	eH	sH	Test_e	Test_s
0.8000	41.68	0.90	41.52	0.89
0.8100	41.63	0.90	41.47	0.90
0.8200	41.58	0.90	41.41	0.91
0.8215	41.573	0.90	41.418	0.91*
0.8264	41.548	0.90	41.442	0.91*
0.8300	41.53	0.90	41.46	0.91
0.8315	41.526	0.902	41.456	0.912*
0.8366	41.51	0.907	41.44	0.917*
0.8400	41.50	0.91	41.43	0.92
0.8415	41.50	0.912	41.427	0.922*
0.8466	41.50	0.917	41.417	0.927*
0.8500	41.50	0.92	41.41	0.93
0.8600	41.50	0.93	41.39	0.94
0.8700	41.50	0.94	41.37	0.95
0.8800	41.50	0.95	41.36	0.96
0.8900	41.50	0.96	41.35	0.97
0.9000	41.50	0.97	41.34	0.98
0.9100	41.50	0.98	41.33	0.99
0.9200	41.49	0.98	41.32	0.99

* value interpolated

Test Result for UIM Dielectric Parameter
 Tue 07/Jun/2022
 Freq Frequency(GHz)
 eH Limits for Head Epsilon
 sH Limits for Head Sigma
 Test_e Epsilon of UIM
 Test_s Sigma of UIM

Freq	eH	sH	Test_e	Test_s
1.7000	40.16	1.34	39.34	1.36
1.7100	40.14	1.35	39.32	1.37
1.7124	40.138	1.35	39.315	1.372*
1.7200	40.13	1.35	39.30	1.38
1.7300	40.11	1.36	39.28	1.38
1.7326	40.105	1.363	39.275	1.383*
1.7400	40.09	1.37	39.26	1.39
1.7450	40.085	1.37	39.25	1.395*
1.7500	40.08	1.37	39.24	1.40
1.7526	40.075	1.373	39.235	1.403*
1.7600	40.06	1.38	39.22	1.41
1.7700	40.05	1.38	39.20	1.42
1.7800	40.03	1.39	39.18	1.42
1.7900	40.02	1.39	39.16	1.43

* value interpolated

Test Result for UIM Dielectric Parameter

Mon 06/Jun/2022

Freq Frequency(GHz)

eH Limits for Head Epsilon

sH Limits for Head Sigma

Test_e Epsilon of UIM

Test_s Sigma of UIM

Freq	eH	sH	Test_e	Test_s
1.8500	40.00	1.40	39.97	1.37
1.8524	40.00	1.40	39.65	1.372*
1.8600	40.00	1.40	39.95	1.38
1.8700	40.00	1.40	39.93	1.38
1.8800	40.00	1.40	39.91	1.39
1.8825	40.00	1.40	39.905	1.39*
1.8900	40.00	1.40	39.89	1.39
1.9000	40.00	1.40	39.87	1.39
1.9050	40.00	1.40	39.86	1.395*
1.9076	40.00	1.40	39.855	1.398*
1.9100	40.00	1.40	39.85	1.40
1.9200	40.00	1.40	39.84	1.41

* value interpolated

Test Result for UIM Dielectric Parameter

Wed 08/Jun/2022

Freq Frequency(GHz)

FCC_eH Limits for Head Epsilon

FCC_sH Limits for Head Sigma

Test_e Epsilon of UIM

Test_s Sigma of UIM

Freq	FCC_eH	FCC_sH	Test_e	Test_s
2.2900	39.48	1.66	38.2	1.68
2.3000	39.47	1.67	38.18	1.69
2.3100	39.45	1.68	38.16	1.70
2.3200	39.43	1.68	38.14	1.71
2.3300	39.41	1.69	38.12	1.72
2.3400	39.40	1.70	38.10	1.73
2.3500	39.38	1.71	38.08	1.74
2.3600	39.36	1.72	38.06	1.75
2.3700	39.34	1.73	38.05	1.76
2.3800	39.32	1.74	38.03	1.77
2.3900	39.31	1.75	38.01	1.78
2.4000	39.29	1.76	37.99	1.79
2.4100	39.27	1.76	37.98	1.80

* value interpolated

Test Result for UIM Dielectric Parameter
Mon 23/May/2022
Freq Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
Test_e Epsilon of UIM
Test_s Sigma of UIM

Freq	FCC_eH	FCC_sH	Test_e	Test_s
2.4100	39.26	1.76	38.44	1.76
2.4120	39.258	1.762	38.436	1.762*
2.4200	39.25	1.77	38.42	1.77
2.4300	39.24	1.78	38.40	1.78
2.4370	39.226	1.787	38.393	1.794*
2.4400	39.22	1.79	38.39	1.80
2.4500	39.20	1.80	38.34	1.81
2.4600	39.19	1.81	38.34	1.82
2.4620	39.186	1.812	38.336	1.822*
2.4700	39.17	1.82	38.32	1.83
2.4800	39.16	1.83	38.30	1.86

* value interpolated

Test Result for UIM Dielectric Parameter
Thu 09/Jun/2022
Freq Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
Test_e Epsilon of UIM
Test_s Sigma of UIM

Freq	FCC_eH	FCC_sH	Test_e	Test_s
2.4900	39.15	1.84	39.09	1.86
2.5000	39.14	1.85	39.07	1.87
2.5060	39.128	1.862	39.052	1.876*
2.5100	39.12	1.87	39.04	1.88
2.5200	39.11	1.88	39.02	1.90
2.5300	39.10	1.89	39.00	1.91
2.5350	39.095	1.895	38.985	1.915*
2.5400	39.09	1.90	38.97	1.92
2.5445	39.081	1.905	38.961	1.929*
2.5500	39.07	1.91	38.95	1.94*
2.5600	39.06	1.92	38.93	1.95
2.5700	39.05	1.93	38.90	1.96
2.5800	39.03	1.94	38.88	1.98
2.5900	39.02	1.95	38.85	1.99
2.5930	39.017	1.953	38.853	1.99*
2.6000	39.01	1.96	38.86	1.99
2.6100	39.00	1.97	38.84	2.00
2.6200	38.98	1.99	38.83	2.01
2.6300	38.97	2.00	38.81	2.02
2.6400	38.96	2.01	38.79	2.03
2.6415	38.959	2.012	38.787	2.032*
2.6500	38.95	2.02	38.77	2.04
2.6600	38.93	2.03	38.76	2.05
2.6700	38.92	2.04	38.74	2.06
2.6800	38.91	2.05	38.72	2.07
2.6900	38.89	2.06	38.70	2.08
2.7000	38.88	2.07	38.69	2.09

* value interpolated

Test Result for UIM Dielectric Parameter

Sat 11/Jun/2022

Freq Frequency(GHz)

FCC_eH Limits for Head Epsilon

FCC_sH Limits for Head Sigma

Test_e Epsilon of UIM

Test_s Sigma of UIM

Freq	FCC_eH	FCC_sH	Test_e	Test_s
3.4800	37.95	2.89	37.05	2.94
3.4900	37.94	2.90	37.03	2.95
3.5000	37.93	2.91	37.00	2.96
3.5100	37.92	2.92	36.98	2.97
3.5200	37.91	2.93	36.96	2.98
3.5300	37.89	2.94	36.93	2.99
3.5400	37.88	2.95	36.90	3.84
3.5500	37.87	2.96	36.87	3.86
3.5600	37.86	2.97	36.85	3.88
3.5700	37.85	2.98	36.83	3.91
3.5800	37.84	2.99	36.81	3.93
3.5900	37.83	3.00	36.78	3.95
3.5925	37.825	3.005	36.775	3.955*
3.6000	37.81	3.02	36.76	3.97
3.6100	37.80	3.03	36.74	3.00
3.6200	37.79	3.04	36.73	3.01
3.6250	37.785	3.045	36.715	3.015*
3.6300	37.78	3.05	36.70	3.02
3.6400	37.77	3.06	36.67	3.03
3.6500	37.76	3.07	36.64	3.04
3.6575	37.753	3.078	36.625	3.048*
3.6600	37.75	3.08	36.62	3.05
3.6700	37.73	3.09	36.60	3.06
3.6800	37.72	3.10	36.58	3.07
3.6900	37.71	3.11	36.55	3.08
3.7000	37.70	3.12	36.53	3.09
3.7100	37.69	3.13	36.50	3.10
3.7200	37.68	3.14	36.48	3.11

* value interpolated

Test Result for UIM Dielectric Parameter

Mon 23/May/2022

Freq Frequency(GHz)

FCC_eH Limits for Head Epsilon

FCC_sH Limits for Head Sigma

Test_e Epsilon of UIM

Test_s Sigma of UIM

Freq	FCC_eH	FCC_sH	Test_e	Test_s
5.1000	36.10	4.55	34.94	4.56
5.1200	36.08	4.57	34.92	4.58
5.1400	36.05	4.59	34.89	4.60
5.1600	36.03	4.61	34.87	4.63
5.1800	36.01	4.63	34.85	4.65
5.2000	35.99	4.65	34.82	4.67
5.2200	35.96	4.68	34.80	4.69
5.2400	35.94	4.70	34.78	4.71
5.2500	35.93	4.71	34.765	4.725*
5.2600	35.92	4.72	34.75	4.74
5.2800	35.89	4.74	34.72	4.76
5.3000	35.87	4.76	34.69	4.78
5.3200	35.85	4.78	34.67	4.80
5.3400	35.83	4.80	34.65	4.83
5.3600	35.80	4.82	34.63	4.85
5.3800	35.78	4.84	34.60	4.87
5.4000	35.76	4.86	34.58	4.89
5.4200	35.73	4.88	34.56	4.92
5.4400	35.71	4.90	34.55	4.94
5.4600	35.69	4.92	34.52	4.96
5.4800	35.67	4.94	34.49	4.98
5.5000	35.64	4.96	34.46	5.00
5.5200	35.62	4.98	34.44	5.02
5.5400	35.60	5.00	34.42	5.04
5.5600	35.57	5.02	34.40	5.07
5.5800	35.55	5.04	34.37	5.09
5.6000	35.53	5.07	34.35	5.11
5.6200	35.51	5.09	34.32	5.13
5.6400	35.48	5.11	34.30	5.16
5.6600	35.46	5.13	34.28	5.18
5.6800	35.44	5.15	34.26	5.20
5.7000	35.41	5.17	34.23	5.22
5.7200	35.39	5.19	34.21	5.25
5.7400	35.37	5.21	34.19	5.27
5.7450	35.365	5.215	34.185	5.275*
5.7500	35.36	5.22	34.18	5.28*
5.7600	35.35	5.23	34.17	5.29
5.7800	35.32	5.25	34.15	5.31
5.7850	35.315	5.255	34.14	5.315*
5.8000	35.30	5.27	34.11	5.33
5.8200	35.28	5.29	34.09	5.36
5.8250	35.273	5.295	34.085	5.365*
5.8400	35.25	5.31	34.07	5.38
5.8600	35.23	5.33	34.05	5.40

* value interpolated

RF Exposure Lab

Plot 1

DUT: Dipole 750 MHz D750V3; Type: D750V3; Serial: D750V3 - SN 1053

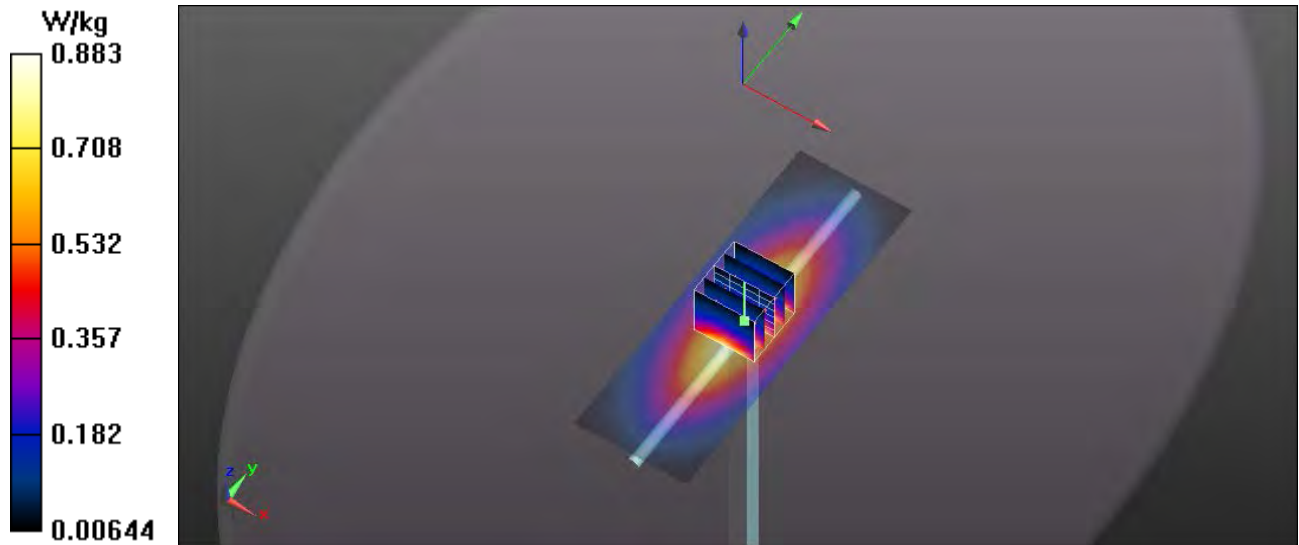
Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: HSL750; Medium parameters used (interpolated): $f = 750 \text{ MHz}$; $\sigma = 0.9 \text{ S/m}$; $\epsilon_r = 41.46$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section

Test Date: Date: 6/13/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 – SN7531; ConvF(10.75, 10.75, 10.75); Calibrated: 4/12/2022;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 3/16/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

750 MHz Head/Verification/Area Scan (41x121x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$
Maximum value of SAR (interpolated) = 0.883 W/kg

750 MHz Head/Verification /Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 31.949 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.691 mW/g
 $P_{in} = 100 \text{ mW}$
SAR(1 g) = 0.858 mW/g; SAR(10 g) = 0.552 mW/g
Maximum value of SAR (measured) = 0.888 W/kg



RF Exposure Lab

Plot 2

DUT: Dipole 900 MHz D900V2; Type: D900V2; Serial: D900V2 - SN:1d128

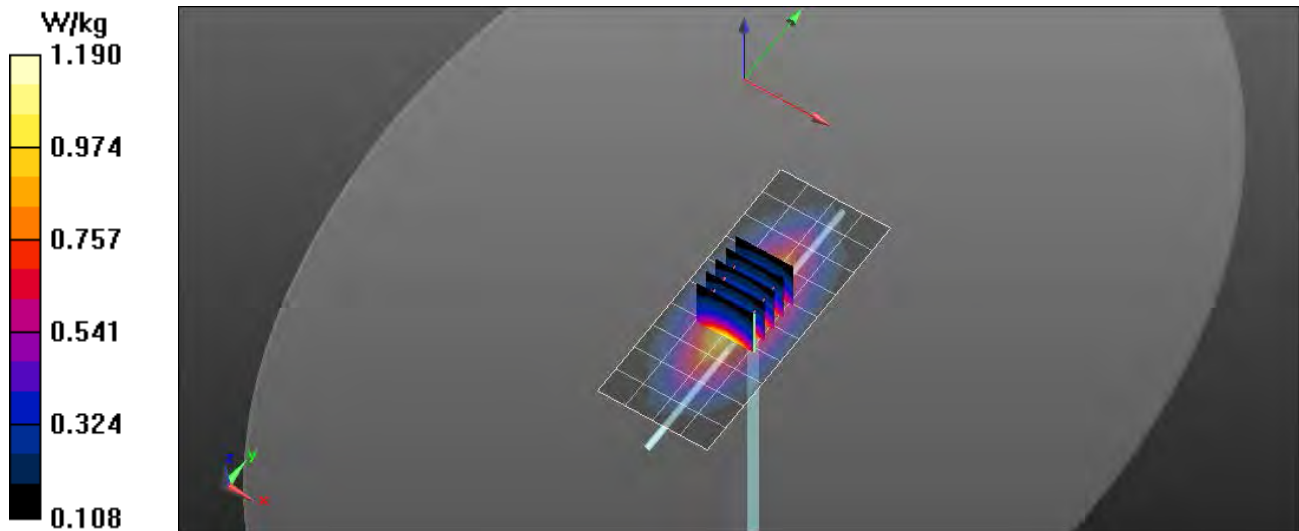
Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1
Medium: HSL900; Medium parameters used: $f = 900 \text{ MHz}$; $\sigma = 0.98 \text{ S/m}$; $\epsilon_r = 41.34$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section

Test Date: Date: 6/12/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 - SN7531; ConvF(10.33, 10.33, 10.33); Calibrated: 4/12/2022;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 3/16/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

900 MHz Head/Verification/Area Scan (5x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 1.19 W/kg

900 MHz Head/Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 31.568 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.43 W/kg
 $P_{in} = 100 \text{ mW}$
SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.712 W/kg
Maximum value of SAR (measured) = 1.2 W/kg



RF Exposure Lab

Plot 3

DUT: Dipole 1750 MHz D1750V2; Type: D1750V2; Serial: D1750V2 - SN:1061

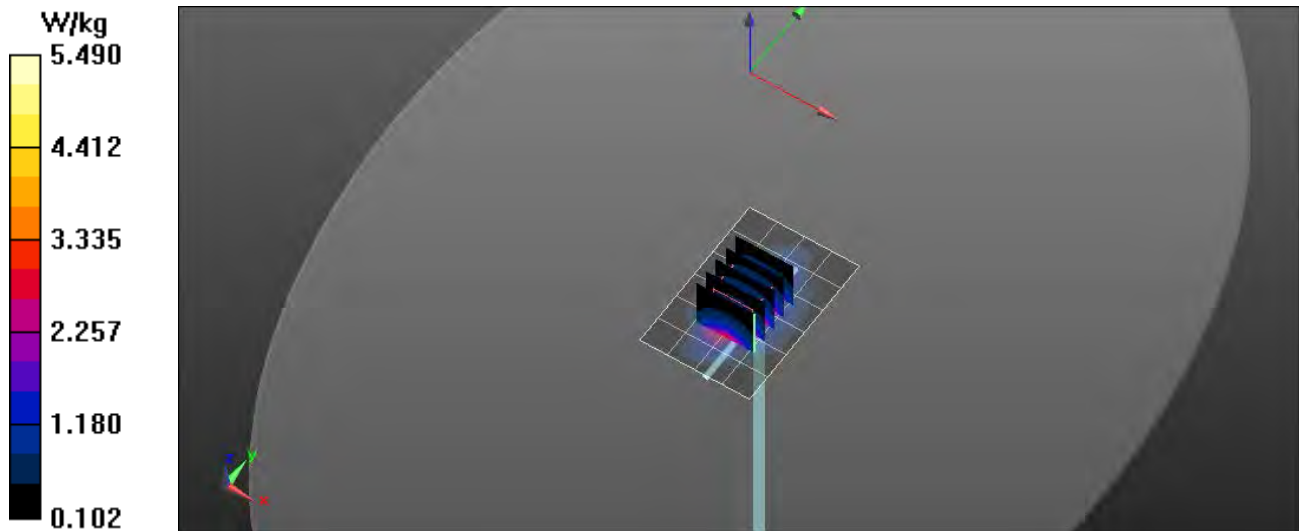
Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
 Medium: HSL1750; Medium parameters used: $f = 1750$ MHz; $\sigma = 1.4$ S/m; $\epsilon_r = 39.24$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section

Test Date: Date: 6/7/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C
 Probe: EX3DV4 - SN7531; ConvF(8.62, 8.62, 8.62); Calibrated: 4/12/2022;
 Sensor-Surface: 2mm (Mechanical Surface Detection)
 Electronics: DAE4 Sn1321; Calibrated: 3/16/2022
 Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
 Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

1750 MHz Head/Verification/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 5.38 W/kg

1750 MHz Head/Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
 Reference Value = 33.639 V/m; Power Drift = -0.02 dB
 Peak SAR (extrapolated) = 6.87 W/kg
 $P_{in} = 100$ mW
SAR(1 g) = 3.78 W/kg; SAR(10 g) = 1.97 W/kg
 Maximum value of SAR (measured) = 5.47 W/kg



RF Exposure Lab

Plot 4

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2; Serial: D1900V2 - SN: 5d147

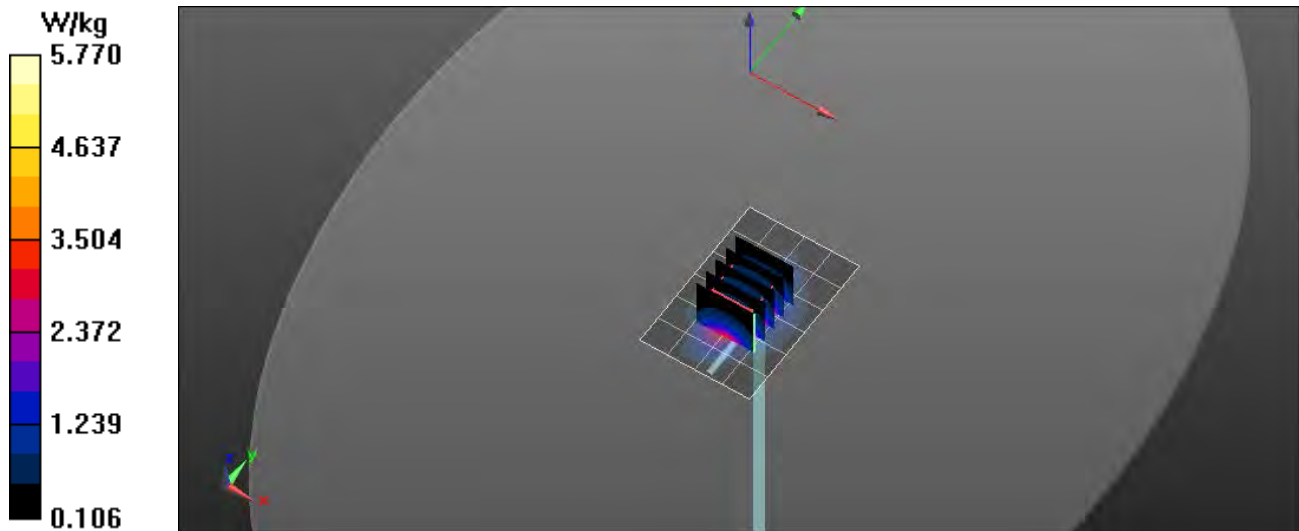
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium parameters used: $f = 1900$ MHz; $\sigma = 1.39$ S/m; $\epsilon_r = 39.87$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/6/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 - SN7531; ConvF(8.26, 8.26, 8.26); Calibrated: 4/12/2022;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 3/16/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

1900 MHz Head/Verification/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 5.52 W/kg

1900 MHz Head/Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.186 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 7.25 W/kg
 $P_{in} = 100$ mW
SAR(1 g) = 4.15 W/kg; SAR(10 g) = 2.16 W/kg
Maximum value of SAR (measured) = 5.79 W/kg



RF Exposure Lab

Plot 5

DUT: Dipole 2300 MHz D2300V2; Type: D2300V2; Serial: D2300V2 - SN: 1060

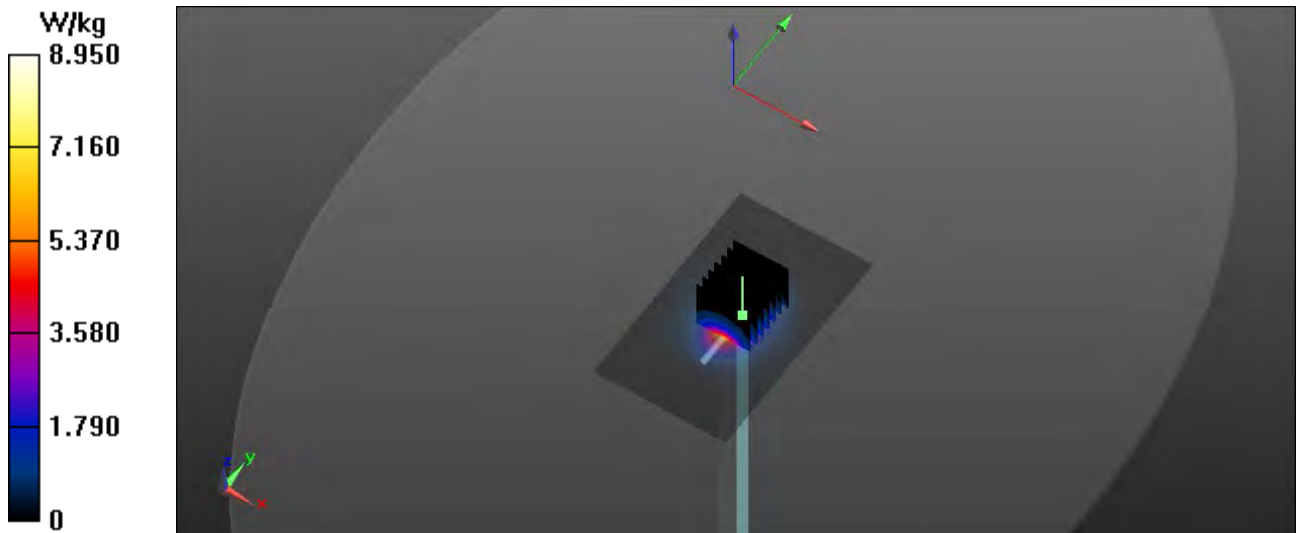
Communication System: CW; Frequency: 2300 MHz; Duty Cycle: 1:1
Medium: HSL2300; Medium parameters used: $f = 2300$ MHz; $\sigma = 1.69$ S/m; $\epsilon_r = 38.18$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/8/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 – SN7531; ConvF(7.98, 7.98, 7.98); Calibrated: 4/12/2022;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 3/16/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

2300 MHz Head/Verification/Area Scan (61x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 7.83 W/kg

2300 MHz Head/Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.297 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 11.06 W/kg
 $P_{in} = 100$ mW
SAR(1 g) = 4.98 W/kg; SAR(10 g) = 2.42 W/kg
Maximum value of SAR (measured) = 8.93 W/kg



RF Exposure Lab

Plot 6

DUT: Dipole 2550 MHz D2550V2; Type: D2550V2; Serial: D2550V2 - SN:1003

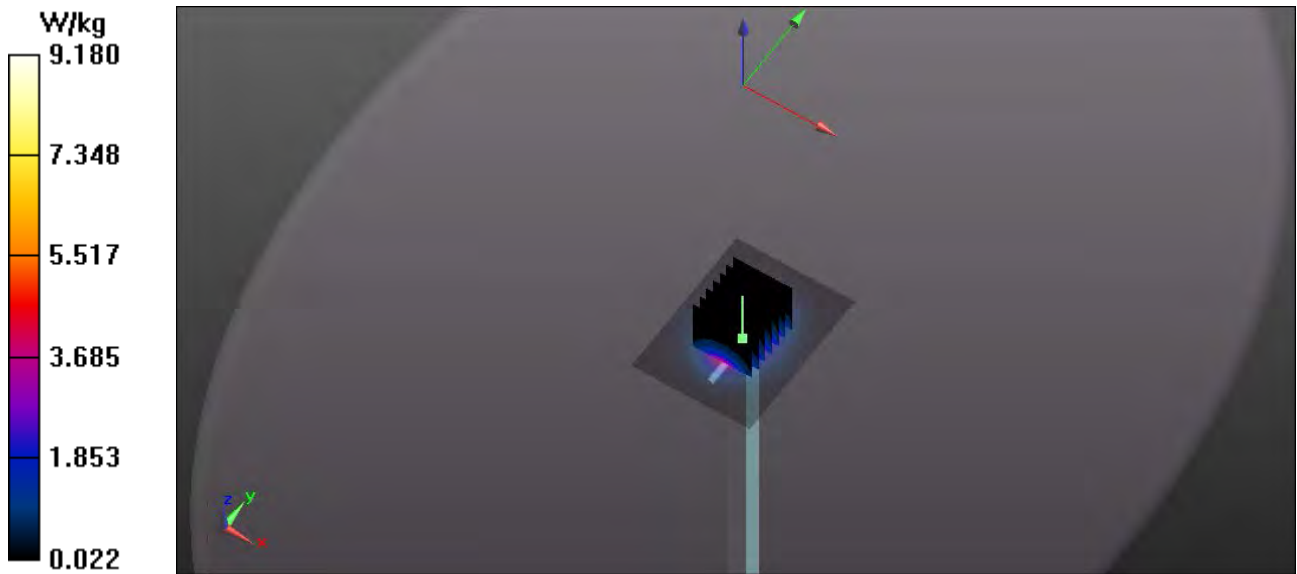
Communication System: CW; Frequency: 2550 MHz; Duty Cycle: 1:1
Medium: HSL2550; Medium parameters used: $f = 2550$ MHz; $\sigma = 1.94$ S/m; $\epsilon_r = 38.95$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/9/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 - SN7531; ConvF(7.42, 7.42, 7.42); Calibrated: 4/12/2022;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 3/16/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

2550 MHz Head/Verification/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 9.18 W/kg

2550 MHz Head/Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.541 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 11.5 W/kg
 $P_{in} = 100$ mW
SAR(1 g) = 5.64 W/kg; SAR(10 g) = 2.48 W/kg
Maximum value of SAR (measured) = 8.98 W/kg



RF Exposure Lab

Plot 7

DUT: Dipole D3500V2; Type: D3500V2; Serial: D3500V2 - SN: 1061

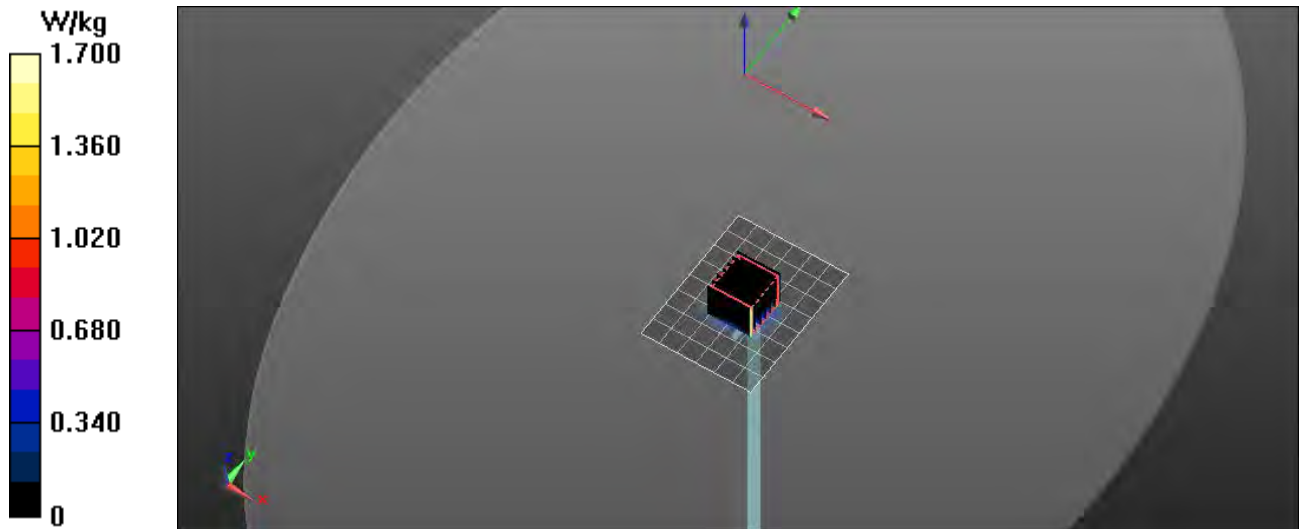
Communication System: CW; Frequency: 3500 MHz; Duty Cycle: 1:1
Medium: HSL 3-6 GHz; Medium parameters used: $f = 3500$ MHz; $\sigma = 2.96$ S/m; $\epsilon_r = 37$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/11/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 - SN7531; ConvF(6.82, 6.82, 6.82); Calibrated: 4/12/2022;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 3/16/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

3500 MHz Head/Verification/Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.62 W/kg

3500 MHz Head/Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=4mm
Reference Value = 14.849 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 3.64 W/kg
 $P_{in} = 10$ mW
SAR(1 g) = 0.678 W/kg; SAR(10 g) = 0.256 W/kg
Maximum value of SAR (measured) = 1.68 W/kg



RF Exposure Lab

Plot 8

DUT: Dipole D3700V2; Type: D3700V2; Serial: D3700V2 - SN:1024

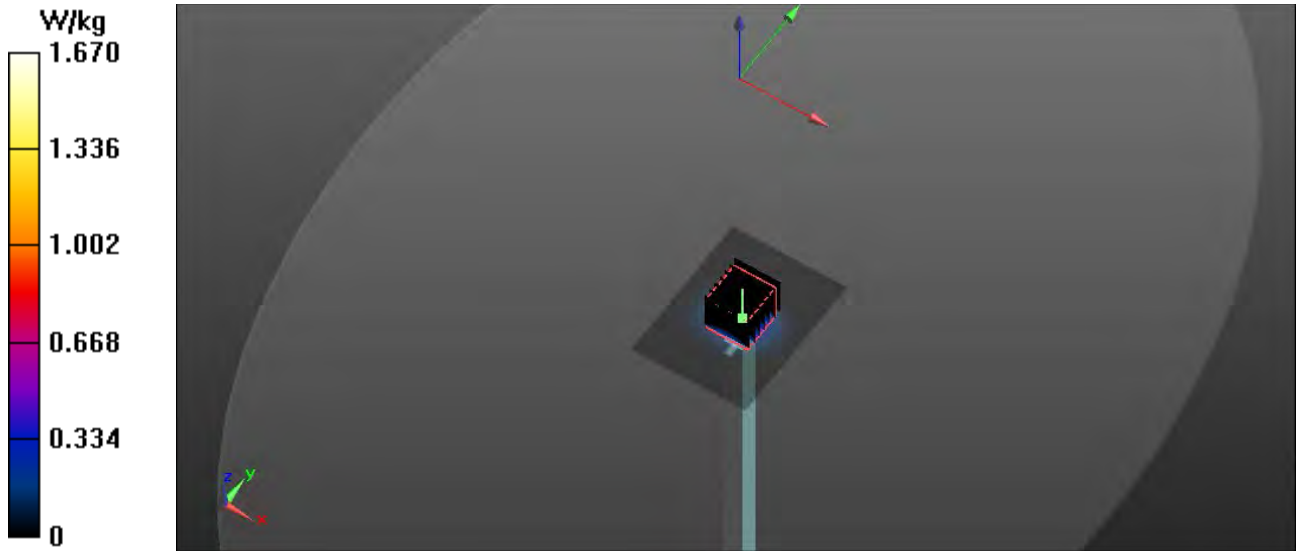
Communication System: CW; Frequency: 3700 MHz; Duty Cycle: 1:1
Medium: HSL 3-6 GHz; Medium parameters used: $f = 3700$ MHz; $\sigma = 3.09$ S/m; $\epsilon_r = 36.53$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/11/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 – SN7531; ConvF(6.48, 6.48, 6.48); Calibrated: 4/12/2022;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 3/16/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

3700 MHz Head/Verification/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.63 W/kg

3700 MHz Head/Verification/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 15.328 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 3.35 W/kg
 $P_{in} = 10$ mW
SAR(1 g) = 0.695 W/kg; SAR(10 g) = 0.252 W/kg
Maximum value of SAR (measured) = 1.71 W/kg



RF Exposure Lab

Plot 9

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN: 881

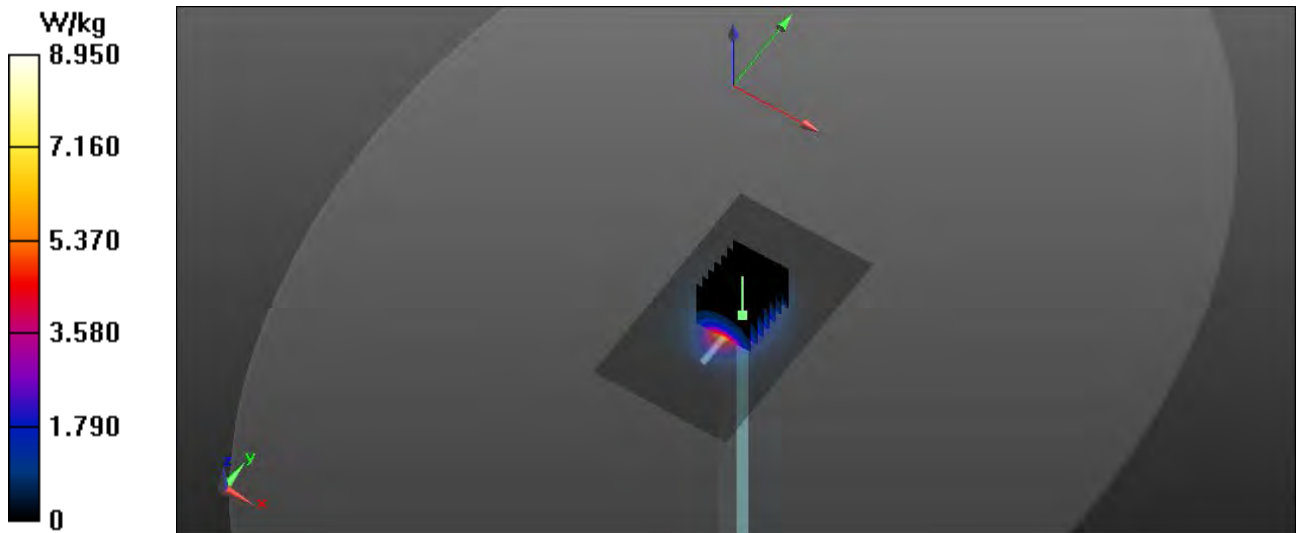
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
 Medium: HSL2450; Medium parameters used: $f = 2450$ MHz; $\sigma = 1.81$ S/m; $\epsilon_r = 38.34$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section

Test Date: Date: 5/23/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C
 Probe: EX3DV4 – SN3693; ConvF(7.05, 7.05, 7.05); Calibrated: 8/26/2021;
 Sensor-Surface: 2mm (Mechanical Surface Detection)
 Electronics: DAE4 Sn759; Calibrated: 8/6/2021
 Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 1251
 Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

2450 MHz Head/Verification/Area Scan (61x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
 Maximum value of SAR (interpolated) = 8.22 W/kg

2450 MHz Head/Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 56.025 V/m; Power Drift = -0.03 dB
 Peak SAR (extrapolated) = 11.05 W/kg
 $P_{in} = 100$ mW
SAR(1 g) = 5.46 W/kg; SAR(10 g) = 2.52 W/kg
 Maximum value of SAR (measured) = 8.96 W/kg



RF Exposure Lab

Plot 10

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1119

Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1
 Medium: HSL 3-6 GHz; Medium parameters used (interpolated): $f = 5250$ MHz; $\sigma = 4.725$ S/m; $\epsilon_r = 34.765$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section

Test Date: Date: 5/23/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C
 Probe: EX3DV4 – SN3693; ConvF(4.9, 4.9, 4.9); Calibrated: 8/26/2021;
 Sensor-Surface: 2mm (Mechanical Surface Detection)
 Electronics: DAE4 Sn759; Calibrated: 8/6/2021
 Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 1251
 Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

5250 MHz Head/Verification/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 1.47 W/kg

5250 MHz Head/Verification/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 15.267 V/m; Power Drift = -0.02 dB

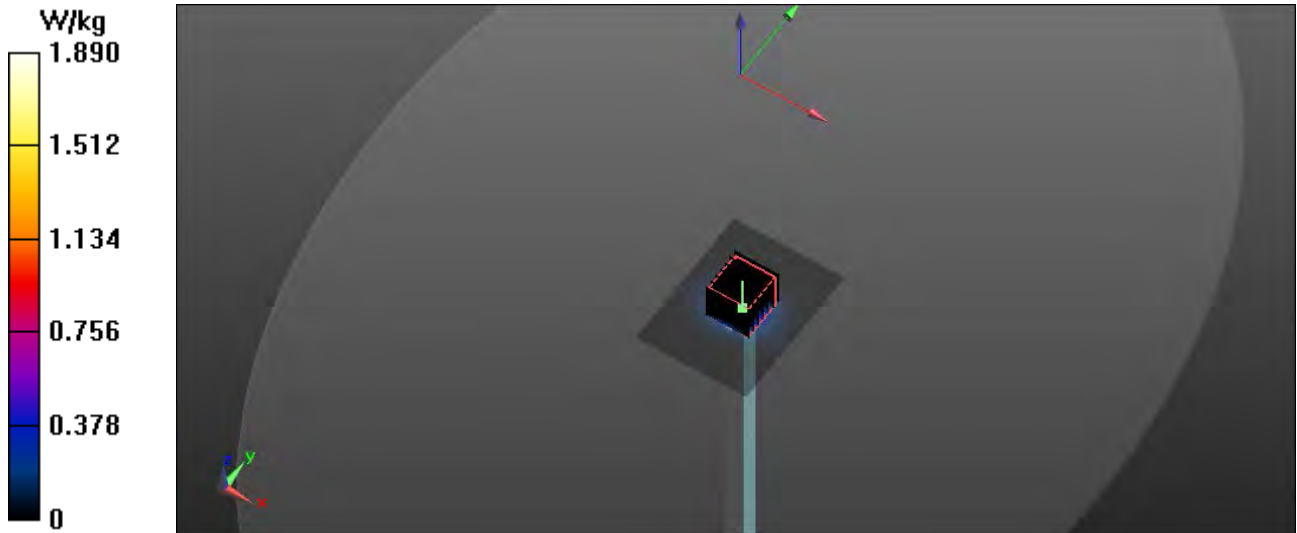
Peak SAR (extrapolated) = 3.22 W/kg

Pin=10 mW

SAR(1 g) = 0.803 W/kg; SAR(10 g) = 0.226 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.88 W/kg



RF Exposure Lab

Plot 11

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1119

Communication System: CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium: HSL 3-6 GHz; Medium parameters used (interpolated): $f = 5750$ MHz; $\sigma = 5.28$ S/m; $\epsilon_r = 34.18$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 5/23/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 – SN3693; ConvF(4.55, 4.55, 4.55); Calibrated: 8/26/2021;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn759; Calibrated: 8/6/2021
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 1251
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

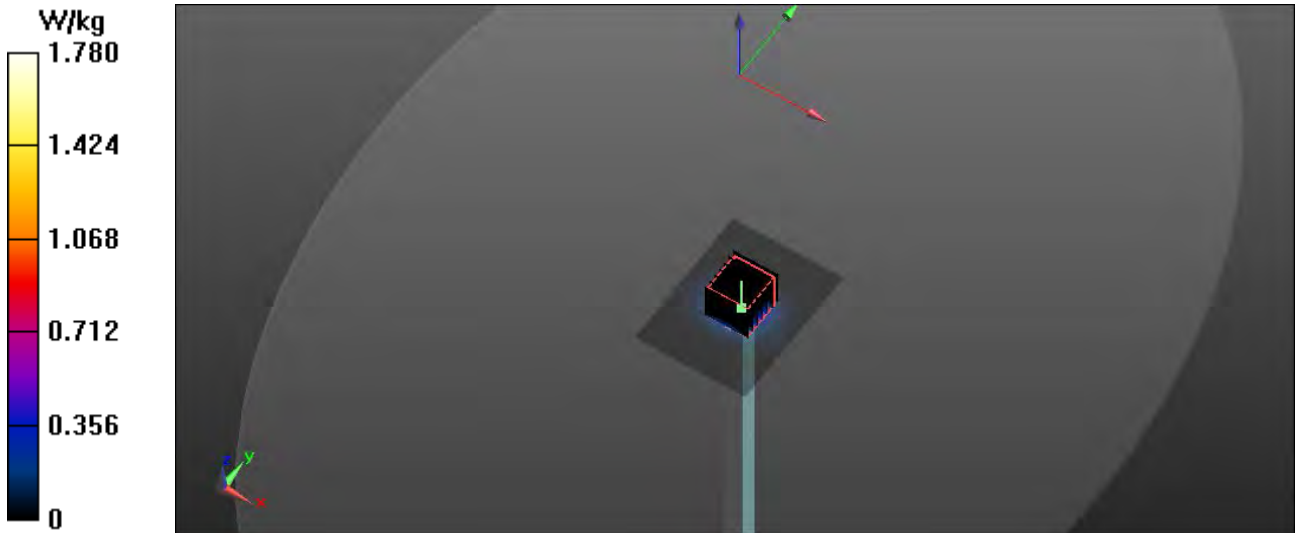
Procedure Notes:

5750 MHz Head/Verification/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (interpolated) = 1.61 W/kg

5750 MHz Head/Verification/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 14.521 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.34 W/kg
Pin=10 mW
SAR(1 g) = 0.805 W/kg; SAR(10 g) = 0.233 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.78 W/kg



Appendix B – SAR Test Data Plots

RF Exposure Lab

Plot 1

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: LTE (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: HSL600; Medium parameters used (interpolated): $f = 680.5$ MHz; $\sigma = 0.941$ S/m; $\epsilon_r = 41.637$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/13/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN7531; ConvF(10.75, 10.75, 10.75); Calibrated: 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

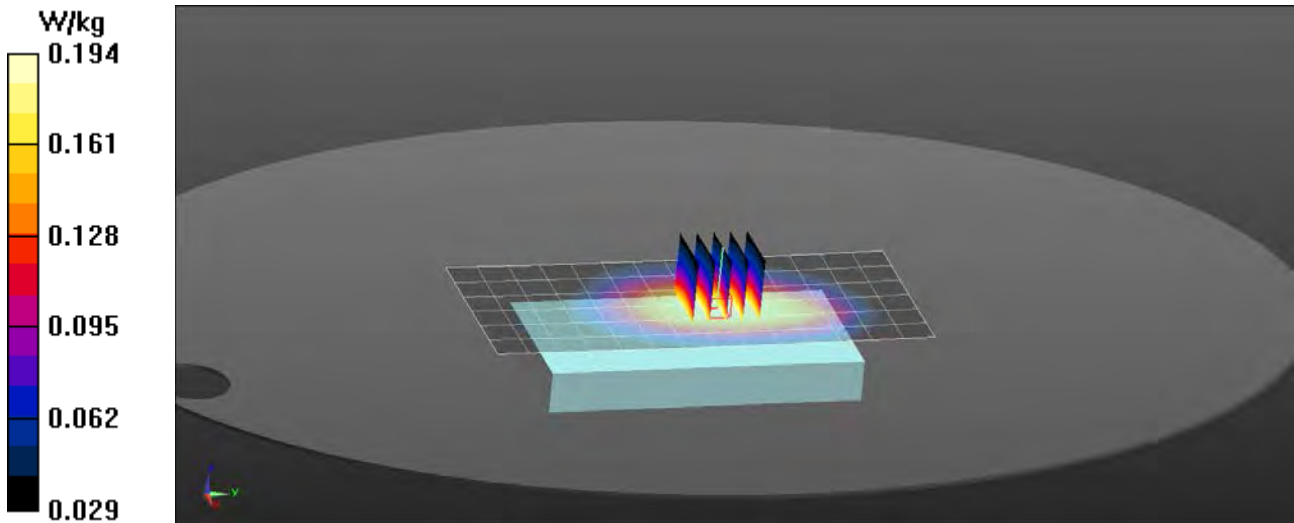
Procedure Notes:

Band 71 LTE/Side A 1 RB 49 Offset Ant 0 Mid/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 0.197 W/kg

Band 71 LTE/Side A 1 RB 49 Offset Ant 0 Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.65 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.216 W/kg
SAR(1 g) = 0.169 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 0.194 W/kg



RF Exposure Lab

Plot 2

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: LTE (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: HSL750; Medium parameters used (interpolated): $f = 707.5$ MHz; $\sigma = 0.868$ S/m; $\epsilon_r = 41.708$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/13/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN7531; ConvF(10.75, 10.75, 10.75); Calibrated: 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

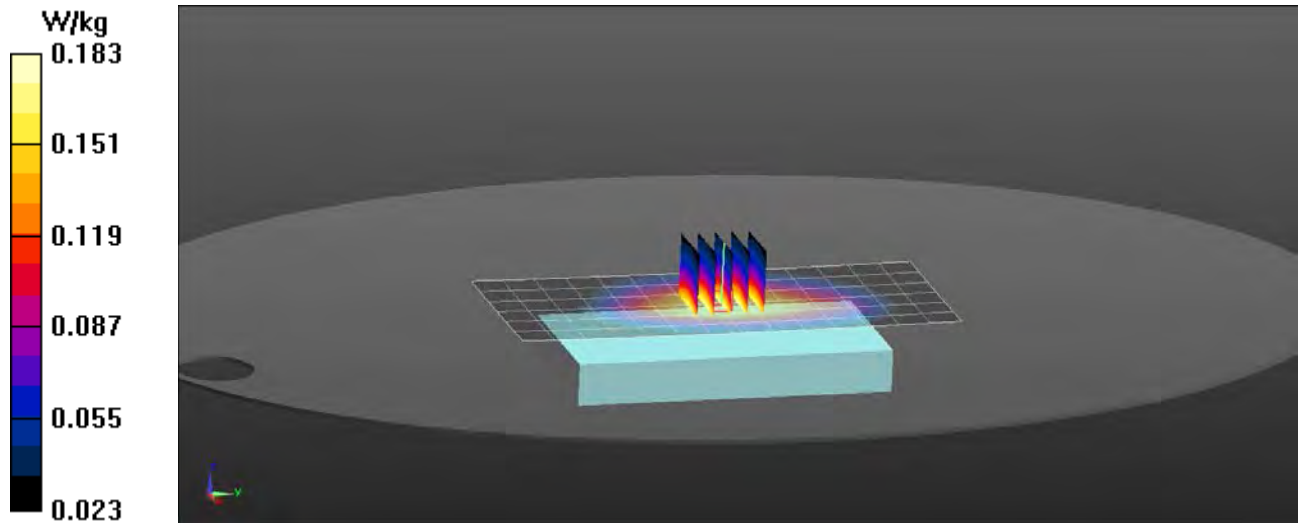
Procedure Notes:

Band 12 LTE/Side A 1 RB 24 Offset Ant 0 Mid/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

Info: [Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 0.176 W/kg

Band 12 LTE/Side A 1 RB 24 Offset Ant 0 Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.06 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.201 W/kg
SAR(1 g) = 0.157 W/kg

Info: [Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 0.183 W/kg



RF Exposure Lab

Plot 3

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: LTE (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 782 MHz; Duty Cycle: 1:1
Medium: HSL750; Medium parameters used (interpolated): $f = 782 \text{ MHz}$; $\sigma = 0.922 \text{ S/m}$; $\epsilon_r = 41.268$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section

Test Date: Date: 6/13/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN7531; ConvF(10.75, 10.75, 10.75); Calibrated: 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

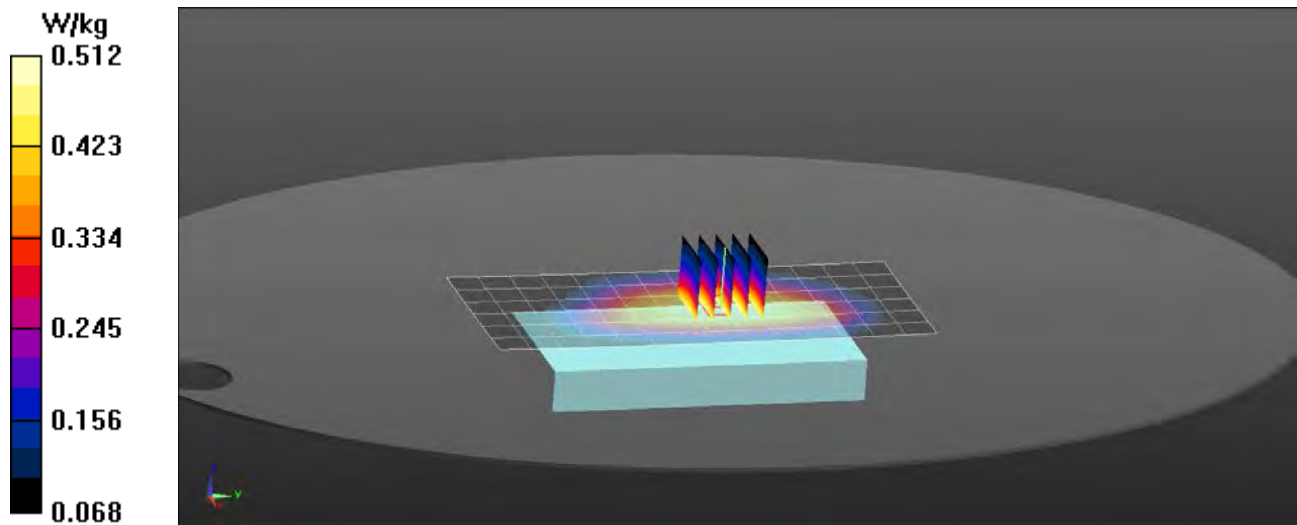
Procedure Notes:

Band 13 LTE/Side A 1 RB 24 Offset Ant 0 Mid/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

Info: [Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 0.511 W/kg

Band 13 LTE/Side A 1 RB 24 Offset Ant 0 Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.32 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.562 W/kg
SAR(1 g) = 0.441 W/kg

Info: [Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 0.512 W/kg



RF Exposure Lab

Plot 4

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: LTE (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 793 MHz; Duty Cycle: 1:1
Medium: HSL750; Medium parameters used (interpolated): $f = 793 \text{ MHz}$; $\sigma = 0.93 \text{ S/m}$; $\epsilon_r = 41.208$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section

Test Date: Date: 6/13/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN7531; ConvF(10.75, 10.75, 10.75); Calibrated: 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

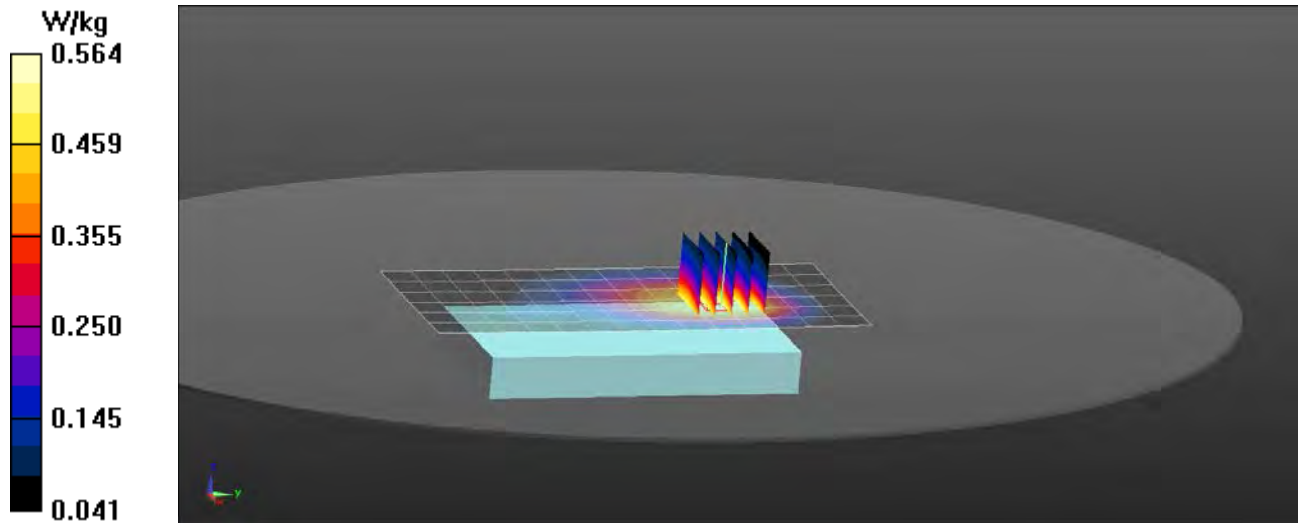
Procedure Notes:

Band 14 LTE/Side A 1 RB 24 Offset Ant 0 Mid/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.541 W/kg

Band 14 LTE/Side A 1 RB 24 Offset Ant 0 Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.90 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.644 W/kg
SAR(1 g) = 0.467 W/kg

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.564 W/kg



RF Exposure Lab

Plot 5

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: UMTS (WCDMA); Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: HSL835; Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.917$ S/m; $\epsilon_r = 41.44$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/12/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN7531; ConvF(10.33, 10.33, 10.33); Calibrated: 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

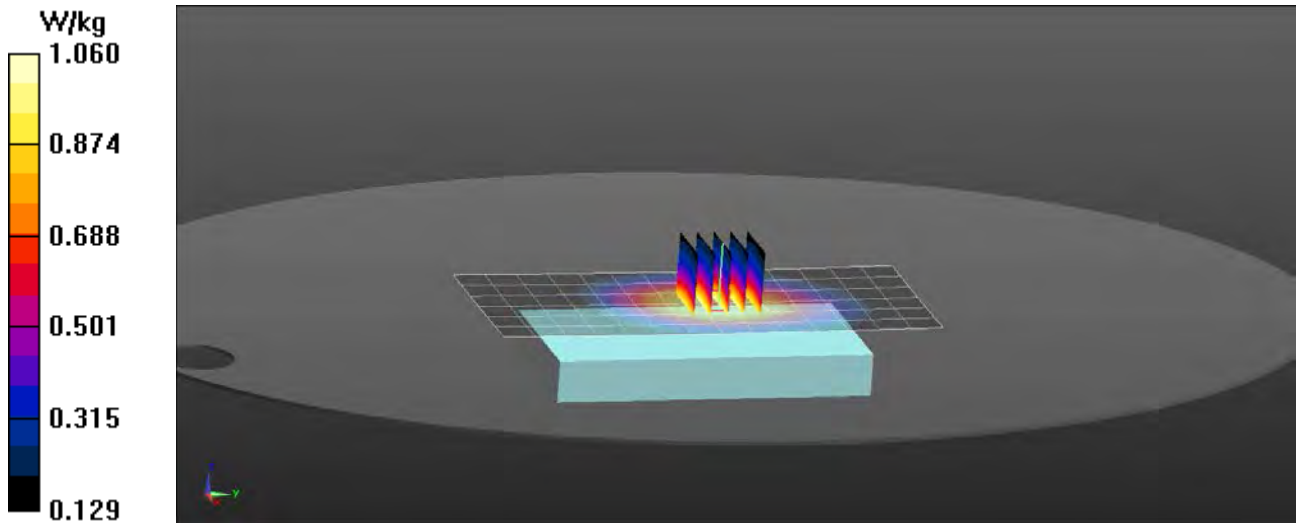
Procedure Notes:

Band 5 UMTS/Side A Ant 0 Mid/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.03 W/kg

Band 5 UMTS/Side A Ant 0 Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.46 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.878 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.06 W/kg



RF Exposure Lab

Plot 6

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: LTE (SC-FDMA, 1 RB, 15 MHz, QPSK); Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: HSL835; Medium parameters used (interpolated): $f = 831.5$ MHz; $\sigma = 0.912$ S/m; $\epsilon_r = 41.456$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/12/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN7531; ConvF(10.33, 10.33, 10.33); Calibrated: 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

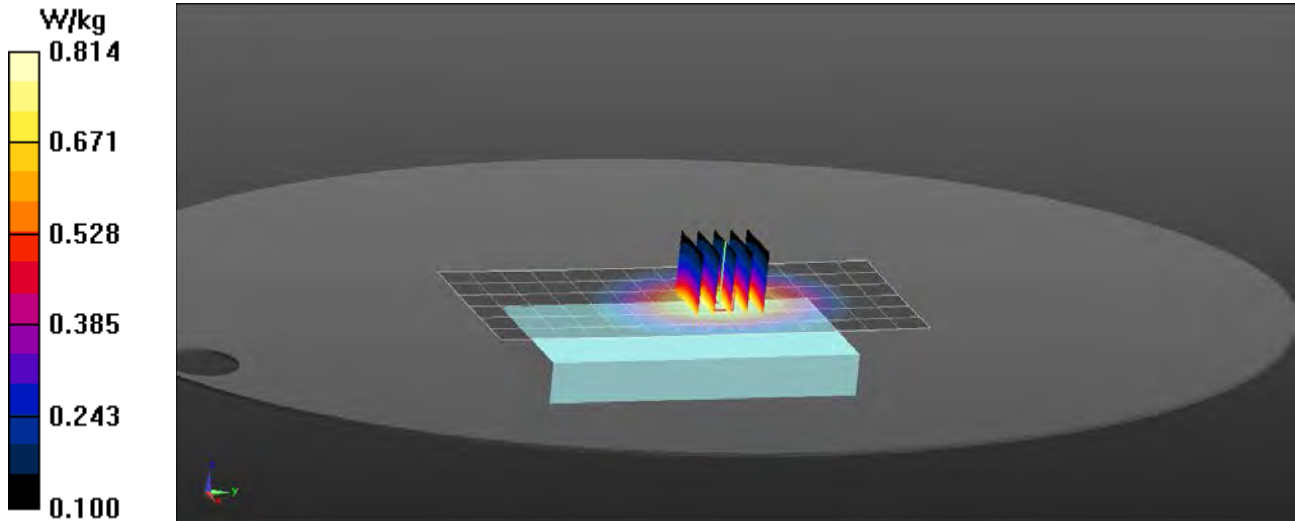
Procedure Notes:

Band 26 LTE/Side C 1 RB 37 Offset Ant 0 Mid/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 0.802 W/kg

Band 26 LTE/Side C 1 RB 37 Offset Ant 0 Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.71 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.902 W/kg
SAR(1 g) = 0.694 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 0.814 W/kg



RF Exposure Lab

Plot 7

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: UMTS (WCDMA); Frequency: 1732.6 MHz; Duty Cycle: 1:1
Medium: HSL1750; Medium parameters used (interpolated): $f = 1732.6$ MHz; $\sigma = 1.383$ S/m; $\epsilon_r = 39.275$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/7/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN7531; ConvF(8.62, 8.62, 8.62); Calibrated: 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

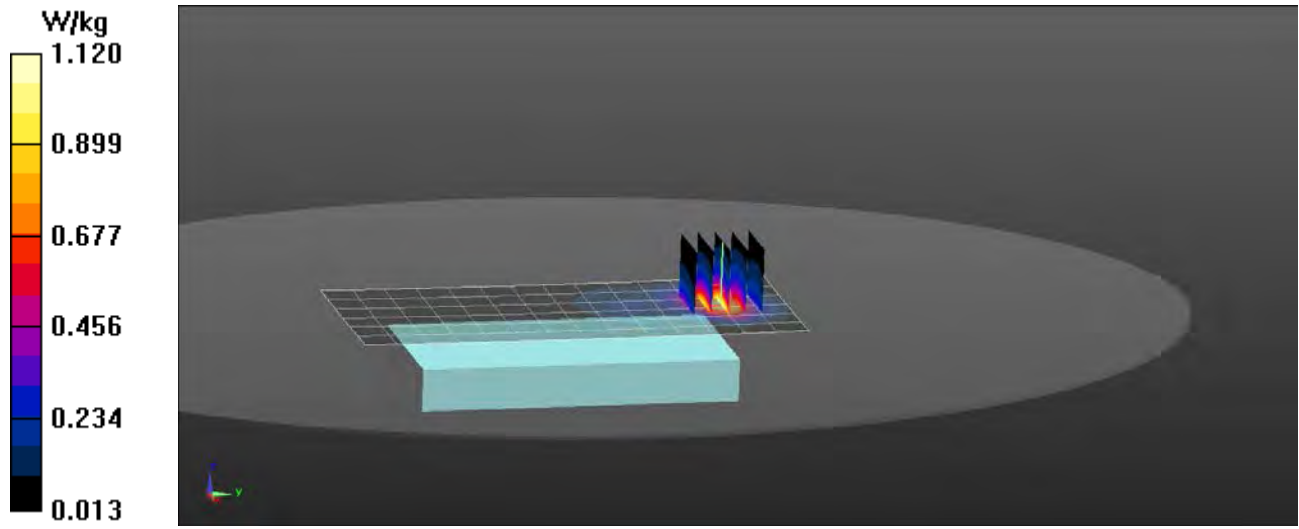
Procedure Notes:

Band 4 UMTS/Side C Ant 0 Mid/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.09 W/kg

Band 4 UMTS/Side C Ant 0 Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.426 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.861 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.12 W/kg



RF Exposure Lab

Plot 8

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: LTE (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 1745 MHz; Duty Cycle: 1:1
Medium: HSL1750; Medium parameters used (interpolated): $f = 1745$ MHz; $\sigma = 1.395$ S/m; $\epsilon_r = 39.25$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/7/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN7531; ConvF(8.62, 8.62, 8.62); Calibrated: 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

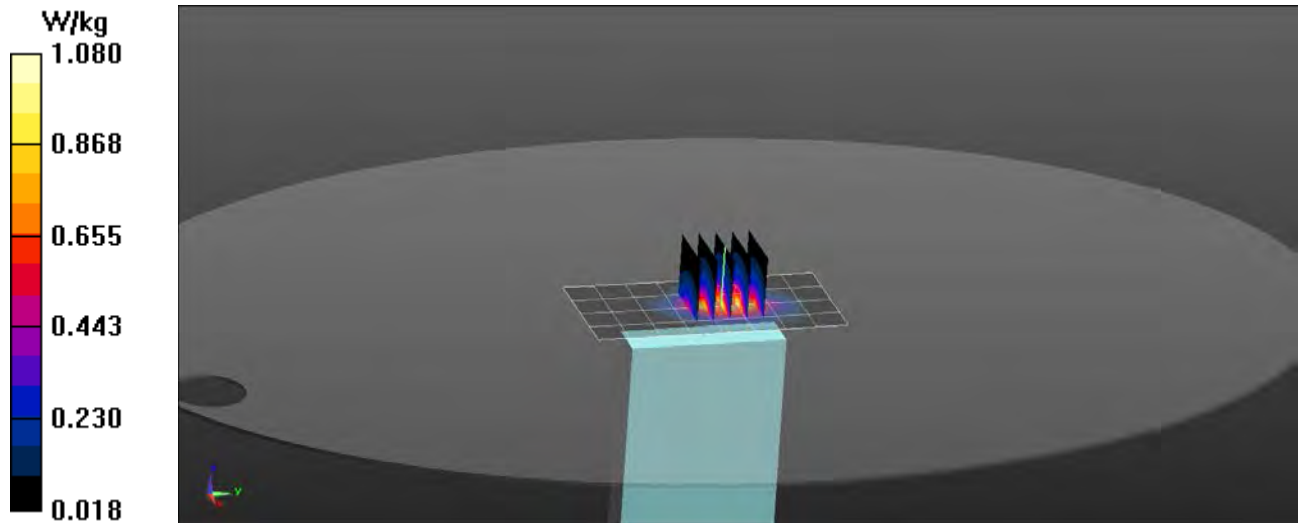
Procedure Notes:

Band 66 LTE/Side F 1 RB 49 Offset Ant 0 Mid/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.05 W/kg

Band 66 LTE/Side F 1 RB 49 Offset Ant 0 Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.88 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.35 W/kg
SAR(1 g) = 0.786 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.08 W/kg



RF Exposure Lab

Plot 9

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: UMTS (WCDMA); Frequency: 1852.4 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.372$ S/m; $\epsilon_r = 39.65$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/6/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN7531; ConvF(8.26, 8.26, 8.26); Calibrated: 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

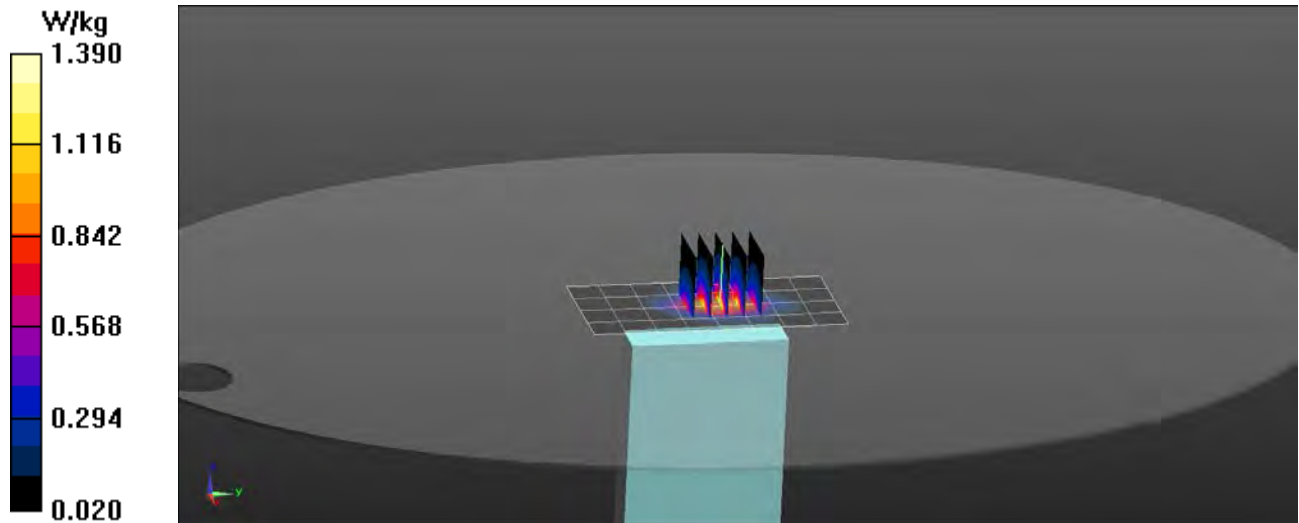
Procedure Notes:

Band 2 UMTS/Side F Ant 0 Low/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.30 W/kg

Band 2 UMTS/Side F Ant 0 Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.63 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.73 W/kg
SAR(1 g) = 0.859 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.39 W/kg



RF Exposure Lab

Plot 10

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: LTE (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 1882.5 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium parameters used (interpolated): $f = 1882.5$ MHz; $\sigma = 1.39$ S/m; $\epsilon_r = 39.905$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/6/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN7531; ConvF(8.26, 8.26, 8.26); Calibrated: 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

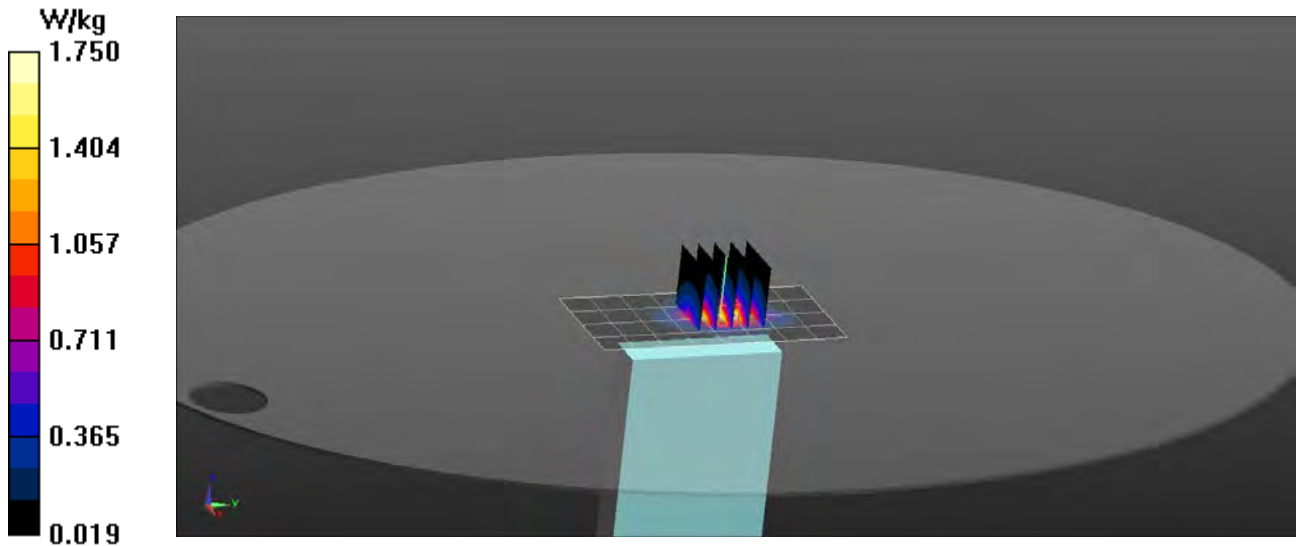
Procedure Notes:

Band 25 LTE/Side F 1 RB 49 Offset Ant 0 Mid/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Info: [Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.75 W/kg

Band 25 LTE/Side F 1 RB 49 Offset Ant 0 Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.69 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.533 W/kg
SAR(1 g) = 0.795 W/kg

Info: [Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.75 W/kg



RF Exposure Lab

Plot 11

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: LTE (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: HSL2300; Medium parameters used: $f = 2310$ MHz; $\sigma = 1.7$ S/m; $\epsilon_r = 38.16$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

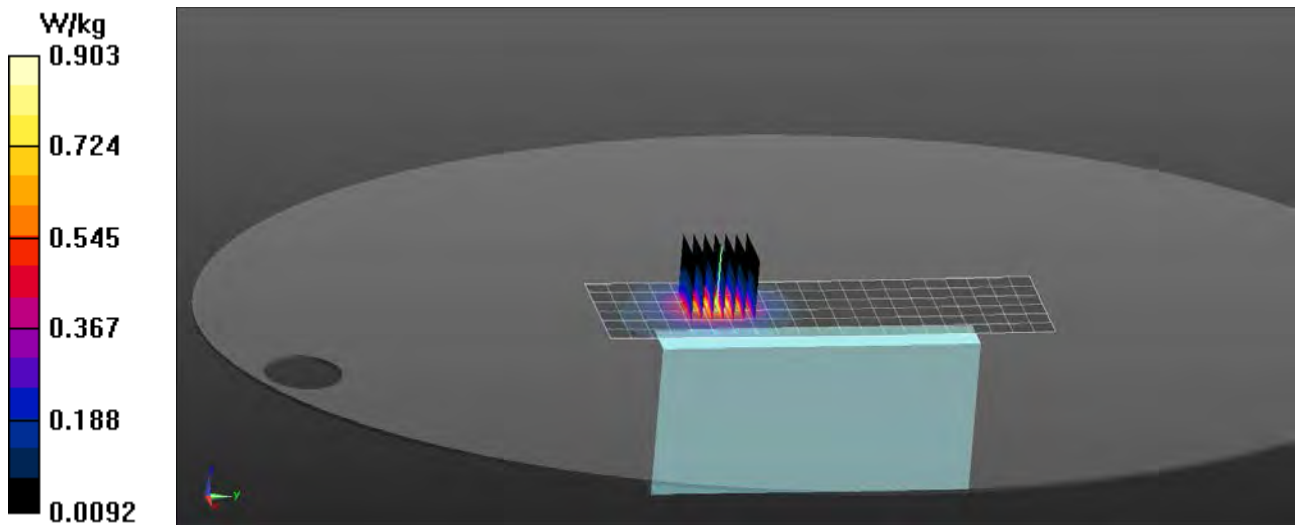
Test Date: Date: 6/8/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN7531; ConvF(7.98, 7.98, 7.98); Calibrated: 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASYS2, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

Band 30 LTE/Side D 1 RB 24 Offset Ant 0 Mid/Area Scan (7x22x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.822 W/kg

Band 30 LTE/Side D 1 RB 24 Offset Ant 0 Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.825 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.633 W/kg
Maximum value of SAR (measured) = 0.903 W/kg



RF Exposure Lab

Plot 12

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: LTE (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 2535 MHz; Duty Cycle: 1:1
Medium: HSL2550; Medium parameters used (interpolated): $f = 2535 \text{ MHz}$; $\sigma = 1.915 \text{ S/m}$; $\epsilon_r = 38.985$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section

Test Date: Date: 6/9/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN7531; ConvF(7.42, 7.42, 7.42); Calibrated: 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

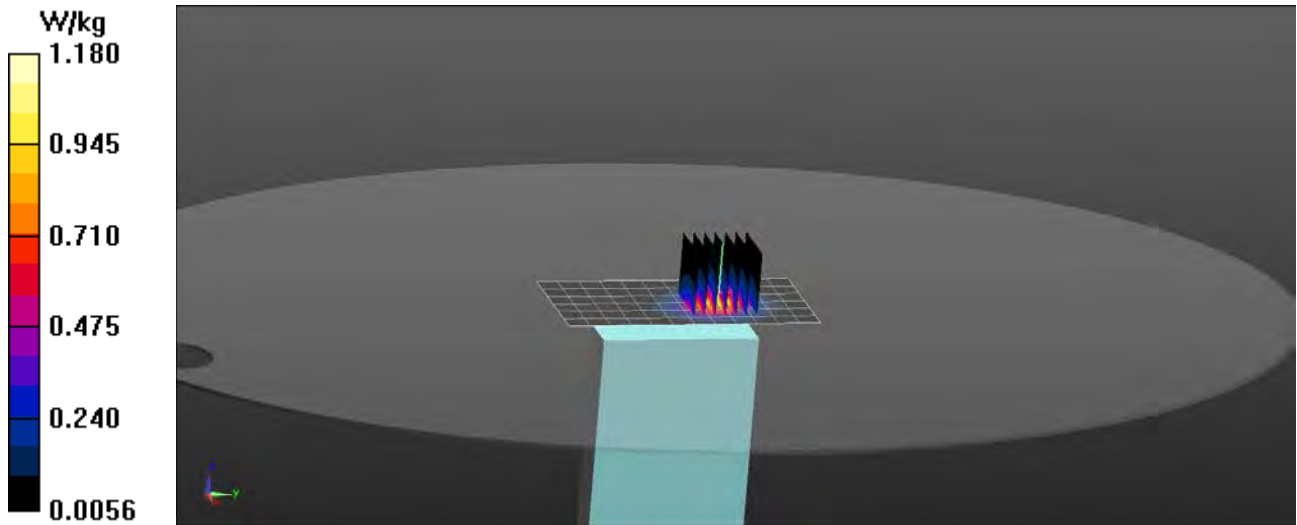
Procedure Notes:

Band 7 LTE/Side F 1 RB 49 Offset Ant 0 Mid/Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.13 W/kg

Band 7 LTE/Side F 1 RB 49 Offset Ant 0 Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.27 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.55 W/kg
SAR(1 g) = 0.786 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.18 W/kg



RF Exposure Lab

Plot 13

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: LTE (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 2593 MHz; Duty Cycle: 1:1
Medium: HSL2550; Medium parameters used (interpolated): $f = 2593$ MHz; $\sigma = 1.99$ S/m; $\epsilon_r = 38.853$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/9/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 – SN7531; ConvF(7.42, 7.42, 7.42); Calibrated 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

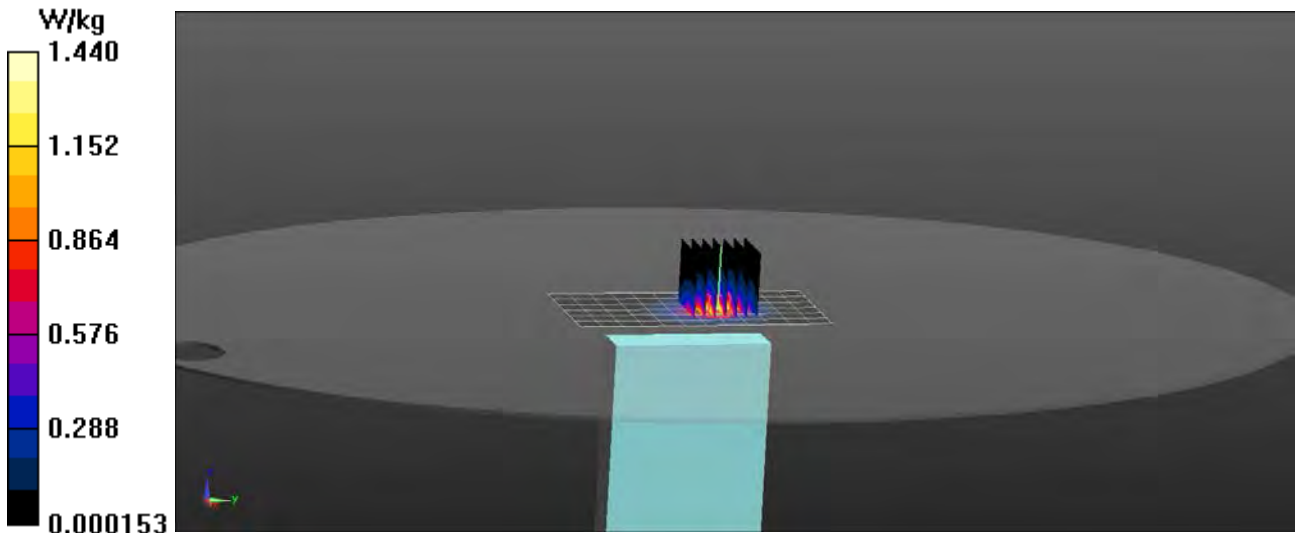
Procedure Notes:

Band 41 LTE/Side F 1 RB 49 Offset Ant 0 Mid/Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.44 W/kg

Band 41 LTE/Side F 1 RB 49 Offset Ant 0 Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.756 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.587 W/kg
SAR(1 g) = 0.769 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.44 W/kg



RF Exposure Lab

Plot 14

DUT: M3000A; Type: Hotspot; Serial: BW170122E00017

Communication System: LTE (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 3625 MHz; Duty Cycle: 1:1
Medium: HSL3-6GHz; Medium parameters used (interpolated): $f = 3625$ MHz; $\sigma = 3.015$ S/m; $\epsilon_r = 36.715$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 6/11/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 – SN7531; ConvF(6.48, 6.48, 6.48); Calibrated: 4/12/2022
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/12/2022
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

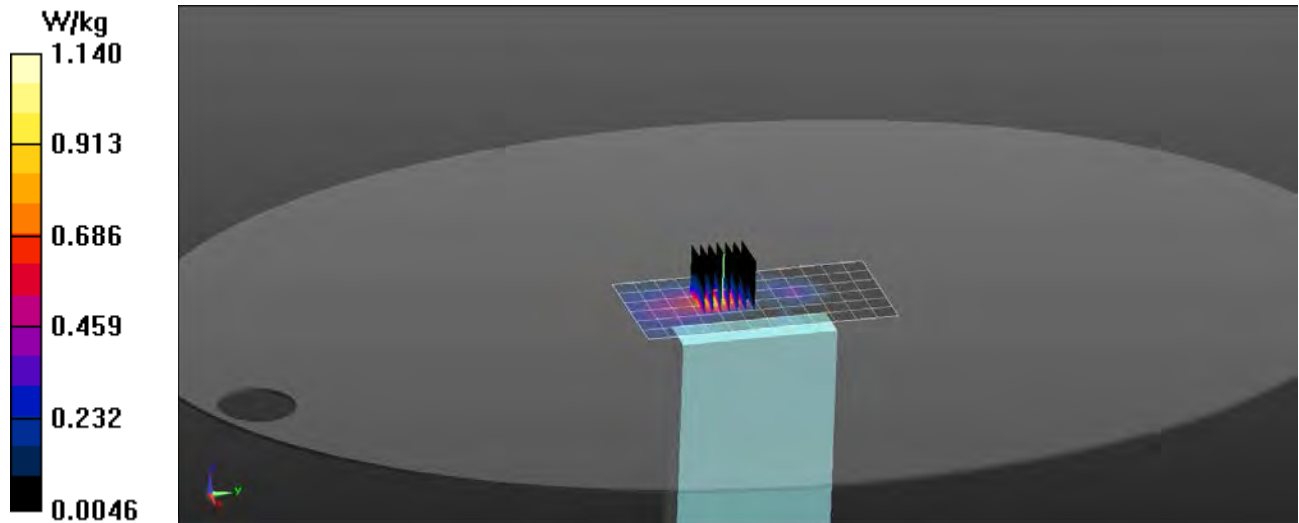
Procedure Notes:

Band 48 LTE/Side F 1 RB 49 Offset Ant 4 Mid2/Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.03 W/kg

Band 48 LTE/Side F 1 RB 49 Offset Ant 4 Mid2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=4mm
Reference Value = 4.590 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.67 W/kg
SAR(1 g) = 0.680 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 1.14 W/kg



RF Exposure Lab

Plot 15

DUT: M3000A; Type: Hotspot; Serial: BW170122E00018

Communication System: WiFi 802.11b (DSSS, 11 Mbps); Frequency: 2437 MHz; Duty Cycle: 1:1
Medium: HSL2450; Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.794$ S/m; $\epsilon_r = 38.393$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 5/23/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3693; ConvF(7.05, 7.05, 7.05); Calibrated: 8/26/2021
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn759; Calibrated: 8/6/2021
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 1251
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

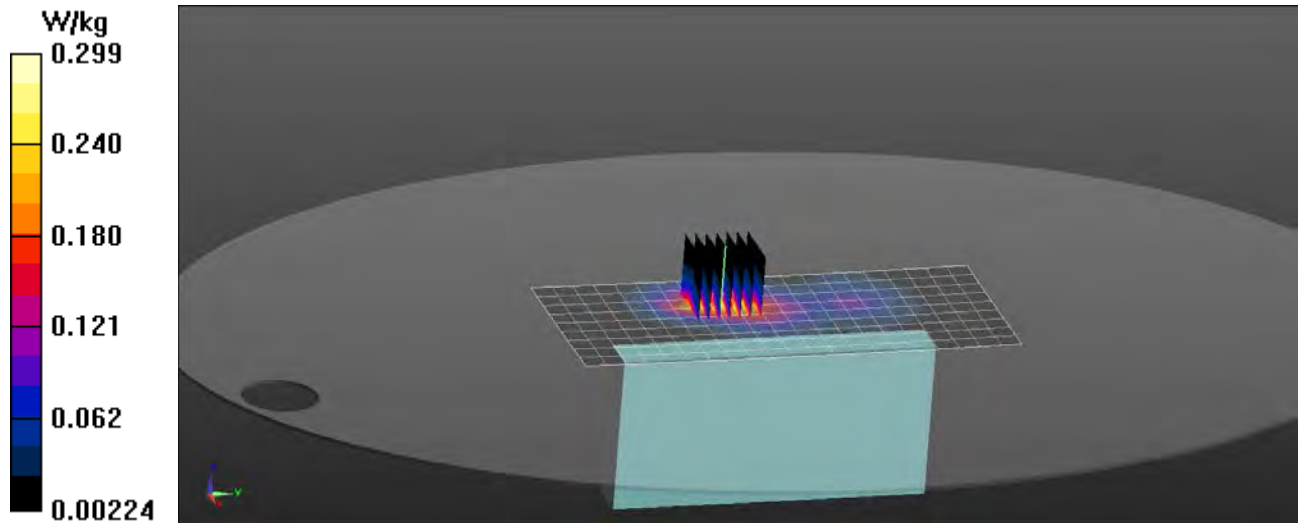
Procedure Notes:

2450 MHz/Side D Ant 0 Mid/Area Scan (10x22x1): Measurement grid: dx=10mm, dy=10mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 0.307 W/kg

2450 MHz/Side D Ant 0 Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.026 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.398 W/kg
SAR(1 g) = 0.207 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 0.299 W/kg



RF Exposure Lab

Plot 16

DUT: M3000A; Type: Hotspot; Serial: BW170122E00018

Communication System: WiFi 802.11a (OFDM, 6 Mbps); Frequency: 5220 MHz; Duty Cycle: 1:1
Medium: HSL3-6GHz; Medium parameters used: $f = 5220$ MHz; $\sigma = 4.69$ S/m; $\epsilon_r = 34.8$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

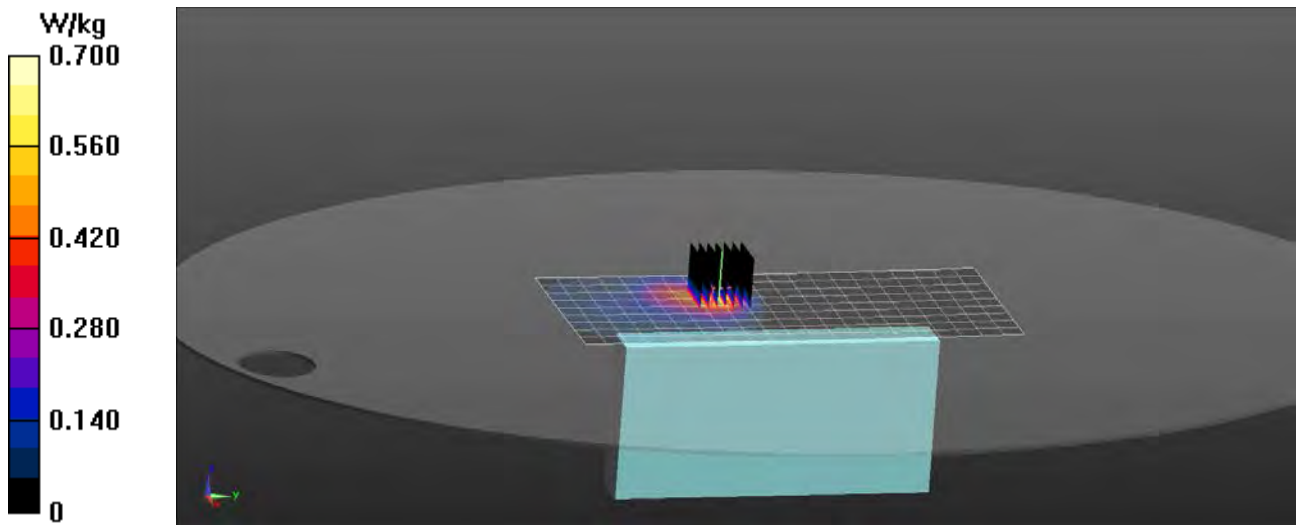
Test Date: Date: 5/23/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3693; ConvF(4.9, 4.9, 4.9); Calibrated: 8/26/2021
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn759; Calibrated: 8/6/2021
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 1251
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

5200 MHz/Side D Ant 0 44/Area Scan (10x22x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.668 W/kg

5200 MHz/Side D Ant 0 44/Zoom Scan (7x7x14)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.252 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 1.20 W/kg
SAR(1 g) = 0.253 W/kg
Maximum value of SAR (measured) = 0.700 W/kg



RF Exposure Lab

Plot 17

DUT: M3000A; Type: Hotspot; Serial: BW170122E00018

Communication System: WiFi 802.11a (OFDM, 6 Mbps); Frequency: 5785 MHz; Duty Cycle: 1:1
Medium: HSL3-6GHz; Medium parameters used (interpolated): $f = 5785$ MHz; $\sigma = 5.315$ S/m; $\epsilon_r = 34.14$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

Test Date: Date: 5/23/2022; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3693; ConvF(4.55, 4.55, 4.55); Calibrated: 8/26/2021
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn759; Calibrated: 8/6/2021
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 1251
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

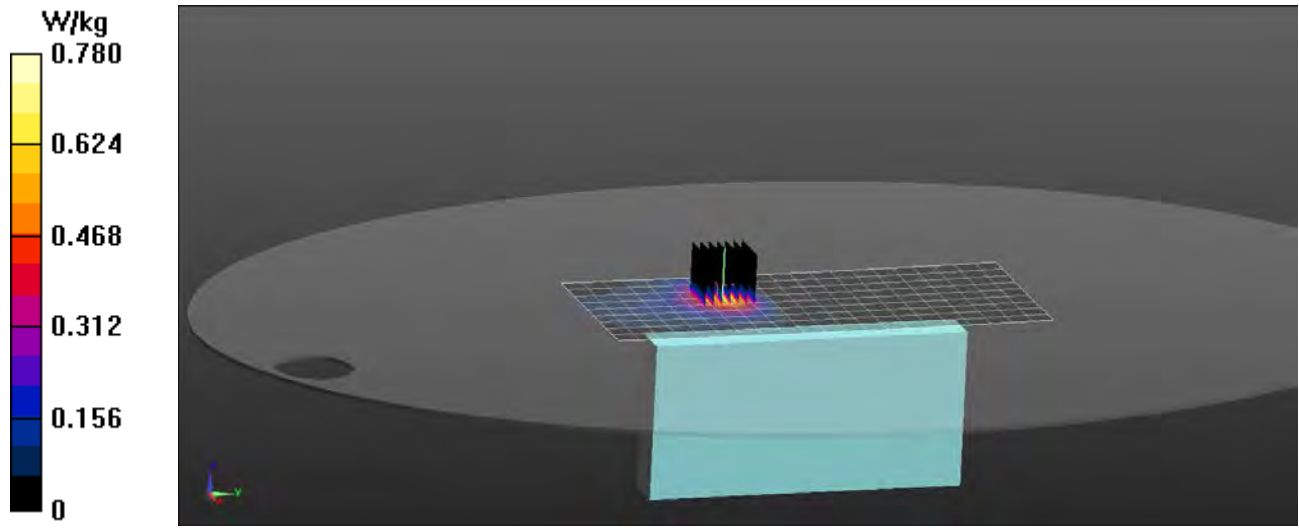
Procedure Notes:

5800 MHz/Side D Ant 0 157/Area Scan (10x22x1): Measurement grid: dx=10mm, dy=10mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 0.777 W/kg

5800 MHz/Side D Ant 0 157/Zoom Scan (7x7x14)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 0.6880 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.52 W/kg
SAR(1 g) = 0.243 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)
Maximum value of SAR (measured) = 0.780 W/kg



Appendix C – SAR Test Setup Photos



Test Position Side A 10 mm Gap



Test Position Side A 20 mm Gap



Test Position Side B 10 mm Gap



Test Position Side C 10 mm Gap



Test Position Side C 20 mm Gap



Test Position Side D 10 mm Gap



Test Position Side D 20 mm Gap



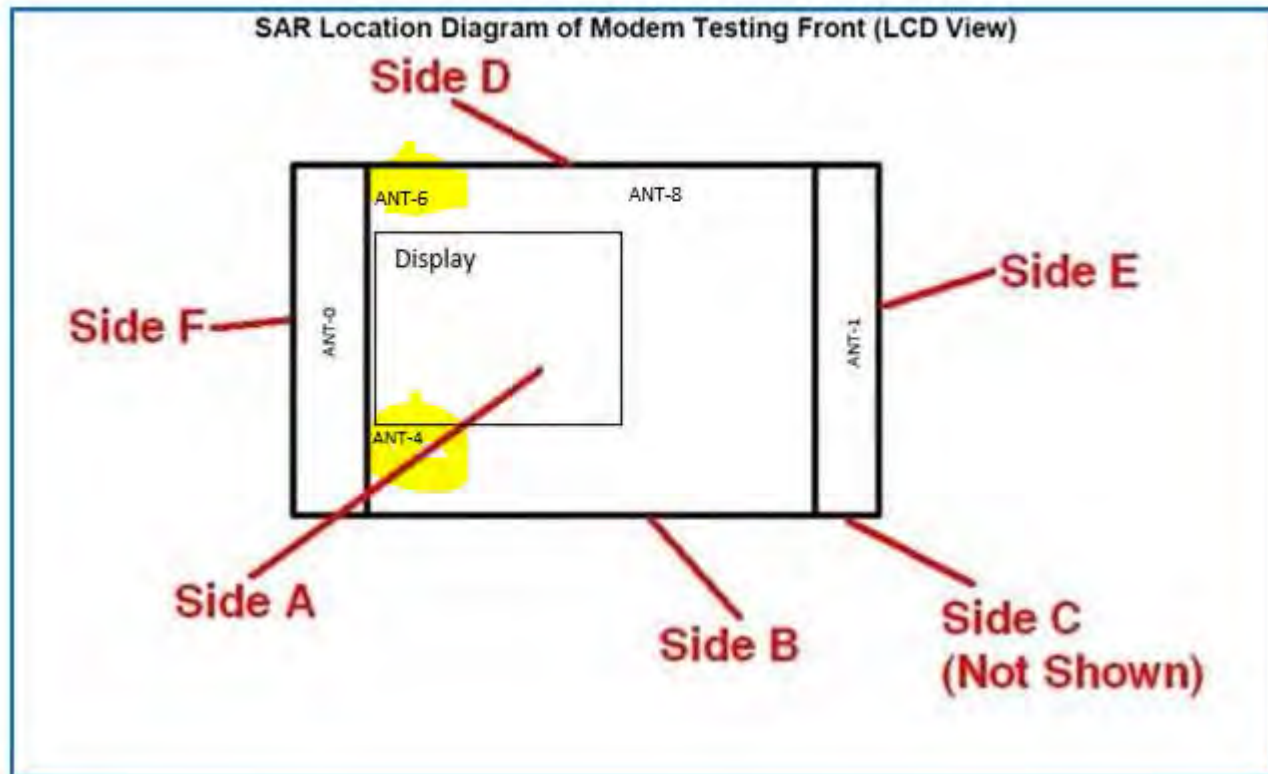
Test Position Side E 10 mm Gap



Test Position Side F 10 mm Gap



Test Position Side F 20 mm Gap



Test Positions

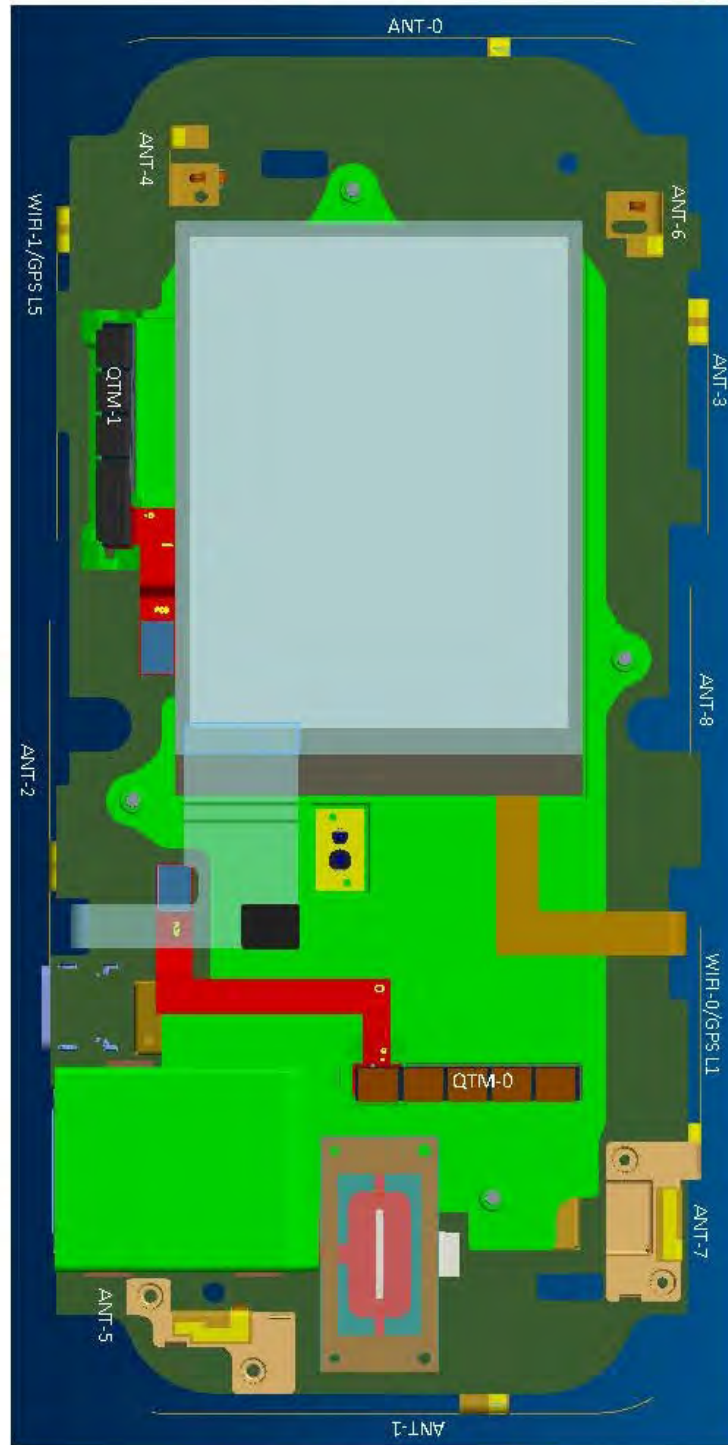
Side C Not Shown

Side F

Side B

Side D

Side A Shown



Side E

Antenna Locations



Front of Device



Back of Device

Appendix D – Probe Calibration Data Sheets

gm

**Calibration Laboratory of
Schmid & Partner
Engineering AG**
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **RF Exposure Lab**

Certificate No: **EX3-3693_Aug21**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3693**

Calibration procedure(s) **QA CAL-01.v9, QA CAL-12.v9, QA CAL-14.v6, QA CAL-23.v5,
QA CAL-25.v7
Calibration procedure for dosimetric E-field probes**

Calibration date: **August 26, 2021**

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)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	09-Apr-21 (No. 217-03291/03292)	Apr-22
Power sensor NRP-Z91	SN: 103244	09-Apr-21 (No. 217-03291)	Apr-22
Power sensor NRP-Z91	SN: 103245	09-Apr-21 (No. 217-03292)	Apr-22
Reference 20 dB Attenuator	SN: CC2552 (20x)	09-Apr-21 (No. 217-03343)	Apr-22
DAE4	SN: 660	23-Dec-20 (No. DAE4-660_Dec20)	Dec-21
Reference Probe ES3DV2	SN: 3013	30-Dec-20 (No. ES3-3013_Dec20)	Dec-21
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-20)	In house check: Jun-22
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-20)	In house check: Oct-21

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Niels Kuster	Quality Manager	

Issued: September 2, 2021

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



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,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.e., $\vartheta = 0$ 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) IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices - Part 1528: Human Models, Instrumentation And Procedures (Frequency Range of 4 MHz to 10 GHz)", October 2020.
- b) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORM_{x,y,z}*: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). *NORM_{x,y,z}* are only intermediate values, i.e., the uncertainties of *NORM_{x,y,z}* does not affect the E^2 -field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)_{x,y,z}* = *NORM_{x,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*.
- *DCP_{x,y,z}*: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (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
- *A_{x,y,z}*; *B_{x,y,z}*; *C_{x,y,z}*; *D_{x,y,z}*; *VR_{x,y,z}*; *A, B, C, D* 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 $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORM_{x,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 ± 50 MHz to ± 100 MHz.
- *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 *NORM_x* (no uncertainty required).

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3693

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.39	0.32	0.35	$\pm 10.1 \%$
DCP (mV) ^B	98.4	102.1	108.4	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Max dev.	Unc ^E (k=2)
0	CW	X	0.0	0.0	1.0	0.00	138.0	$\pm 3.3 \%$	$\pm 4.7 \%$
		Y	0.0	0.0	1.0		149.2		
		Z	0.0	0.0	1.0		139.7		

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 E²-field uncertainty inside TSL (see Pages 5 and 6).

^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.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3693

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-70.8
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

Note: Measurement distance from surface can be increased to 3-4 mm for an *Area Scan* job.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3693

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)	Unc (k=2)
13	55.0	0.75	13.69	13.69	13.69	0.00	1.00	± 13.3 %
750	41.9	0.89	9.33	9.33	9.33	0.42	0.80	± 12.0 %
900	41.5	0.97	8.90	8.90	8.90	0.37	0.99	± 12.0 %
1300	40.8	1.14	8.32	8.32	8.32	0.41	0.92	± 12.0 %
1450	40.5	1.20	8.00	8.00	8.00	0.36	0.80	± 12.0 %
1640	40.2	1.31	7.97	7.97	7.97	0.32	0.80	± 12.0 %
1750	40.1	1.37	7.85	7.85	7.85	0.29	0.86	± 12.0 %
1900	40.0	1.40	7.56	7.56	7.56	0.33	0.86	± 12.0 %
2300	39.5	1.67	7.19	7.19	7.19	0.31	0.90	± 12.0 %
2450	39.2	1.80	7.05	7.05	7.05	0.36	0.90	± 12.0 %
2600	39.0	1.96	6.97	6.97	6.97	0.35	0.90	± 12.0 %
3500	37.9	2.91	6.42	6.42	6.42	0.47	1.03	± 13.1 %
3700	37.7	3.12	6.40	6.40	6.40	0.39	1.26	± 13.1 %
5250	35.9	4.71	4.90	4.90	4.90	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.59	4.59	4.59	0.40	1.80	± 13.1 %
5750	35.4	5.22	4.55	4.55	4.55	0.40	1.80	± 13.1 %

^C Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the 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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. 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 frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3693

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)	Unc (k=2)
6500	34.5	6.07	5.20	5.20	5.20	0.20	2.50	± 18.6 %

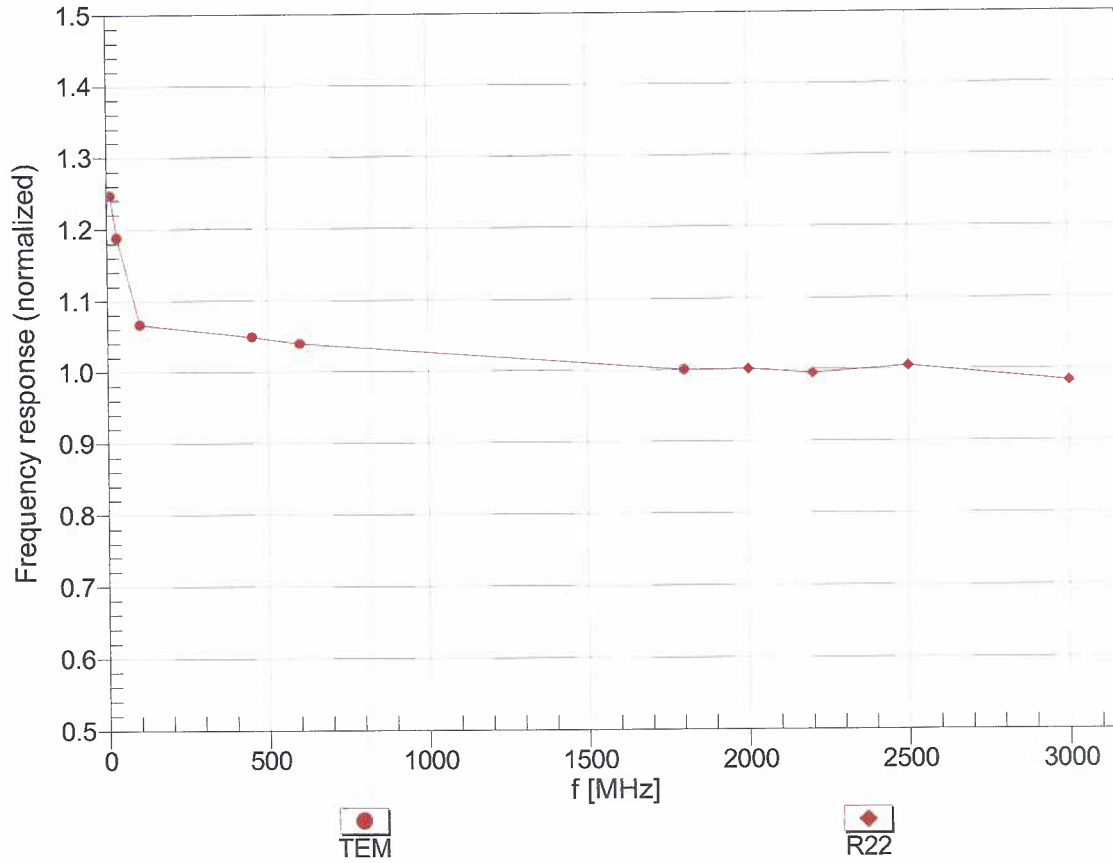
^C Frequency validity above 6GHz is ± 700 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^F At frequencies 6-10 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; below ± 2% for frequencies between 3-6 GHz; and below ± 4% for frequencies between 6-10 GHz at any distance larger than half the probe tip diameter from the boundary

Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)