

FCC SAR Test Report

LTE Band 41									
BW	MCS Index	RB Size	RB Offset	Low	Mid	Mid	Mid	High	3GPP MPR (dB)
		Channel		39750	40185	40620	41055	41490	
		Frequency(MHz)		2506	2549.5	2593	2636.5	2680	
20M	QPSK	1	0	21.25	21.11	20.92	21.17	21.30	0
		1	50	21.23	21.09	20.90	21.15	21.28	0
		1	99	21.29	21.15	20.96	21.21	21.34	0
		50	0	20.34	20.20	20.01	20.26	20.39	1
		50	25	20.23	20.09	19.90	20.15	20.28	1
		50	50	20.20	20.06	19.87	20.12	20.25	1
	16QAM	100	0	19.92	19.78	19.59	19.84	19.97	1
		1	0	20.89	20.75	20.56	20.81	20.94	1
		1	50	20.91	20.77	20.58	20.83	20.96	1
		1	99	20.83	20.69	20.50	20.75	20.88	1
		50	0	19.50	19.36	19.17	19.42	19.55	2
		50	25	19.11	18.97	18.78	19.03	19.16	2
	64QAM	50	50	18.96	18.82	18.63	18.88	19.01	2
		100	0	19.23	19.09	18.90	19.15	19.28	2
		1	0	19.57	19.43	19.24	19.49	19.62	2
		1	50	18.75	18.61	18.42	18.67	18.80	2
		1	99	18.46	18.32	18.13	18.38	18.51	2
		50	0	18.42	18.28	18.09	18.34	18.47	3
15M	QPSK	50	25	18.06	17.92	17.73	17.98	18.11	3
		50	50	17.90	17.76	17.57	17.82	17.95	3
		100	0	18.18	18.04	17.85	18.10	18.23	3
	16QAM	1	0	21.24	21.07	20.84	21.15	21.24	0
		1	50	21.19	21.06	20.84	21.07	21.26	0
		1	99	21.27	21.14	20.92	21.15	21.28	0
		50	0	20.28	20.15	20.00	20.22	20.38	1
		50	25	20.22	20.07	19.85	20.14	20.21	1
		50	50	20.12	19.99	19.85	20.07	20.23	1
	64QAM	100	0	19.91	19.74	19.56	19.81	19.92	1
		1	0	20.86	20.74	20.50	20.74	20.92	1
		1	50	20.87	20.72	20.56	20.75	20.89	1
		1	99	20.77	20.67	20.47	20.73	20.84	1
		50	0	19.48	19.28	19.16	19.38	19.54	2
		50	25	19.03	18.93	18.73	18.97	19.11	2
10M	QPSK	50	50	18.93	18.76	18.61	18.86	18.99	2
		100	0	19.22	19.04	18.82	19.07	19.22	2
	16QAM	1	0	19.51	19.40	19.20	19.46	19.61	2
		1	50	18.73	18.54	18.37	18.66	18.72	2
		1	99	18.40	18.24	18.11	18.32	18.50	2
		50	0	18.41	18.26	18.01	18.31	18.44	3
	64QAM	50	25	17.99	17.84	17.67	17.97	18.07	3
		50	50	17.88	17.75	17.53	17.77	17.93	3
		100	0	18.16	17.96	17.84	18.08	18.20	3
	QPSK	1	0	21.17	21.07	20.87	21.10	21.22	0
		1	50	21.21	21.01	20.89	21.07	21.26	0
		1	99	21.21	21.11	20.91	21.19	21.26	0
		50	0	20.31	20.14	19.99	20.18	20.36	1
		50	25	20.21	20.02	19.85	20.09	20.26	1
		50	50	20.14	19.98	19.85	20.11	20.20	1
	16QAM	100	0	19.91	19.76	19.51	19.79	19.95	1
		1	0	20.82	20.67	20.50	20.79	20.89	1
		1	50	20.88	20.71	20.56	20.78	20.94	1
		1	99	20.81	20.62	20.45	20.73	20.80	1
		50	0	19.44	19.28	19.15	19.34	19.49	2
		50	25	19.09	18.89	18.77	19.00	19.10	2
	64QAM	50	50	18.88	18.78	18.58	18.86	18.94	2
		100	0	19.21	19.01	18.89	19.09	19.20	2
		1	0	19.49	19.39	19.19	19.47	19.60	2
		1	50	18.72	18.55	18.40	18.59	18.72	2
		1	99	18.44	18.25	18.08	18.36	18.45	2
		50	0	18.36	18.20	18.07	18.26	18.40	3
	64QAM	50	25	18.05	17.90	17.65	17.95	18.08	3
		50	50	17.85	17.68	17.51	17.77	17.93	3
		100	0	18.17	17.98	17.83	18.08	18.17	3

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BW	MCS Index	RB Size	RB Offset	Low	Mid	Mid	Mid	High	3GPP MPR (dB)
		Channel		39675	40148	40620	41093	41565	
		Frequency(MHz)		2498.5	2545.8	2593	2640.3	2687.5	
5M	QPSK	1	0	21.20	21.04	20.87	21.12	21.24	0
		1	50	21.21	21.01	20.88	21.11	21.21	0
		1	99	21.24	21.07	20.95	21.13	21.28	0
		50	0	20.30	20.15	19.96	20.22	20.32	1
		50	25	20.15	20.08	19.85	20.09	20.20	1
		50	50	20.16	20.01	19.86	20.05	20.19	1
		100	0	19.86	19.76	19.54	19.76	19.95	1
	16QAM	1	0	20.82	20.70	20.54	20.73	20.89	1
		1	50	20.83	20.75	20.53	20.79	20.95	1
		1	99	20.81	20.61	20.48	20.67	20.83	1
		50	0	19.42	19.30	19.09	19.38	19.53	2
		50	25	19.05	18.95	18.72	18.97	19.11	2
		50	50	18.89	18.77	18.61	18.87	18.99	2
		100	0	19.17	19.02	18.85	19.10	19.27	2
	64QAM	1	0	19.50	19.38	19.22	19.44	19.57	2
		1	50	18.67	18.59	18.36	18.66	18.75	2
		1	99	18.38	18.31	18.11	18.33	18.50	2
		50	0	18.38	18.23	18.01	18.32	18.45	3
		50	25	17.98	17.91	17.71	17.93	18.06	3
		50	50	17.86	17.71	17.49	17.80	17.91	3
		100	0	18.12	18.02	17.82	18.02	18.15	3

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WLAN / BT

2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)
	802.11b 1Mbps	1	2412	18.30
		6	2437	17.94
		11	2462	18.42
	802.11g 6Mbps	1	2412	14.98
		6	2437	14.02
		11	2462	14.32
	802.11n-HT20 MCS0	1	2412	15.62
		6	2437	14.48
		11	2462	13.82
	802.11n-HT40 MCS0	3	2422	13.30
		6	2437	12.81
		9	2452	12.97

Bluetooth	Mode	Channel	Frequency(MHz)	Average power (dBm)
	BR / EDR	0	2402	7.02
		39	2441	6.65
		78	2480	6.42
	BLE 1Mbps	0	2402	0.88
		19	2440	0.30
		39	2480	-1.68
	BLE 2Mbps	0	2402	-0.05
		19	2440	-0.65
		39	2480	-2.60

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5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)
	802.11a 6Mbps	36	5180	17.18
		40	5200	17.30
		44	5220	17.24
		48	5240	17.40
	802.11n-HT20 MCS0	36	5180	17.72
		40	5200	17.50
		44	5220	17.65
		48	5240	17.70
	802.11n-HT40 MCS0	38	5190	14.33
		46	5230	14.34
	802.11ac-VHT20 MCS0	36	5180	17.46
		40	5200	17.54
		44	5220	17.51
		48	5240	17.65
	802.11ac-VHT40 MCS0	38	5190	14.08
		46	5230	14.28
	802.11ac-VHT80 MCS0	42	5210	13.81

5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)
	802.11a 6Mbps	52	5260	17.82
		56	5280	17.90
		60	5300	18.02
		64	5320	18.04
	802.11n-HT20 MCS0	52	5260	17.26
		56	5280	17.33
		60	5300	17.54
		64	5320	17.45
	802.11n-HT40 MCS0	54	5270	14.72
		62	5310	14.97
	802.11ac-VHT20 MCS0	52	5260	18.05
		56	5280	17.86
		60	5300	17.58
		64	5320	17.42
	802.11ac-VHT40 MCS0	54	5270	13.80
		62	5310	14.12
	802.11ac-VHT80 MCS0	58	5290	14.32

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5.6GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)
	802.11a 6Mbps	100	5500	17.90
		116	5580	17.82
		124	5620	17.87
		132	5660	17.93
		140	5700	18.22
	802.11n-HT20 MCS0	100	5500	18.20
		116	5580	18.14
		124	5620	17.94
		132	5660	18.01
		140	5700	17.68
	802.11n-HT40 MCS0	102	5510	14.45
		110	5550	14.39
		126	5630	14.41
		134	5670	14.85
	802.11ac-VHT20 MCS0	100	5500	18.16
		116	5580	18.10
		124	5620	18.02
		132	5660	17.86
	802.11ac-VHT40 MCS0	140	5700	17.62
		102	5510	14.60
		110	5550	14.05
		126	5630	13.96
	802.11ac-VHT80 MCS0	134	5670	13.80
		106	5530	13.94
		122	5610	13.98

5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)
	802.11a 6Mbps	149	5745	18.15
		157	5785	18.52
		165	5825	18.36
	802.11n-HT20 MCS0	149	5745	18.40
		157	5785	17.97
		165	5825	17.80
	802.11n-HT40 MCS0	151	5755	15.12
		159	5795	15.01
	802.11ac-VHT20 MCS0	149	5745	18.42
		157	5785	17.92
		165	5825	17.84
	802.11ac-VHT40 MCS0	151	5755	13.84
		159	5795	13.72
	802.11ac-VHT80 MCS0	155	5775	14.52

4.6 SAR Testing Results

4.6.1 SAR Test Reduction Considerations

<KDB 447498 D01, General RF Exposure Guidance>

Testing of other required channels within the operating mode of a frequency band is not required when the reported SAR for the mid-band or highest output power channel is:

- (1) ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
- (2) ≤ 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
- (3) ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

<KDB 941225 D01, 3G SAR Measurement Procedures>

The mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

<KDB 941225 D05, SAR Evaluation Considerations for LTE Devices>

(1) QPSK with 1 RB and 50% RB allocation

Start with the largest channel bandwidth and measure SAR, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

(2) 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.

(3) Higher order modulations

SAR is required only when the highest maximum output power for the configuration in the higher order modulation is $> 1/2$ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

(4) Other channel bandwidth

SAR is required when the highest maximum output power of the smaller channel bandwidth is $> 1/2$ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

<KDB 248227 D01, SAR Guidance for Wi-Fi Transmitters>

- (1) For handsets operating next to ear, hotspot mode or mini-tablet configurations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When the reported SAR of initial test position is ≤ 0.4 W/kg, SAR testing for remaining test positions is not required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
- (2) For WLAN 2.4 GHz, the highest measured maximum output power channel for DSSS was selected for SAR measurement. When the reported SAR is ≤ 0.8 W/kg, no further SAR testing is required. Otherwise, SAR is evaluated at the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel. For OFDM modes (802.11g/n), SAR is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and it is ≤ 1.2 W/kg.
- (3) For WLAN 5 GHz, the initial test configuration was selected according to the transmission mode with the highest maximum output power. When the reported SAR of initial test configuration is > 0.8 W/kg, SAR is required for the subsequent highest measured output power channel until the reported SAR result is ≤ 1.2 W/kg or all required channels are measured. For other transmission modes, SAR is not required when the highest reported SAR for initial test configuration is adjusted by the ratio of subsequent test configuration to initial test configuration specified maximum output power and it is ≤ 1.2 W/kg.
- (4) For WLAN MIMO mode, the power-based standalone SAR test exclusion or the sum of SAR provision in KDB 447498 to determine simultaneous transmission SAR test exclusion should be applied. Otherwise, SAR for MIMO mode will be measured with all applicable antennas transmitting simultaneously at the specified maximum output power of MIMO operation.

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4.6.2 SAR Results for Head Exposure Condition

Plot No.	Band	Mode	Test Position	Ch.	RB#	RB Offset	Power Reduction	Duty Cycle %	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Duty Cycle Scaling Factor	Tune-up Scaling Factor	Scaled SAR-1g (W/kg)
1	GSM850	GPRS10	Right Cheek	251	-	-	Full	-	32	30.21	-0.04	0.261	1.00	1.51	0.39
	GSM850	GPRS10	Right Tilted	251	-	-	Full	-	32	30.21	0.07	0.118	1.00	1.51	0.18
	GSM850	GPRS10	Left Cheek	251	-	-	Full	-	32	30.21	-0.06	0.229	1.00	1.51	0.35
	GSM850	GPRS10	Left Tilted	251	-	-	Full	-	32	30.21	0.01	0.115	1.00	1.51	0.17
2	GSM1900	GPRS10	Right Cheek	512	-	-	Full	-	29	27.60	0.06	0.116	1.00	1.38	0.16
	GSM1900	GPRS10	Right Tilted	512	-	-	Full	-	29	27.60	-0.05	0.070	1.00	1.38	0.10
	GSM1900	GPRS10	Left Cheek	512	-	-	Full	-	29	27.60	-0.09	0.074	1.00	1.38	0.10
	GSM1900	GPRS10	Left Tilted	512	-	-	Full	-	29	27.60	0.02	0.098	1.00	1.38	0.14
3	WCDMA V	RMC12.2K	Right Cheek	4233	-	-	Full	-	25	24.05	-0.17	0.299	1.00	1.24	0.37
	WCDMA V	RMC12.2K	Right Tilted	4233	-	-	Full	-	25	24.05	-0.12	0.140	1.00	1.24	0.17
	WCDMA V	RMC12.2K	Left Cheek	4233	-	-	Full	-	25	24.05	0.05	0.267	1.00	1.24	0.33
	WCDMA V	RMC12.2K	Left Tilted	4233	-	-	Full	-	25	24.05	-0.1	0.147	1.00	1.24	0.18
4	LTE 5	QPSK10M	Right Cheek	20600	1	49	Full	-	25	23.97	-0.02	0.255	1.00	1.27	0.32
	LTE 5	QPSK10M	Right Tilted	20600	1	49	Full	-	25	23.97	-0.05	0.119	1.00	1.27	0.15
	LTE 5	QPSK10M	Left Cheek	20600	1	49	Full	-	25	23.97	0.03	0.225	1.00	1.27	0.29
	LTE 5	QPSK10M	Left Tilted	20600	1	49	Full	-	25	23.97	0.01	0.128	1.00	1.27	0.16
	LTE 5	QPSK10M	Right Cheek	20600	25	25	Full	-	24	22.76	-0.06	0.191	1.00	1.33	0.25
	LTE 5	QPSK10M	Right Tilted	20600	25	25	Full	-	24	22.76	0.01	0.098	1.00	1.33	0.13
	LTE 5	QPSK10M	Left Cheek	20600	25	25	Full	-	24	22.76	0.08	0.180	1.00	1.33	0.24
	LTE 5	QPSK10M	Left Tilted	20600	25	25	Full	-	24	22.76	-0.07	0.100	1.00	1.33	0.13
5	LTE 7	QPSK20M	Right Cheek	21100	1	50	Full	-	24	23.19	-0.01	0.165	1.00	1.21	0.20
	LTE 7	QPSK20M	Right Tilted	21100	1	50	Full	-	24	23.19	0.02	0.035	1.00	1.21	0.04
	LTE 7	QPSK20M	Left Cheek	21100	1	50	Full	-	24	23.19	0.06	0.105	1.00	1.21	0.13
	LTE 7	QPSK20M	Left Tilted	21100	1	50	Full	-	24	23.19	0.01	0.062	1.00	1.21	0.07
	LTE 7	QPSK20M	Right Cheek	21100	50	25	Full	-	23	22.18	-0.02	0.070	1.00	1.21	0.08
	LTE 7	QPSK20M	Right Tilted	21100	50	25	Full	-	23	22.18	-0.06	0.027	1.00	1.21	0.03
	LTE 7	QPSK20M	Left Cheek	21100	50	25	Full	-	23	22.18	0.01	0.049	1.00	1.21	0.06
	LTE 7	QPSK20M	Left Tilted	21100	50	25	Full	-	23	22.18	0.16	0.046	1.00	1.21	0.06
6	LTE 41	QPSK20M	Right Cheek	41490	1	0	Full	62.9	24.0	23.38	0.07	0.046	1.01	1.15	0.05
	LTE 41	QPSK20M	Right Tilted	41490	1	0	Full	62.9	24.0	23.38	-0.12	0.018	1.01	1.15	0.02
	LTE 41	QPSK20M	Left Cheek	41490	1	0	Full	62.9	24.0	23.38	0.03	0.026	1.01	1.15	0.03
	LTE 41	QPSK20M	Left Tilted	41490	1	0	Full	62.9	24.0	23.38	-0.02	0.036	1.01	1.15	0.04
	LTE 41	QPSK20M	Right Cheek	41490	50	0	Full	62.9	23.0	22.33	0.04	0.042	1.01	1.17	0.05
	LTE 41	QPSK20M	Right Tilted	41490	50	0	Full	62.9	23.0	22.33	-0.01	0.018	1.01	1.17	0.02
	LTE 41	QPSK20M	Left Cheek	41490	50	0	Full	62.9	23.0	22.33	0.09	0.023	1.01	1.17	0.03
	LTE 41	QPSK20M	Left Tilted	41490	50	0	Full	62.9	23.0	22.33	-0.11	0.028	1.01	1.17	0.03
	WLAN2.4G	802.11b	Right Cheek	11	-	-	Full	98.83	19.0	18.42	-0.05	0.301	1.01	1.14	0.35
	WLAN2.4G	802.11b	Right Tilted	11	-	-	Full	98.83	19.0	18.42	0.06	0.322	1.01	1.14	0.37
7	WLAN2.4G	802.11b	Left Cheek	11	-	-	Full	98.83	19.0	18.42	0	0.629	1.01	1.14	0.73
	WLAN2.4G	802.11b	Left Tilted	11	-	-	Full	98.83	19.0	18.42	0.01	0.524	1.01	1.14	0.61
	WLAN5G	802.11a	Right Cheek	64	-	-	Full	95.21	19.0	18.04	0.08	0.281	1.05	1.25	0.37
	WLAN5G	802.11a	Right Tilted	64	-	-	Full	95.21	19.0	18.04	-0.02	0.356	1.05	1.25	0.47
8	WLAN5G	802.11a	Left Cheek	64	-	-	Full	95.21	19.0	18.04	-0.04	0.511	1.05	1.25	0.67
	WLAN5G	802.11a	Left Tilted	64	-	-	Full	95.21	19.0	18.04	0.05	0.498	1.05	1.25	0.65
	WLAN5G	802.11a	Right Cheek	140	-	-	Full	95.21	19.0	18.22	-0.14	0.192	1.05	1.20	0.24
	WLAN5G	802.11a	Right Tilted	140	-	-	Full	95.21	19.0	18.22	0.02	0.322	1.05	1.20	0.40
9	WLAN5G	802.11a	Left Cheek	140	-	-	Full	95.21	19.0	18.22	-0.06	0.609	1.05	1.20	0.77
	WLAN5G	802.11a	Left Tilted	140	-	-	Full	95.21	19.0	18.22	0.05	0.481	1.05	1.20	0.60
	WLAN5G	802.11a	Right Cheek	157	-	-	Full	95.21	19.0	18.52	0.07	0.226	1.05	1.12	0.27
	WLAN5G	802.11a	Right Tilted	157	-	-	Full	95.21	19.0	18.52	0.01	0.384	1.05	1.12	0.45
	WLAN5G	802.11a	Left Cheek	157	-	-	Full	95.21	19.0	18.52	-0.03	0.730	1.05	1.12	0.86
	WLAN5G	802.11a	Left Tilted	157	-	-	Full	95.21	19.0	18.52	0.02	0.560	1.05	1.12	0.66
10	WLAN5G	802.11a	Left Cheek	165	-	-	Full	95.21	19.0	18.36	0.09	0.766	1.05	1.16	0.93
	BT	GFSK	Right Cheek	0	-	-	Full	77.6	8	7.02	-0.07	0.023	1.29	1.25	0.04
	BT	GFSK	Right Tilted	0	-	-	Full	77.6	8	7.02	0.02	0.026	1.29	1.25	0.04
11	BT	GFSK	Left Cheek	0	-	-	Full	77.6	8	7.02	-0.13	0.061	1.29	1.25	0.10
	BT	GFSK	Left Tilted	0	-	-	Full	77.6	8	7.02	-0.02	0.047	1.29	1.25	0.08

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4.6.3 SAR Results for Body-worn Exposure Condition (Separation Distance is 1.0 cm Gap)

Plot No.	Band	Mode	Test Position	Separation Distance (cm)	Ch.	RB#	RB Offset	Power Reduction	Duty Cycle %	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Duty Cycle Scaling Factor	Tune-up Scaling Factor	Scaled SAR-1g (W/kg)
	GSM850	GPRS10	Front Face	1	251	-	-	Full	-	32	30.21	-0.04	0.200	1.00	1.51	0.30
12	GSM850	GPRS10	Rear Face	1	251	-	-	Full	-	32	30.21	-0.08	0.332	1.00	1.51	0.50
	GSM1900	GPRS10	Front Face	1	512	-	-	Full	-	29.0	27.60	0.1	0.341	1.00	1.38	0.47
13	GSM1900	GPRS10	Rear Face	1	512	-	-	Full	-	29.0	27.60	-0.02	0.734	1.00	1.38	1.01
	GSM1900	GPRS10	Rear Face	1	661	-	-	Full	-	29.0	27.44	-0.08	0.612	1.00	1.43	0.88
	GSM1900	GPRS10	Rear Face	1	810	-	-	Full	-	29.0	27.21	-0.01	0.491	1.00	1.51	0.74
	WCDMA V	RMC12.2K	Front Face	1	4233	-	-	Full	-	25	24.05	0.01	0.287	1.00	1.24	0.36
14	WCDMA V	RMC12.2K	Rear Face	1	4233	-	-	Full	-	25	24.05	-0.06	0.360	1.00	1.24	0.45
	LTE 5	QPSK10M	Front Face	1	20600	1	49	Full	-	25	23.97	0.07	0.142	1.00	1.27	0.18
15	LTE 5	QPSK10M	Rear Face	1	20600	1	49	Full	-	25	23.97	0.05	0.360	1.00	1.27	0.46
	LTE 5	QPSK10M	Front Face	1	20600	25	25	Full	-	24	22.76	-0.05	0.135	1.00	1.33	0.18
	LTE 5	QPSK10M	Rear Face	1	20600	25	25	Full	-	24	22.76	0.06	0.180	1.00	1.33	0.24
	LTE 7	QPSK20M	Front Face	1	21100	1	0	Reduce	-	21.0	20.27	0	0.416	1.00	1.18	0.49
	LTE 7	QPSK20M	Rear Face	1	21100	1	0	Reduce	-	21.0	20.27	0.02	0.762	1.00	1.18	0.90
	LTE 7	QPSK20M	Front Face	1.3	21100	1	50	Full	-	24.0	23.19	-0.05	0.405	1.00	1.21	0.49
	LTE 7	QPSK20M	Rear Face	1.8	21100	1	50	Full	-	24.0	23.19	0.06	0.399	1.00	1.21	0.48
	LTE 7	QPSK20M	Rear Face	1	20850	1	0	Reduce	-	21.0	20.26	0.08	0.610	1.00	1.19	0.72
	LTE 7	QPSK20M	Rear Face	1	21350	1	0	Reduce	-	21.0	20.15	-0.17	0.645	1.00	1.22	0.78
	LTE 7	QPSK20M	Front Face	1	21100	50	0	Reduce	-	21.0	20.14	0.05	0.288	1.00	1.22	0.35
	LTE 7	QPSK20M	Rear Face	1	21100	50	0	Reduce	-	21.0	20.14	0.05	0.828	1.00	1.22	1.01
	LTE 7	QPSK20M	Front Face	1.3	21100	50	25	Full	-	23.0	22.18	0.08	0.318	1.00	1.21	0.38
	LTE 7	QPSK20M	Rear Face	1.8	21100	50	25	Full	-	23.0	22.18	0.12	0.305	1.00	1.21	0.37
	LTE 7	QPSK20M	Rear Face	1	20850	50	0	Reduce	-	21.0	20.13	-0.17	0.652	1.00	1.22	0.80
16	LTE 7	QPSK20M	Rear Face	1	21350	50	0	Reduce	-	21.0	20.02	-0.03	0.813	1.00	1.25	1.02
	LTE 7	QPSK20M	Rear Face	1	21100	100	0	Reduce	-	21.0	19.82	0.01	0.583	1.00	1.31	0.77
	LTE 41	QPSK20M	Front Face	1	41490	1	99	Reduce	62.9	22.0	21.34	-0.03	0.182	1.01	1.16	0.21
17	LTE 41	QPSK20M	Rear Face	1	41490	1	99	Reduce	62.9	22.0	21.34	-0.04	0.292	1.01	1.16	0.34
	LTE 41	QPSK20M	Front Face	1.3	41490	1	0	Full	62.9	24.0	23.38	-0.03	0.160	1.01	1.15	0.19
	LTE 41	QPSK20M	Rear Face	1.8	41490	1	0	Full	62.9	24.0	23.38	-0.18	0.184	1.01	1.15	0.21
	LTE 41	QPSK20M	Front Face	1	41490	50	0	Reduce	62.9	21.0	20.39	-0.04	0.157	1.01	1.15	0.18
	LTE 41	QPSK20M	Rear Face	1	41490	50	0	Reduce	62.9	21.0	20.39	0.07	0.246	1.01	1.15	0.28
	LTE 41	QPSK20M	Front Face	1.3	41490	50	0	Full	62.9	23.0	22.33	-0.01	0.131	1.01	1.17	0.15
	LTE 41	QPSK20M	Rear Face	1.8	41490	50	0	Full	62.9	23.0	22.33	0.08	0.154	1.01	1.17	0.18
	WLAN2.4G	802.11b	Front Face	1	11	-	-	Full	98.83	19.0	18.42	0.02	0.127	1.01	1.14	0.15
18	WLAN2.4G	802.11b	Rear Face	1	11	-	-	Full	98.83	19.0	18.42	-0.02	0.132	1.01	1.14	0.15
	WLAN5G	802.11a	Front Face	1	64	-	-	Full	95.21	19.0	18.04	-0.01	0.151	1.05	1.25	0.20
19	WLAN5G	802.11a	Rear Face	1	64	-	-	Full	95.21	19.0	18.04	-0.07	0.350	1.05	1.25	0.46
	WLAN5G	802.11a	Front Face	1	140	-	-	Full	95.21	19.0	18.22	0.04	0.083	1.05	1.20	0.10
20	WLAN5G	802.11a	Rear Face	1	140	-	-	Full	95.21	19.0	18.22	-0.03	0.403	1.05	1.20	0.51
	WLAN5G	802.11a	Front Face	1	165	-	-	Full	95.21	19.0	18.52	0.08	0.082	1.05	1.12	0.10
21	WLAN5G	802.11a	Rear Face	1	165	-	-	Full	95.21	19.0	18.52	-0.09	0.424	1.05	1.12	0.50
	BT	GFSK	Front Face	1	0	-	-	Full	77.6	8.0	7.02	0.11	0.013	1.29	1.25	0.02
22	BT	GFSK	Rear Face	1	0	-	-	Full	77.6	8.0	7.02	0.17	0.019	1.29	1.25	0.03

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4.6.4 SAR Results for Hotspot Exposure Condition (Separation Distance is 1.0 cm Gap)

Plot No.	Band	Mode	Test Position	Separation Distance (cm)	Ch.	RB#	RB Offset	Power Reduction	Duty Cycle %	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Duty Cycle Scaling Factor	Tune-up Scaling Factor	Scaled SAR-1g (W/kg)
23	GSM850	GPRS10	Front Face	1	251	-	-	Full	-	32	30.21	-0.04	0.200	1.00	1.51	0.30
	GSM850	GPRS10	Rear Face	1	251	-	-	Full	-	32	30.21	-0.08	0.332	1.00	1.51	0.50
	GSM850	GPRS10	Left Side	1	251	-	-	Full	-	32	30.21	0.01	0.165	1.00	1.51	0.25
	GSM850	GPRS10	Right Side	1	251	-	-	Full	-	32	30.21	-0.1	0.180	1.00	1.51	0.27
	GSM850	GPRS10	Bottom Side	1	251	-	-	Full	-	32	30.21	0	0.099	1.00	1.51	0.15
	GSM1900	GPRS10	Front Face	1	512	-	-	Full	-	29.0	27.60	0.1	0.341	1.00	1.38	0.47
	GSM1900	GPRS10	Rear Face	1	512	-	-	Full	-	29.0	27.60	-0.02	0.734	1.00	1.38	1.01
	GSM1900	GPRS10	Left Side	1	512	-	-	Full	-	29.0	27.60	0.01	0.080	1.00	1.38	0.11
	GSM1900	GPRS10	Right Side	1	512	-	-	Full	-	29.0	27.60	0	0.096	1.00	1.38	0.13
	GSM1900	GPRS10	Bottom Side	1	512	-	-	Full	-	29.0	27.60	0.07	0.846	1.00	1.38	1.17
	GSM1900	GPRS10	Rear Face	1	661	-	-	Full	-	29.0	27.44	-0.08	0.612	1.00	1.43	0.88
	GSM1900	GPRS10	Rear Face	1	810	-	-	Full	-	29.0	27.21	-0.01	0.491	1.00	1.51	0.74
	GSM1900	GPRS10	Bottom Side	1	661	-	-	Full	-	29.0	27.44	-0.01	0.830	1.00	1.43	1.19
	GSM1900	GPRS10	Bottom Side	1	810	-	-	Full	-	29.0	27.21	0.05	0.701	1.00	1.51	1.06
	WCDMA V	RMC12.2K	Front Face	1	4233	-	-	Full	-	25	24.05	0.01	0.287	1.00	1.24	0.36
25	WCDMA V	RMC12.2K	Rear Face	1	4233	-	-	Full	-	25	24.05	-0.06	0.360	1.00	1.24	0.45
	WCDMA V	RMC12.2K	Left Side	1	4233	-	-	Full	-	25	24.05	-0.14	0.243	1.00	1.24	0.30
	WCDMA V	RMC12.2K	Right Side	1	4233	-	-	Full	-	25	24.05	0	0.320	1.00	1.24	0.40
	WCDMA V	RMC12.2K	Bottom Side	1	4233	-	-	Full	-	25	24.05	0.03	0.128	1.00	1.24	0.16
26	LTE 5	QPSK10M	Front Face	1	20600	1	49	Full	-	25	23.97	0.07	0.142	1.00	1.27	0.18
	LTE 5	QPSK10M	Rear Face	1	20600	1	49	Full	-	25	23.97	0.05	0.360	1.00	1.27	0.46
	LTE 5	QPSK10M	Left Side	1	20600	1	49	Full	-	25	23.97	-0.01	0.169	1.00	1.27	0.21
	LTE 5	QPSK10M	Right Side	1	20600	1	49	Full	-	25	23.97	-0.17	0.144	1.00	1.27	0.18
	LTE 5	QPSK10M	Bottom Side	1	20600	1	49	Full	-	25	23.97	-0.08	0.131	1.00	1.27	0.17
	LTE 5	QPSK10M	Front Face	1	20600	25	25	Full	-	24	22.76	-0.05	0.135	1.00	1.33	0.18
	LTE 5	QPSK10M	Rear Face	1	20600	25	25	Full	-	24	22.76	0.06	0.180	1.00	1.33	0.24
	LTE 5	QPSK10M	Left Side	1	20600	25	25	Full	-	24	22.76	0.01	0.132	1.00	1.33	0.18
	LTE 5	QPSK10M	Right Side	1	20600	25	25	Full	-	24	22.76	0.16	0.107	1.00	1.33	0.14
	LTE 5	QPSK10M	Bottom Side	1	20600	25	25	Full	-	24	22.76	0.11	0.087	1.00	1.33	0.12
	LTE 7	QPSK20M	Front Face	1	21100	1	0	Reduce	-	21.0	20.27	0	0.416	1.00	1.18	0.49
	LTE 7	QPSK20M	Rear Face	1	21100	1	0	Reduce	-	21.0	20.27	0.02	0.762	1.00	1.18	0.90
	LTE 7	QPSK20M	Left Side	1	21100	1	50	Full	-	24.0	23.19	-0.02	0.020	1.00	1.21	0.02
	LTE 7	QPSK20M	Right Side	1	21100	1	50	Full	-	24.0	23.19	0.08	0.163	1.00	1.21	0.20
	LTE 7	QPSK20M	Bottom Side	1	21100	1	0	Reduce	-	21.0	20.27	-0.07	0.742	1.00	1.18	0.88
	LTE 7	QPSK20M	Front Face	1.3	21100	1	50	Full	-	24.0	23.19	-0.05	0.405	1.00	1.21	0.49
	LTE 7	QPSK20M	Rear Face	1.8	21100	1	50	Full	-	24.0	23.19	0.06	0.399	1.00	1.21	0.48
	LTE 7	QPSK20M	Bottom Side	2	21100	1	50	Full	-	24.0	23.19	0.01	0.406	1.00	1.21	0.49
	LTE 7	QPSK20M	Rear Face	1	20850	1	0	Reduce	-	21.0	20.26	0.08	0.610	1.00	1.19	0.72
	LTE 7	QPSK20M	Rear Face	1	21350	1	0	Reduce	-	21.0	20.15	-0.17	0.645	1.00	1.22	0.78
	LTE 7	QPSK20M	Bottom Side	1	20850	1	0	Reduce	-	21.0	20.26	-0.13	0.631	1.00	1.19	0.75
	LTE 7	QPSK20M	Bottom Side	1	21350	1	0	Reduce	-	21.0	20.15	0.08	0.684	1.00	1.22	0.83
	LTE 7	QPSK20M	Front Face	1	21100	50	0	Reduce	-	21.0	20.14	0.05	0.288	1.00	1.22	0.35
	LTE 7	QPSK20M	Rear Face	1	21100	50	0	Reduce	-	21.0	20.14	0.05	0.828	1.00	1.22	1.01
	LTE 7	QPSK20M	Left Side	1	21100	50	25	Full	-	23.0	22.18	-0.09	0.014	1.00	1.21	0.02
	LTE 7	QPSK20M	Right Side	1	21100	50	25	Full	-	23.0	22.18	0.08	0.126	1.00	1.21	0.15
	LTE 7	QPSK20M	Bottom Side	1	21100	50	0	Reduce	-	21.0	20.14	-0.1	0.813	1.00	1.22	0.99
	LTE 7	QPSK20M	Front Face	1.3	21100	50	25	Full	-	23.0	22.18	0.08	0.318	1.00	1.21	0.38
	LTE 7	QPSK20M	Rear Face	1.8	21100	50	25	Full	-	23.0	22.18	0.12	0.305	1.00	1.21	0.37
	LTE 7	QPSK20M	Bottom Side	2	21100	50	25	Full	-	23.0	22.18	0.05	0.326	1.00	1.21	0.39
27	LTE 7	QPSK20M	Rear Face	1	20850	50	0	Reduce	-	21.0	20.13	-0.17	0.652	1.00	1.22	0.80
	LTE 7	QPSK20M	Rear Face	1	21350	50	0	Reduce	-	21.0	20.02	-0.03	0.813	1.00	1.25	1.02
	LTE 7	QPSK20M	Bottom Side	1	20850	50	0	Reduce	-	21.0	20.13	0.06	0.535	1.00	1.22	0.65
	LTE 7	QPSK20M	Bottom Side	1	21350	50	0	Reduce	-	21.0	20.02	-0.07	0.641	1.00	1.25	0.80
	LTE 7	QPSK20M	Rear Face	1	21100	100	0	Reduce	-	21.0	19.82	0.01	0.583	1.00	1.31	0.77
	LTE 7	QPSK20M	Bottom Side	1	21100	100	0	Reduce	-	21.0	19.82	0.04	0.616	1.00	1.31	0.81
	LTE 41	QPSK20M	Front Face	1	41490	1	99	Reduce	62.9	22.0	21.34	-0.03	0.182	1.01	1.16	0.21
	LTE 41	QPSK20M	Rear Face	1	41490	1	99	Reduce	62.9	22.0	21.34	-0.04	0.292	1.01	1.16	0.34
	LTE 41	QPSK20M	Left Side	1	41490	1	0	Full	62.9	24.0	23.38	0.02	0.019	1.01	1.15	0.02
	LTE 41	QPSK20M	Right Side	1	41490	1	0	Full	62.9	24.0	23.38	0.07	0.083	1.01	1.15	0.10
28	LTE 41	QPSK20M	Bottom Side	1	41490	1	99	Reduce	62.9	22.0	21.34	-0.04	0.346	1.01	1.16	0.41
	LTE 41	QPSK20M	Front Face	1.3	41490	1	0	Full	62.9	24.0	23.38	-0.03	0.160	1.01	1.15	0.19
	LTE 41	QPSK20M	Rear Face	1.8	41490	1	0	Full	62.9	24.0	23.38	-0.18	0.184	1.01	1.15	0.21

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Plot No.	Band	Mode	Test Position	Separation Distance (cm)	Ch.	RB#	RB Offset	Power Reduction	Duty Cycle %	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Duty Cycle Scaling Factor	Tune-up Scaling Factor	Scaled SAR-1g (W/kg)
	LTE 41	QPSK20M	Bottom Side	2	41490	1	0	Full	62.9	24.0	23.38	0.02	0.145	1.01	1.15	0.17
	LTE 41	QPSK20M	Front Face	1	41490	50	0	Reduce	62.9	21.0	20.39	-0.04	0.157	1.01	1.15	0.18
	LTE 41	QPSK20M	Rear Face	1	41490	50	0	Reduce	62.9	21.0	20.39	0.07	0.246	1.01	1.15	0.28
	LTE 41	QPSK20M	Left Side	1	41490	50	0	Full	62.9	23.0	22.33	-0.02	0.014	1.01	1.17	0.02
	LTE 41	QPSK20M	Right Side	1	41490	50	0	Full	62.9	23.0	22.33	0.01	0.066	1.01	1.17	0.08
	LTE 41	QPSK20M	Bottom Side	1	41490	50	0	Reduce	62.9	21.0	20.39	0.04	0.294	1.01	1.15	0.34
	LTE 41	QPSK20M	Front Face	1.3	41490	50	0	Full	62.9	23.0	22.33	-0.01	0.131	1.01	1.17	0.15
	LTE 41	QPSK20M	Rear Face	1.8	41490	50	0	Full	62.9	23.0	22.33	0.08	0.154	1.01	1.17	0.18
	LTE 41	QPSK20M	Bottom Side	2	41490	50	0	Full	62.9	23.0	22.33	0.06	0.121	1.01	1.17	0.14
	WLAN2.4G	802.11b	Front Face	1	11	-	-	Full	98.83	19.0	18.42	0.02	0.127	1.01	1.14	0.15
	WLAN2.4G	802.11b	Rear Face	1	11	-	-	Full	98.83	19.0	18.42	-0.02	0.132	1.01	1.14	0.15
29	WLAN2.4G	802.11b	Right Side	1	11	-	-	Full	98.83	19.0	18.42	-0.02	0.160	1.01	1.14	0.19
	WLAN2.4G	802.11b	Top Side	1	11	-	-	Full	98.83	19.0	18.42	-0.19	0.129	1.01	1.14	0.15
	WLAN5G	802.11a	Front Face	1	48	-	-	Full	95.21	19.0	17.40	0	0.110	1.05	1.45	0.17
	WLAN5G	802.11a	Rear Face	1	48	-	-	Full	95.21	19.0	17.40	0.08	0.335	1.05	1.45	0.51
	WLAN5G	802.11a	Right Side	1	48	-	-	Full	95.21	19.0	17.40	0.01	0.204	1.05	1.45	0.31
30	WLAN5G	802.11a	Top Side	1	48	-	-	Full	95.21	19.0	17.40	0.06	0.516	1.05	1.45	0.78
	WLAN5G	802.11a	Front Face	1	157	-	-	Full	95.21	19.0	18.52	0.08	0.082	1.05	1.12	0.10
31	WLAN5G	802.11a	Rear Face	1	157	-	-	Full	95.21	19.0	18.52	-0.09	0.424	1.05	1.12	0.50
	WLAN5G	802.11a	Right Side	1	157	-	-	Full	95.21	19.0	18.52	0.03	0.186	1.05	1.12	0.22
	WLAN5G	802.11a	Top Side	1	157	-	-	Full	95.21	19.0	18.52	-0.09	0.317	1.05	1.12	0.37
	BT	GFSK	Front Face	1	0	-	-	Full	77.6	8	7.02	0.11	0.013	1.29	1.25	0.02
32	BT	GFSK	Rear Face	1	0	-	-	Full	77.6	8	7.02	0.17	0.019	1.29	1.25	0.03
	BT	GFSK	Right Side	1	0	-	-	Full	77.6	8	7.02	-0.03	0.014	1.29	1.25	0.02
	BT	GFSK	Top Side	1	0	-	-	Full	77.6	8	7.02	-0.06	0.010	1.29	1.25	0.02

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4.6.5 SAR Results for Extremity Exposure Condition (Separation Distance is 0 cm Gap)

Plot No.	Band	Mode	Test Position	Separation Distance (cm)	Ch.	RB#	RB Offset	Power Reduction	Duty Cycle %	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-10g (W/kg)	Duty Cycle Scaling Factor	Tune-up Scaling Factor	Scaled SAR-10g (W/kg)
	LTE 7	QPSK20M	Rear Face	0	21100	1	0	Reduce	-	21.0	20.27	0.08	2.000	1.00	1.18	2.37
	LTE 7	QPSK20M	Bottom Side	0	21100	1	0	Reduce	-	21.0	20.27	0.13	1.930	1.00	1.18	2.28
	LTE 7	QPSK20M	Rear Face	0	20850	1	0	Reduce	-	21.0	20.26	0.07	1.960	1.00	1.19	2.32
33	LTE 7	QPSK20M	Rear Face	0	21350	1	0	Reduce	-	21.0	20.15	0.09	1.990	1.00	1.22	2.42
	LTE 7	QPSK20M	Bottom Side	0	20850	1	0	Reduce	-	21.0	20.26	0.09	1.670	1.00	1.19	1.98
	LTE 7	QPSK20M	Bottom Side	0	21350	1	0	Reduce	-	21.0	20.15	-0.01	1.870	1.00	1.22	2.27
	LTE 7	QPSK20M	Rear Face	0	21100	50	0	Reduce	-	21.0	20.14	0.02	1.920	1.00	1.22	2.34
	LTE 7	QPSK20M	Bottom Side	0	21100	50	0	Reduce	-	21.0	20.14	0.06	1.770	1.00	1.22	2.16
	LTE 7	QPSK20M	Rear Face	0	20850	50	0	Reduce	-	21.0	20.26	-0.01	1.630	1.00	1.19	1.93
	LTE 7	QPSK20M	Rear Face	0	21350	50	0	Reduce	-	21.0	20.15	0.02	1.940	1.00	1.22	2.36
	LTE 7	QPSK20M	Bottom Side	0	20850	50	0	Reduce	-	21.0	20.14	-0.01	1.500	1.00	1.22	1.83
	LTE 7	QPSK20M	Bottom Side	0	21350	50	0	Reduce	-	21.0	20.14	0	1.720	1.00	1.22	2.10
	LTE 7	QPSK20M	Rear Face	0	21100	100	0	Reduce	-	21.0	19.82	-0.05	1.790	1.00	1.31	2.35
	LTE 7	QPSK20M	Bottom Side	0	21100	100	0	Reduce	-	21.0	19.82	0.09	1.660	1.00	1.31	2.18
	WLAN5G	802.11a	Front Face	0	64	-	-	Full	95.21	19.0	18.04	-0.05	0.531	1.05	1.25	0.70
	WLAN5G	802.11a	Rear Face	0	64	-	-	Full	95.21	19.0	18.04	0.01	0.642	1.05	1.25	0.84
	WLAN5G	802.11a	Right Side	0	64	-	-	Full	95.21	19.0	18.04	0.07	0.548	1.05	1.25	0.72
34	WLAN5G	802.11a	Top Side	0	64	-	-	Full	95.21	19.0	18.04	0.16	1.350	1.05	1.25	1.77
	WLAN5G	802.11a	Front Face	0	140	-	-	Full	95.21	19.0	18.22	0.08	0.319	1.05	1.20	0.40
35	WLAN5G	802.11a	Rear Face	0	140	-	-	Full	95.21	19.0	18.22	0.07	0.690	1.05	1.20	0.87
	WLAN5G	802.11a	Right Side	0	140	-	-	Full	95.21	19.0	18.22	-0.19	0.378	1.05	1.20	0.48
	WLAN5G	802.11a	Top Side	0	140	-	-	Full	95.21	19.0	18.22	0	0.680	1.05	1.20	0.85

4.6.6 SAR Measurement Variability

According to KDB 865664 D01, SAR measurement variability was assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are ≤ 1.45 W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is ≤ 1.10 , the highest SAR configuration for either head or body tissue-equivalent medium may be used to perform the repeated measurement. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR repeated measurement procedure:

1. When the highest measured SAR is < 0.80 W/kg, repeated measurement is not required.
2. When the highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3. If the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 , or when the original or repeated measurement is ≥ 1.45 W/kg, perform a second repeated measurement.
4. If the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 , and the original, first or second repeated measurement is ≥ 1.5 W/kg, perform a third repeated measurement.

Band	Test Position	Separation Distance (cm)	Ch.	Original Measured SAR-1g (W/kg)	1st Repeated SAR-1g (W/kg)	L/S Ratio	2nd Repeated SAR-1g (W/kg)	L/S Ratio	3rd Repeated SAR-1g (W/kg)	L/S Ratio
WLAN5G	Left Cheek	0	165	0.766	0.744	1.03	N/A	N/A	N/A	N/A
GSM1900	Bottom Side	1	661	0.830	0.814	1.02	N/A	N/A	N/A	N/A
LTE 7	Rear Face	1	21100	0.828	0.801	1.03	N/A	N/A	N/A	N/A

Band	Test Position	Separation Distance (cm)	Ch.	Original Measured SAR-10g (W/kg)	1st Repeated SAR-10g (W/kg)	L/S Ratio	2nd Repeated SAR-10g (W/kg)	L/S Ratio	3rd Repeated SAR-10g (W/kg)	L/S Ratio
LTE B7	Rear Face	0	21350	1.990	1.930	1.03	N/A	N/A	N/A	N/A

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4.6.7 Simultaneous Multi-band Transmission Evaluation

<SAR Summation Analysis>

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna. When the sum of SAR_{1g} of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR_{1g} 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR_{1g} is greater than the SAR limit (SAR_{1g} 1.6 W/kg), SAR test exclusion is determined by the SPLSR.

<Head>

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
GSM850	Right Cheek	0.394	0.348	0.368	0.037	0.74	0.80
	Right Tilted	0.178	0.372	0.466	0.041	0.55	0.69
	Left Cheek	0.346	0.727	0.932	0.098	1.07	1.38
	Left Tilted	0.174	0.606	0.657	0.076	0.78	0.91
GSM1900	Right Cheek	0.160	0.348	0.368	0.037	0.51	0.57
	Right Tilted	0.097	0.372	0.466	0.041	0.47	0.61
	Left Cheek	0.102	0.727	0.932	0.098	0.83	1.13
	Left Tilted	0.136	0.606	0.657	0.076	0.74	0.87
WCDMA V	Right Cheek	0.372	0.348	0.368	0.037	0.72	0.78
	Right Tilted	0.174	0.372	0.466	0.041	0.55	0.68
	Left Cheek	0.332	0.727	0.932	0.098	1.06	1.36
	Left Tilted	0.183	0.606	0.657	0.076	0.79	0.92
LTE Band 5	Right Cheek	0.323	0.348	0.368	0.037	0.67	0.73
	Right Tilted	0.151	0.372	0.466	0.041	0.52	0.66
	Left Cheek	0.285	0.727	0.932	0.098	1.01	1.32
	Left Tilted	0.162	0.606	0.657	0.076	0.77	0.90
LTE Band 7	Right Cheek	0.199	0.348	0.368	0.037	0.55	0.60
	Right Tilted	0.042	0.372	0.466	0.041	0.41	0.55
	Left Cheek	0.127	0.727	0.932	0.098	0.85	1.16
	Left Tilted	0.075	0.606	0.657	0.076	0.68	0.81
LTE Band 41	Right Cheek	0.053	0.348	0.368	0.037	0.40	0.46
	Right Tilted	0.021	0.372	0.466	0.041	0.39	0.53
	Left Cheek	0.030	0.727	0.932	0.098	0.76	1.06
	Left Tilted	0.042	0.606	0.657	0.076	0.65	0.78

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<Body worn>

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
GSM850	Front at 10mm -	0.302	0.147	0.198	0.021	0.45	0.52
	Back at 10mm -	0.501	0.153	0.507	0.031	0.65	1.04
GSM1900	Front at 10mm -	0.471	0.147	0.198	0.021	0.62	0.69
	Back at 10mm -	1.013	0.153	0.507	0.031	1.17	1.55
WCDMA V	Front at 10mm -	0.357	0.147	0.198	0.021	0.50	0.58
	Back at 10mm -	0.448	0.153	0.507	0.031	0.60	0.99
LTE Band 5	Front at 10mm -	0.180	0.147	0.198	0.021	0.33	0.40
	Back at 10mm -	0.456	0.153	0.507	0.031	0.61	0.99
LTE Band 7	Front at 10mm -	0.492	0.147	0.198	0.021	0.64	0.71
	Back at 10mm -	1.019	0.153	0.507	0.031	1.17	1.56
	Front at 13mm -	0.488	0.147	0.198	0.021	0.64	0.71
	Back at 18mm -	0.481	0.153	0.507	0.031	0.63	1.02
LTE Band 41	Front at 10mm -	0.212	0.147	0.198	0.021	0.36	0.43
	Back at 10mm -	0.340	0.153	0.507	0.031	0.49	0.88
	Front at 13mm -	0.185	0.147	0.198	0.021	0.33	0.40
	Back at 18mm -	0.212	0.153	0.507	0.031	0.37	0.75

<Hotspot>

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 1	5GHz WLAN Ant 1	Bluetooth Ant 1		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
GSM850	Front at 10mm -	0.302	0.147	0.167	0.021	0.45	0.49
	Back at 10mm -	0.501	0.153	0.509	0.031	0.65	1.04
	Left side at 10mm -	0.249				0.25	0.25
	Right side at 10mm -	0.272	0.185	0.310	0.022	0.46	0.60
	Top side at 10mm -		0.149	0.783	0.016	0.15	0.80
	Bottom side at 10mm -	0.149				0.15	0.15
GSM1900	Front at 10mm -	0.471	0.147	0.167	0.021	0.62	0.66
	Back at 10mm -	1.013	0.153	0.509	0.031	1.17	1.55
	Left side at 10mm -	0.111				0.11	0.11
	Right side at 10mm -	0.132	0.185	0.310	0.022	0.32	0.47
	Top side at 10mm -		0.149	0.783	0.016	0.15	0.80
	Bottom side at 10mm -	1.189				1.19	1.19
WCDMA V	Front at 10mm -	0.357	0.147	0.167	0.021	0.50	0.55
	Back at 10mm -	0.448	0.153	0.509	0.031	0.60	0.99
	Left side at 10mm -	0.302				0.30	0.30

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WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 1	5GHz WLAN Ant 1	Bluetooth Ant 1		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
	Right side at 10mm -	0.398	0.185	0.310	0.022	0.58	0.73
	Top side at 10mm -		0.149	0.783	0.016	0.15	0.80
	Bottom side at 10mm -	0.159				0.16	0.16
LTE Band 5	Front at 10mm -	0.180	0.147	0.167	0.021	0.33	0.37
	Back at 10mm -	0.456	0.153	0.509	0.031	0.61	1.00
	Left side at 10mm -	0.214				0.21	0.21
	Right side at 10mm -	0.183	0.185	0.310	0.022	0.37	0.52
	Top side at 10mm -		0.149	0.783	0.016	0.15	0.80
	Bottom side at 10mm -	0.166				0.17	0.17
LTE Band 7	Front at 10mm -	0.492	0.147	0.167	0.021	0.64	0.68
	Back at 10mm -	1.019	0.153	0.509	0.031	1.17	1.56
	Left side at 10mm -	0.024				0.02	0.02
	Right side at 10mm -	0.196	0.185	0.310	0.022	0.38	0.53
	Top side at 10mm -		0.149	0.783	0.016	0.15	0.80
	Bottom side at 10mm -	0.991				0.99	0.99
	Front at 13mm -	0.488	0.147	0.167	0.021	0.64	0.68
	Back at 18mm -	0.481	0.153	0.509	0.031	0.63	1.02
	Bottom side at 20mm -	0.489				0.49	0.49
LTE Band 41	Front at 10mm -	0.212	0.147	0.167	0.021	0.36	0.40
	Back at 10mm -	0.340	0.153	0.509	0.031	0.49	0.88
	Left side at 10mm -	0.022				0.02	0.02
	Right side at 10mm -	0.095	0.185	0.310	0.022	0.28	0.43
	Top side at 10mm -		0.149	0.783	0.016	0.93	0.80
	Bottom side at 10mm -	0.403				0.40	0.40
	Front at 13mm -	0.185	0.147	0.167	0.021	0.33	0.37
	Back at 18mm -	0.212	0.153	0.509	0.031	0.87	0.75
	Bottom side at 20mm -	0.167				0.17	0.17

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<Extremity>

WWAN Band	Exposure Position	1	2	3	4	1+2+4 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth		
		10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)		
LTE Band 7	Front at 0mm -			0.696		0.00	0.70
	Back at 0mm -	2.420		0.867		2.42	3.29
	Right side at 0mm -			0.718		0.00	0.72
	Top side at 0mm -			1.769		0.00	1.77
	Bottom side at 0mm -	2.283				2.28	2.28

Note: Summed 1+3+4 covers Summed 1+3 / 1+4 / 3+4.

Test Engineer : Rikou Lu, and Dennis Ye

5. Calibration of Test Equipment

Equipment	Manufacturer	Model	SN	Cal. Date	Cal. Interval
System Validation Dipole	SPEAG	D835V2	4d139	Sep. 17, 2021	1 Year
System Validation Dipole	SPEAG	D1900V2	5d159	Sep. 16, 2021	1 Year
System Validation Dipole	SPEAG	D2450V2	893	Sep. 18, 2021	1 Year
System Validation Dipole	SPEAG	D2600V2	1110	Sep. 16, 2021	1 Year
System Validation Dipole	SPEAG	D5GHzV2	1133	Sep. 14, 2021	1 Year
Data Acquisition Electronics	SPEAG	DAE4	1389	Oct. 26, 2021	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	3873	Aug. 25, 2021	1 Year
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 25, 2021	1 Year
Wireless Communication Test Set	Agilent	E5515C	MY50260600	Jun. 02, 2021	1 Year
ENA Series Network Analyzer	Agilent	E5071C	MY46214638	Jun. 03, 2021	1 Year
Spectrum Analyzer	KEYSIGHT	N9010A	MY54510355	Jun. 03, 2021	1Year
MXG Analog Signal Generator	KEYSIGHT	N5183A	MY50143024	Mar. 09, 2021	1 Year
Power Meter	Agilent	N1914A	MY52180044	Mar. 02, 2021	1 Year
Power Sensor	Agilent	E9304A H18	MY52050011	Feb. 25, 2021	1 Year
Power Meter	ANRITSU	ML2495A	1506002	Apr. 07, 2021	1 Year
Power Sensor	ANRITSU	MA2411B	1339353	May. 07, 2021	1 Year
Temp. & Humi. Recorder	CLOCK	HTC-1	157248	Jun. 02, 2021	1 Year
Electronic Thermometer	YONGFA	YF-160A	120100323	Jun. 02, 2021	1 Year
Coupler	Woken	0110A056020-10	COM27RW1A3	Jun. 02, 2021	1 Year

6. Measurement Uncertainty

DASY5 Uncertainty Budget								
Error Description	Uncertainty Value (±%)	Probability	Divisor	(Ci) 1g	(Ci) 10g	Standard Uncertainty (1g) (±%)	Standard Uncertainty (10g) (±%)	(Vi) Veff
Measurement System								
Probe Calibration	6.0	N	1	1	1	6.0	6.0	∞
Axial Isotropy	4.7	R	1.732	0.7	0.7	1.9	1.9	∞
Hemispherical Isotropy	9.6	R	1.732	0.7	0.7	3.9	3.9	∞
Boundary Effects	1.0	R	1.732	1	1	0.6	0.6	∞
Linearity	4.7	R	1.732	1	1	2.7	2.7	∞
System Detection Limits	1.0	R	1.732	1	1	0.6	0.6	∞
Modulation Response	3.2	R	1.732	1	1	1.8	1.8	∞
Readout Electronics	0.3	N	1	1	1	0.3	0.3	∞
Response Time	0.0	R	1.732	1	1	0.0	0.0	∞
Integration Time	2.6	R	1.732	1	1	1.5	1.5	∞
RF Ambient Noise	3.0	R	1.732	1	1	1.7	1.7	∞
RF Ambient Reflections	3.0	R	1.732	1	1	1.7	1.7	∞
Probe Positioner	0.4	R	1.732	1	1	0.2	0.2	∞
Probe Positioning	2.9	R	1.732	1	1	1.7	1.7	∞
Max. SAR Eval.	2.0	R	1.732	1	1	1.2	1.2	∞
Test Sample Related								
Device Positioning	3.0	N	1	1	1	3.0	3.0	35
Device Holder	3.6	N	1	1	1	3.6	3.6	12
Power Drift	5.0	R	1.732	1	1	2.9	2.9	∞
Power Scaling	0.0	R	1.732	1	1	0.0	0.0	∞
Phantom and Setup								
Phantom Uncertainty	6.1	R	1.732	1	1	3.5	3.5	∞
SAR correction	0.0	R	1.732	1	0.84	0.0	0.0	∞
Liquid Conductivity Repeatability	0.2	N	1	0.78	0.71	0.1	0.1	5
Liquid Conductivity (target)	5.0	R	1.732	0.78	0.71	2.3	2.0	∞
Liquid Conductivity (mea.)	2.5	R	1.732	0.78	0.71	1.1	1.0	∞
Temp. unc. - Conductivity	3.4	R	1.732	0.78	0.71	1.5	1.4	∞
Liquid Permittivity Repeatability	0.15	N	1	0.23	0.26	0.0	0.0	5
Liquid Permittivity (target)	5.0	R	1.732	0.23	0.26	0.7	0.8	∞
Liquid Permittivity (mea.)	2.5	R	1.732	0.23	0.26	0.3	0.4	∞
Temp. unc. - Permittivity	0.83	R	1.732	0.23	0.26	0.1	0.1	∞
Combined Std. Uncertainty						11.4%	11.4%	1013
Coverage Factor for 95 %						K=2	K=2	
Expanded STD Uncertainty						22.9%	22.7%	

Uncertainty budget for frequency range 30 MHz to 3 GHz

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DASY5 Uncertainty Budget								
Error Description	Uncertainty Value (±%)	Probability	Divisor	(Ci) 1g	(Ci) 10g	Standard Uncertainty (1g) (±%)	Standard Uncertainty (10g) (±%)	(Vi) Veff
Measurement System								
Probe Calibration	6.55	N	1	1	1	6.5	6.5	∞
Axial Isotropy	4.7	R	1.732	0.7	0.7	1.9	1.9	∞
Hemispherical Isotropy	9.6	R	1.732	0.7	0.7	3.9	3.9	∞
Boundary Effects	2.0	R	1.732	1	1	1.2	1.2	∞
Linearity	4.7	R	1.732	1	1	2.7	2.7	∞
System Detection Limits	1.0	R	1.732	1	1	0.6	0.6	∞
Modulation Response	3.2	R	1.732	1	1	1.8	1.8	∞
Readout Electronics	0.3	N	1	1	1	0.3	0.3	∞
Response Time	0.0	R	1.732	1	1	0.0	0.0	∞
Integration Time	2.6	R	1.732	1	1	1.5	1.5	∞
RF Ambient Noise	3.0	R	1.732	1	1	1.7	1.7	∞
RF Ambient Reflections	3.0	R	1.732	1	1	1.7	1.7	∞
Probe Positioner	0.4	R	1.732	1	1	0.2	0.2	∞
Probe Positioning	6.7	R	1.732	1	1	3.9	3.9	∞
Max. SAR Eval.	4.0	R	1.732	1	1	2.3	2.3	∞
Test Sample Related								
Device Positioning	3.0	N	1	1	1	3.0	3.0	35
Device Holder	3.6	N	1	1	1	3.6	3.6	12
Power Drift	5.0	R	1.732	1	1	2.9	2.9	∞
Power Scaling	0.0	R	1.732	1	1	0.0	0.0	∞
Phantom and Setup								
Phantom Uncertainty	6.6	R	1.732	1	1	3.8	3.8	∞
SAR correction	0.0	R	1.732	1	0.84	0.0	0.0	∞
Liquid Conductivity Repeatability	0.2	N	1	0.78	0.71	0.1	0.1	5
Liquid Conductivity (target)	5.0	R	1.732	0.78	0.71	2.3	2.0	∞
Liquid Conductivity (mea.)	2.5	R	1.732	0.78	0.71	1.1	1.0	∞
Temp. unc. - Conductivity	3.4	R	1.732	0.78	0.71	1.5	1.4	∞
Liquid Permittivity Repeatability	0.15	N	1	0.23	0.26	0.0	0.0	5
Liquid Permittivity (target)	5.0	R	1.732	0.23	0.26	0.7	0.8	∞
Liquid Permittivity (mea.)	2.5	R	1.732	0.23	0.26	0.3	0.4	∞
Temp. unc. - Permittivity	0.83	R	1.732	0.23	0.26	0.1	0.1	∞
Combined Std. Uncertainty						12.5%	12.5%	1458
Coverage Factor for 95 %						K=2	K=2	
Expanded STD Uncertainty						25.0%	24.9%	

Uncertainty budget for frequency range 3 GHz to 6 GHz

7. Information on the Testing Laboratories

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Web Site: www.bureauveritas.com

The road map of all our labs can be found in our web site also.

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Appendix A. SAR Plots of System Verification

The plots for system verification with largest deviation for each SAR system combination are shown as follows.

System Check_HSL835_20211213

DUT: Dipole:835 MHz;Type:D835V2

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1

Medium: HSL835_1213 Medium parameters used: $f = 835$ MHz; $\sigma = 0.914$ S/m; $\epsilon_r = 42.071$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2°C; Liquid Temperature : 22.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(9.36, 9.36, 9.36); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Pin=250mW/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.57 W/kg

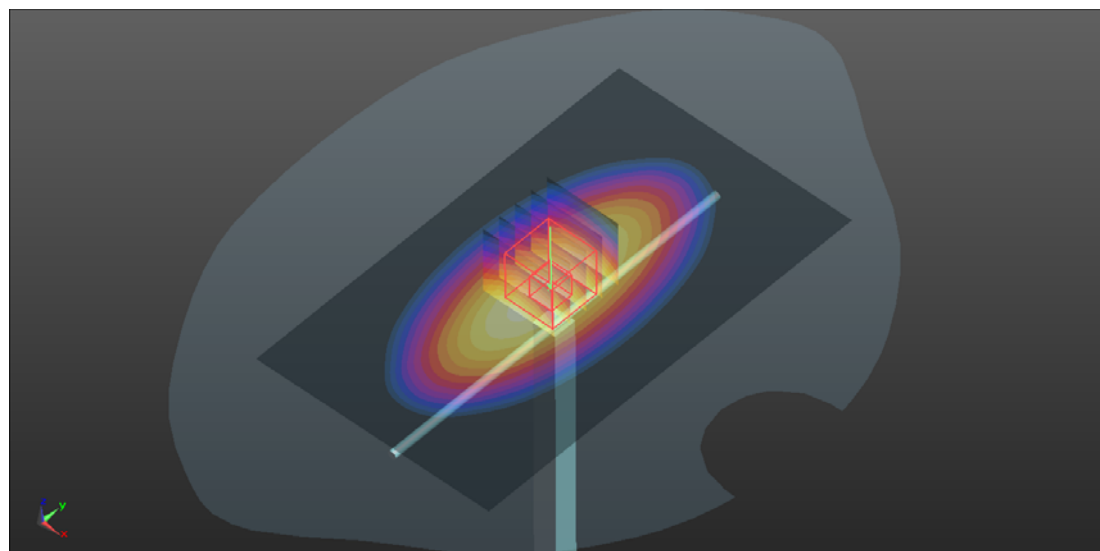
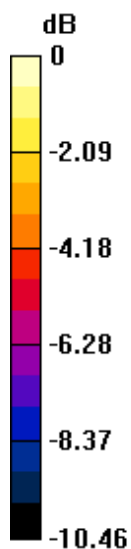
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.208 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 3.57 W/kg

SAR(1 g) = 2.44 W/kg; SAR(10 g) = 1.6 W/kg

Maximum value of SAR (measured) = 2.64 W/kg



0 dB = 2.64 W/kg

System Check_HSL1900_20211214

DUT: Dipole:1900MHz;Type:D1900V2

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL1900_1214 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.422$ S/m; $\epsilon_r = 39.942$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5°C; Liquid Temperature : 22.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(8, 8, 8); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Pin=250mW/Area Scan (61x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 17.0 W/kg

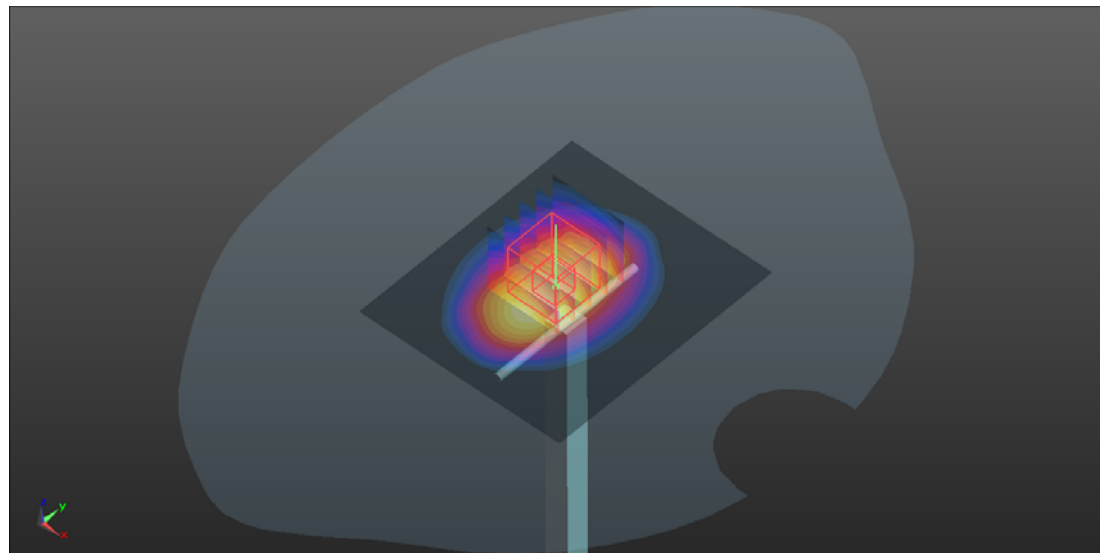
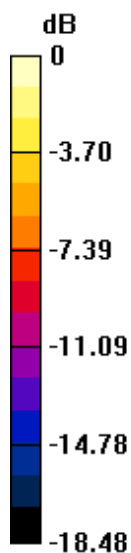
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 95.907 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 19.3 W/kg

SAR(1 g) = 10.3 W/kg; SAR(10 g) = 5.33 W/kg

Maximum value of SAR (measured) = 16.2 W/kg



0 dB = 16.2 W/kg

System Check_HSL2450_20211215

DUT: Dipole:2450 MHz;Type:D2450V2

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL2450_1215 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.787$ S/m; $\epsilon_r = 39.443$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6°C; Liquid Temperature : 22.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(7.88, 7.88, 7.88); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 20.2 W/kg

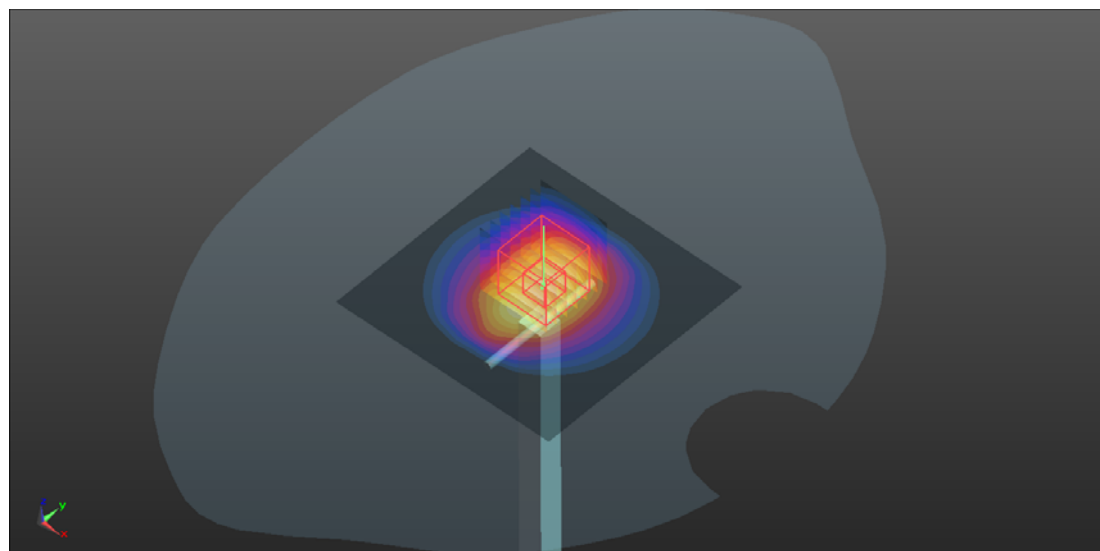
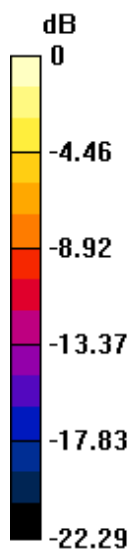
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 109.7 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 25.0 W/kg

SAR(1 g) = 12.5 W/kg; SAR(10 g) = 5.75 W/kg

Maximum value of SAR (measured) = 20.4 W/kg



0 dB = 20.4 W/kg

System Check_HSL2600_20211217

DUT: Dipole:2600 MHz;Type:D2600V2

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: HSL2600_1217 Medium parameters used: $f = 2600$ MHz; $\sigma = 1.9$ S/m; $\epsilon_r = 39.366$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5°C; Liquid Temperature : 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(7.66, 7.66, 7.66); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 22.1 W/kg

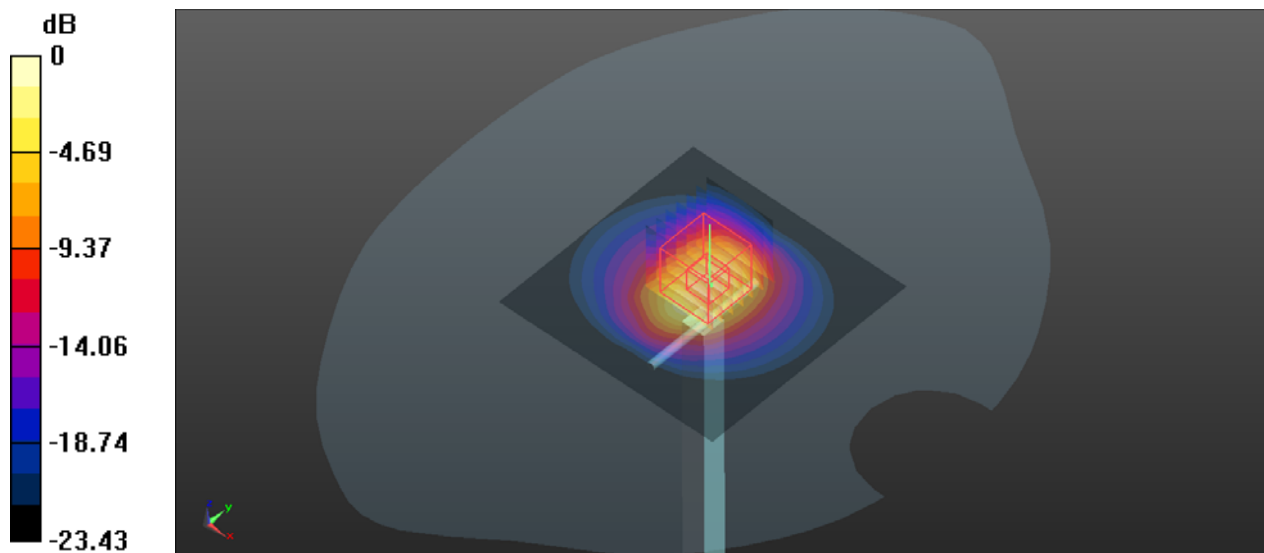
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 108.6 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 28.1 W/kg

SAR(1 g) = 13.1 W/kg; SAR(10 g) = 5.93 W/kg

Maximum value of SAR (measured) = 22.4 W/kg



System Check_HSL5250_20211220

DUT: Dipole 5GHzV2;Type:D5GHzV2

Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: HSL5G_1220 Medium parameters used: $f = 5250$ MHz; $\sigma = 4.767$ S/m; $\epsilon_r = 36.98$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4°C; Liquid Temperature : 22.1°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(4.8, 4.8, 4.8); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 17.8 W/kg

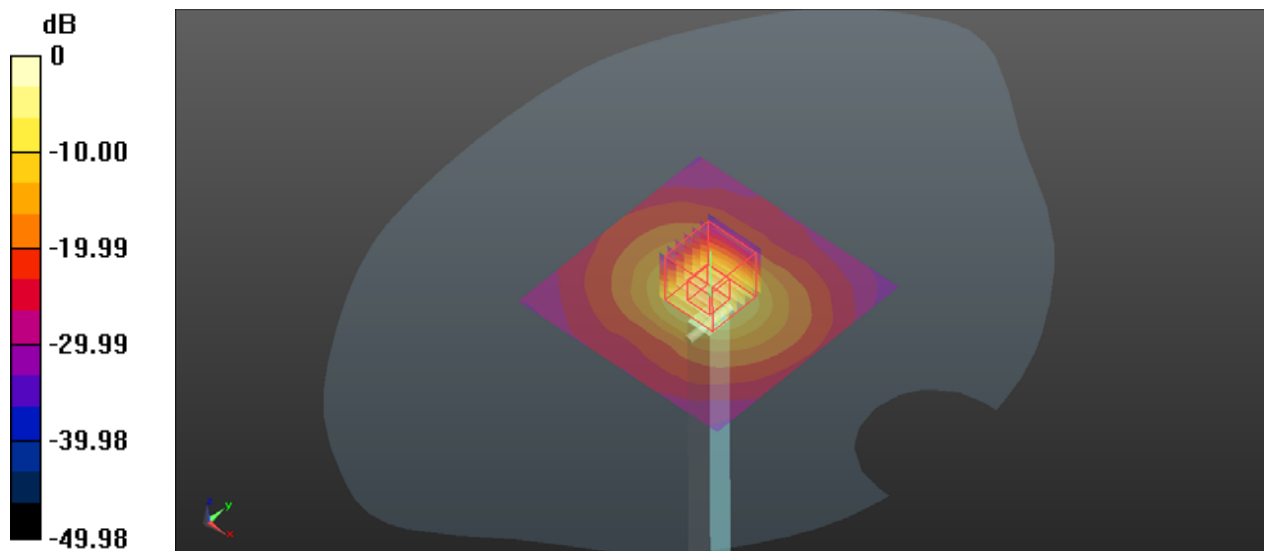
Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 62.239 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 27.9 W/kg

SAR(1 g) = 7.14 W/kg; SAR(10 g) = 2.07 W/kg

Maximum value of SAR (measured) = 17.6 W/kg



System Check_HSL5600_20211221

DUT: Dipole 5GHzV2;Type:D5GHzV2

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

Medium: HSL5G_1221 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.211$ S/m; $\epsilon_r = 36.228$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7°C; Liquid Temperature : 22.2°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(4.5, 4.5, 4.5); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 19.7 W/kg

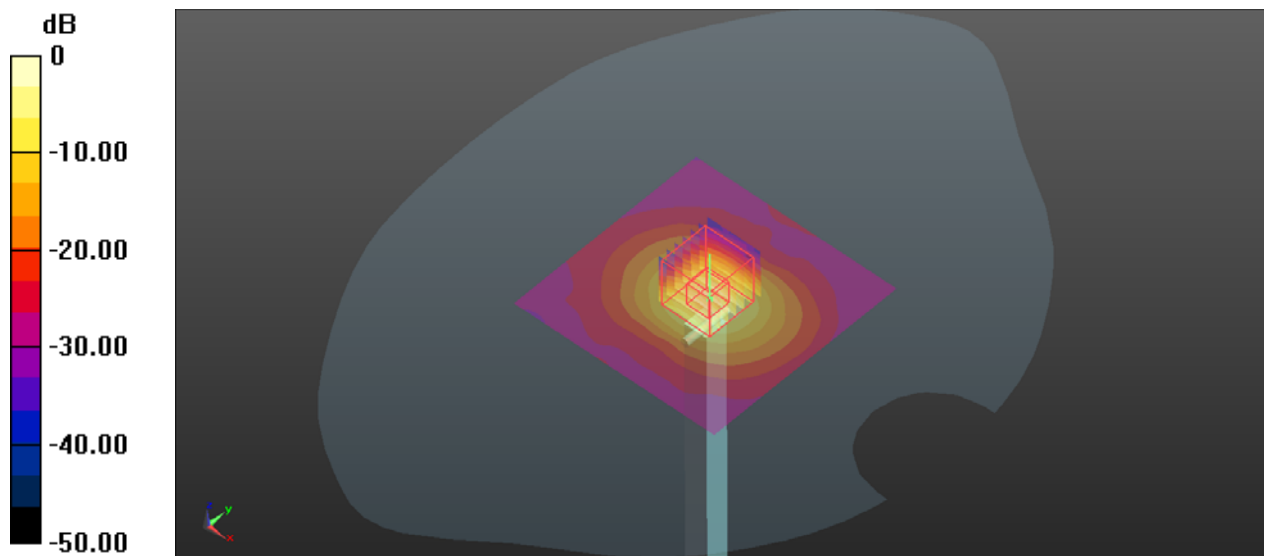
Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 57.515 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 34.1 W/kg

SAR(1 g) = 8.04 W/kg; SAR(10 g) = 2.31 W/kg

Maximum value of SAR (measured) = 20.3 W/kg



0 dB = 20.3 W/kg

System Check_HSL5800_20211222

DUT: Dipole 5GHzV2;Type:D5GHzV2

Communication System: CW; Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: HSL5G_1222 Medium parameters used: $f = 5800$ MHz; $\sigma = 5.444$ S/m; $\epsilon_r = 35.777$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3°C; Liquid Temperature : 22.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(4.49, 4.49, 4.49); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 18.1 W/kg

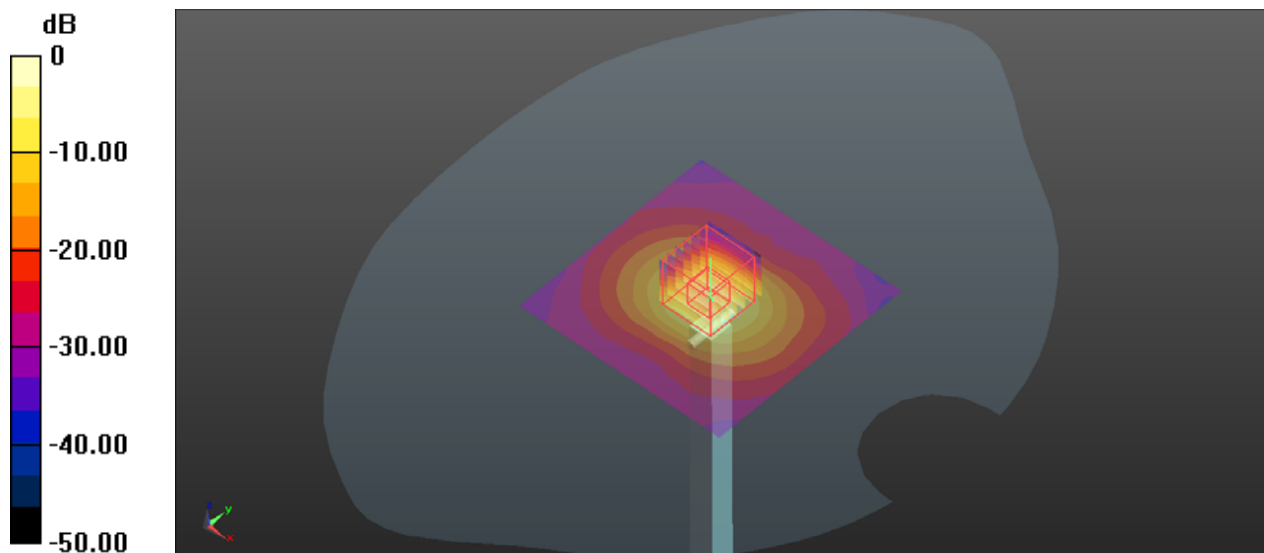
Pin=100mW/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 57.159 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 33.4 W/kg

SAR(1 g) = 7.42 W/kg; SAR(10 g) = 2.13 W/kg

Maximum value of SAR (measured) = 19.3 W/kg



0 dB = 19.3 W/kg

Appendix B. SAR Plots of SAR Measurement

The SAR plots for highest measured SAR in each exposure configuration, wireless mode and frequency band combination, and measured SAR > 1.5 W/kg are shown as follows.

P01 GSM850_GPRS10_Right Cheek_Ch251

Communication System: GPRS10; Frequency: 848.8 MHz; Duty Cycle: 1:4.15

Medium: HSL835_1213 Medium parameters used: $f = 849$ MHz; $\sigma = 0.919$ S/m; $\epsilon_r = 42.035$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2°C; Liquid Temperature : 22.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(9.36, 9.36, 9.36); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

- **Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.306 W/kg

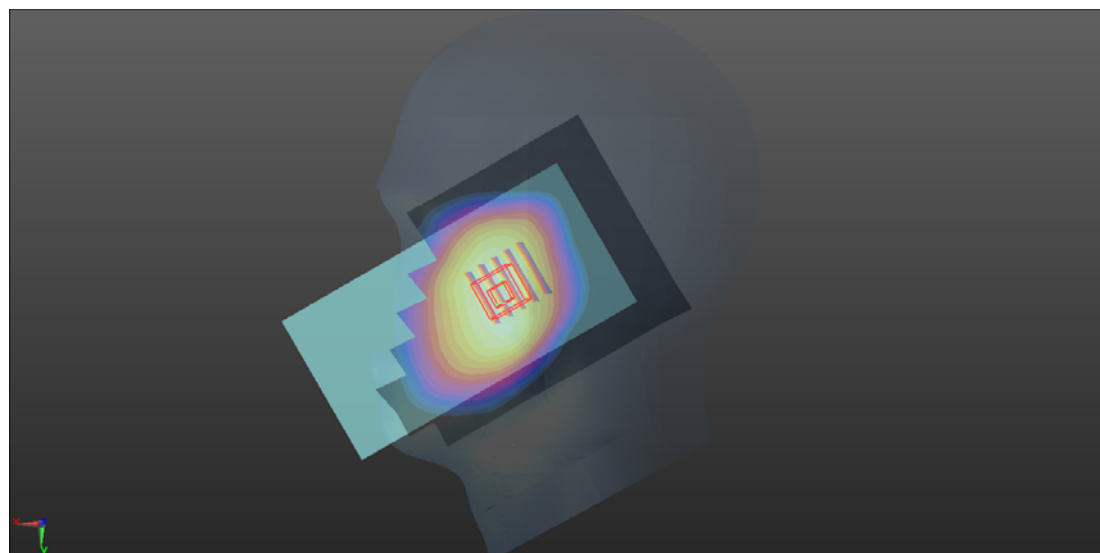
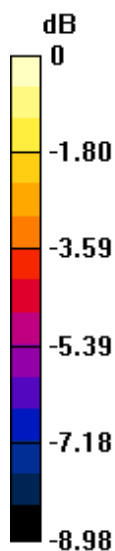
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.130 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.329 W/kg

SAR(1 g) = 0.261 W/kg; SAR(10 g) = 0.201 W/kg

Maximum value of SAR (measured) = 0.305 W/kg



0 dB = 0.305 W/kg

P02 GSM1900_GPRS10_Right Cheek_Ch512

Communication System: GPRS10; Frequency: 1850.2 MHz; Duty Cycle: 1:4.15

Medium: HSL1900_1214 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.387$ S/m; $\epsilon_r = 40.004$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5°C; Liquid Temperature : 22.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(8, 8, 8); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

- **Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.164 W/kg

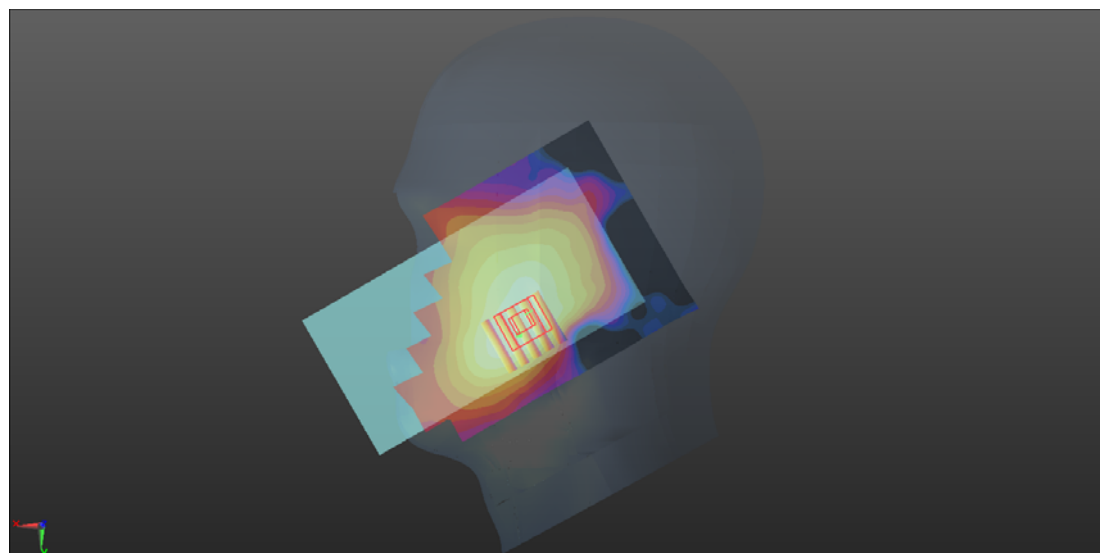
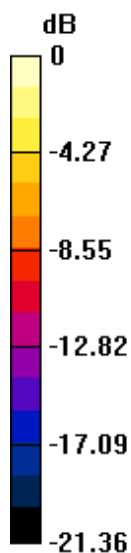
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.098 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.172 W/kg

SAR(1 g) = 0.116 W/kg; SAR(10 g) = 0.075 W/kg

Maximum value of SAR (measured) = 0.148 W/kg



0 dB = 0.148 W/kg

P03 WCDMA V_RMC12.2K_Right Cheek_Ch4233

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: HSL835_1213 Medium parameters used: $f = 847$ MHz; $\sigma = 0.918$ S/m; $\epsilon_r = 42.038$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2°C; Liquid Temperature : 22.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(9.36, 9.36, 9.36); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

- Area Scan (81x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.347 W/kg

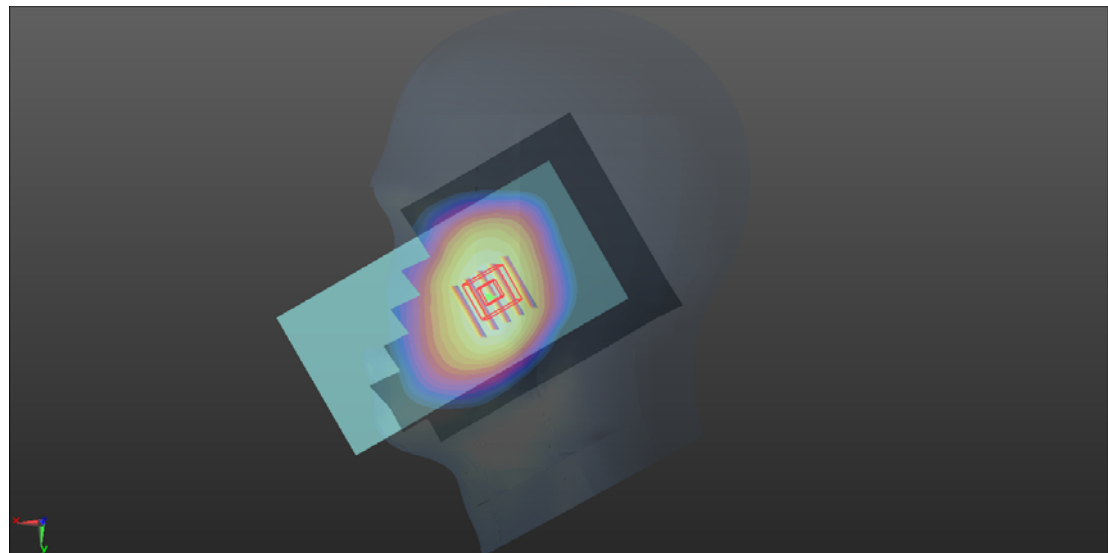
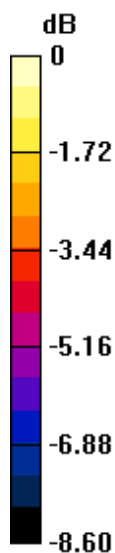
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.018 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.370 W/kg

SAR(1 g) = 0.299 W/kg; SAR(10 g) = 0.233 W/kg

Maximum value of SAR (measured) = 0.347 W/kg



0 dB = 0.347 W/kg

P04 LTE 5_QPSK10M_Right Cheek_Ch20600_1RB_OS49

Communication System: LTE; Frequency: 844 MHz; Duty Cycle: 1:1

Medium: HSL835_1213 Medium parameters used: $f = 844$ MHz; $\sigma = 0.917$ S/m; $\epsilon_r = 42.047$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2°C; Liquid Temperature : 22.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(9.36, 9.36, 9.36); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

- **Area Scan (81x121x1):** Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.321 W/kg

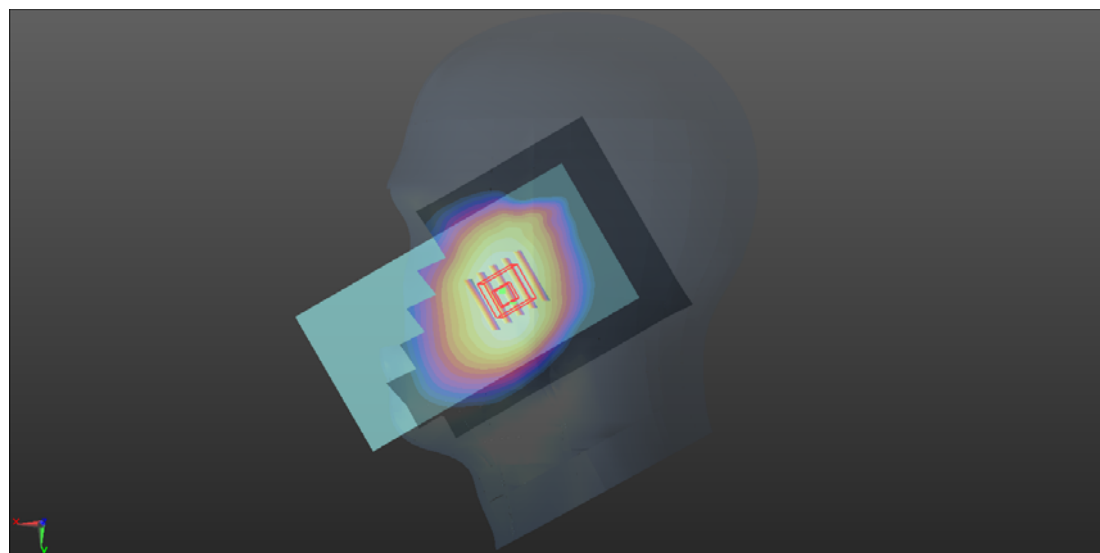
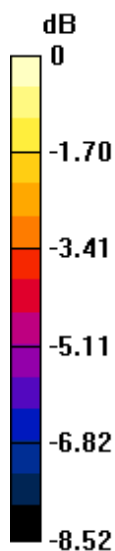
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 4.167 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.321 W/kg

SAR(1 g) = 0.255 W/kg; SAR(10 g) = 0.201 W/kg

Maximum value of SAR (measured) = 0.300 W/kg



0 dB = 0.300 W/kg

P05 LTE 7_QPSK20M_Right Cheek_Ch21100_1RB_OS50

Communication System: LTE; Frequency: 2535 MHz; Duty Cycle: 1:1

Medium: HSL2600_1217 Medium parameters used: $f = 2535$ MHz; $\sigma = 1.85$ S/m; $\epsilon_r = 39.479$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5°C; Liquid Temperature : 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(7.66, 7.66, 7.66); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

- **Area Scan (101x161x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.251 W/kg

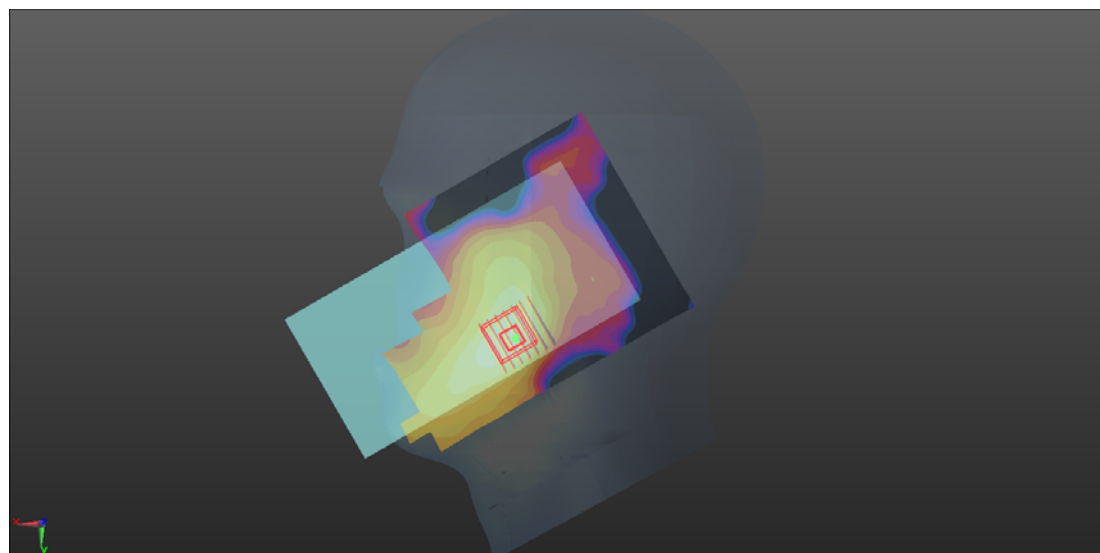
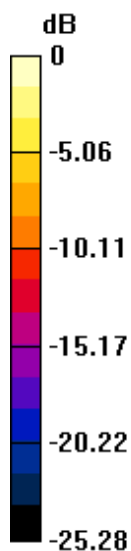
- **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.682 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.303 W/kg

SAR(1 g) = 0.165 W/kg; SAR(10 g) = 0.092 W/kg

Maximum value of SAR (measured) = 0.250 W/kg



0 dB = 0.250 W/kg

P06 LTE 41_QPSK20M_Right Cheek_Ch41490_1RB_OS0

Communication System: LTE TDD; Frequency: 2680 MHz; Duty Cycle: 1:1.59

Medium: HSL2600_1217 Medium parameters used: $f = 2680$ MHz; $\sigma = 1.962$ S/m; $\epsilon_r = 39.24$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5°C; Liquid Temperature : 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(7.66, 7.66, 7.66); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

- Area Scan (101x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0729 W/kg

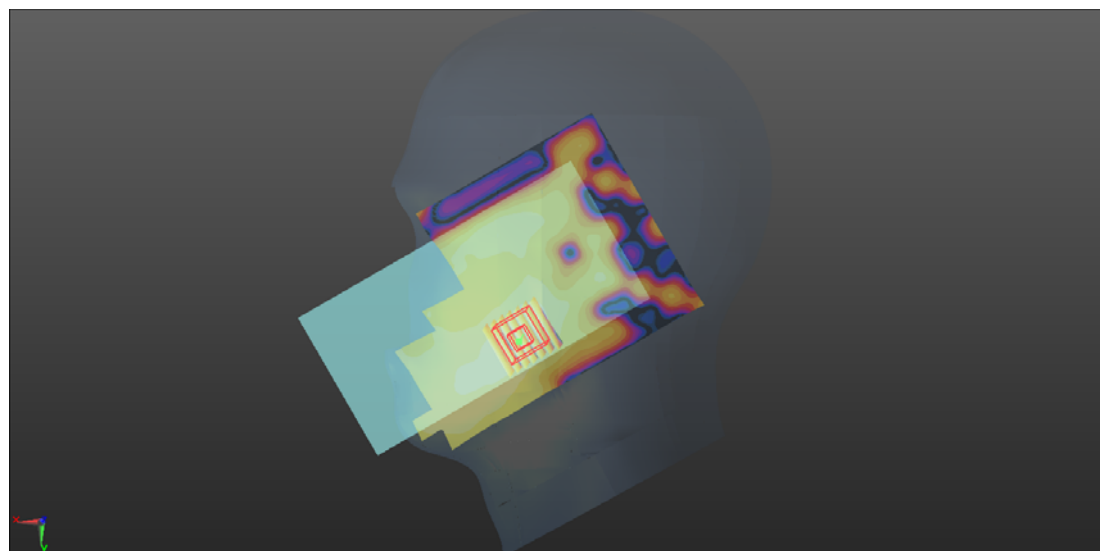
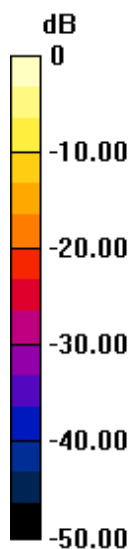
- Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.653 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.0930 W/kg

SAR(1 g) = 0.046 W/kg; SAR(10 g) = 0.024 W/kg

Maximum value of SAR (measured) = 0.0743 W/kg



0 dB = 0.0743 W/kg

P07 WLAN2.4G_802.11b_Left Cheek_Ch11

Communication System: 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1.01

Medium: HSL2450_1215 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.794$ S/m; $\epsilon_r = 39.429$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6°C; Liquid Temperature : 22.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(7.88, 7.88, 7.88); Calibrated: 2021/8/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1389; Calibrated: 2021/10/26
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1781
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

- **Area Scan (101x161x1):** Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 1.19 W/kg

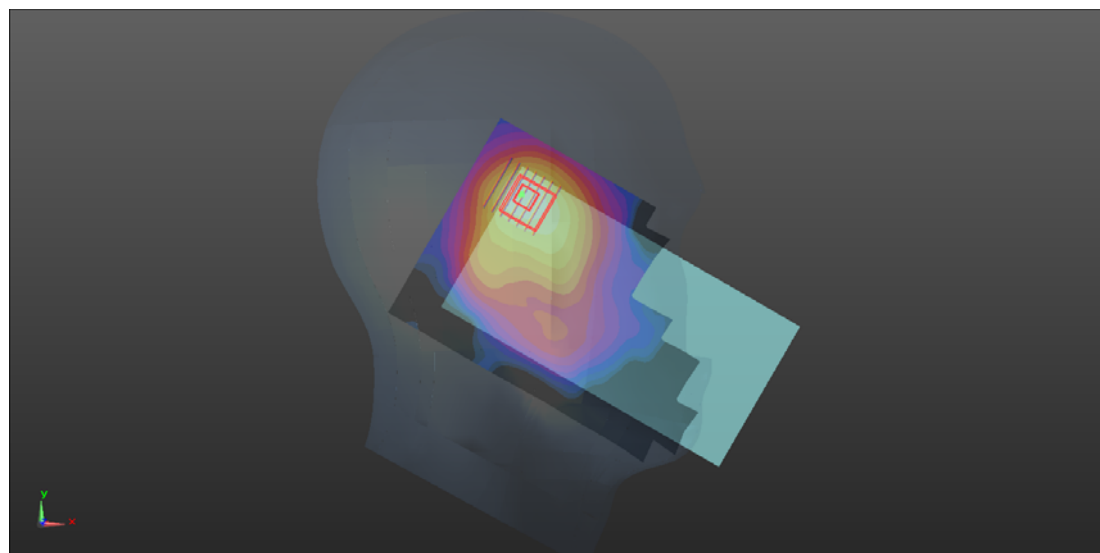
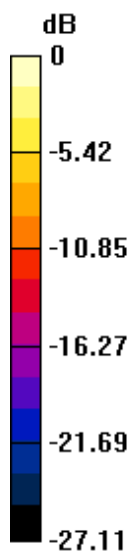
- **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 8.444 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 1.37 W/kg

SAR(1 g) = 0.629 W/kg; SAR(10 g) = 0.313 W/kg

Maximum value of SAR (measured) = 1.06 W/kg



0 dB = 1.06 W/kg