

6. For LTE B12 / B5 / B4 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 17 SAR test was covered by Band 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.

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
3. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

**14.1 Head SAR****<GSM SAR>**

Plot No.	Band	Mode	Test Position	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS(4 Tx slots)	Right Cheek	189	836.4	28.99	29.50	1.125	0.07	0.411	0.462
	GSM850	GPRS(4 Tx slots)	Right Tilted	189	836.4	28.99	29.50	1.125	0.05	0.252	0.283
	GSM850	GPRS(4 Tx slots)	Left Cheek	189	836.4	28.99	29.50	1.125	0.07	0.378	0.425
	GSM850	GPRS(4 Tx slots)	Left Tilted	189	836.4	28.99	29.50	1.125	0.05	0.226	0.254
	GSM850	GPRS(4 Tx slots)	Right Cheek	128	824.2	28.96	29.50	1.132	0.03	0.372	0.421
01	GSM850	GPRS(4 Tx slots)	Right Cheek	251	848.8	28.94	29.50	1.138	0.01	0.468	0.532
	GSM1900	GPRS(4 Tx slots)	Right Cheek	512	1850.2	26.65	27.00	1.084	0.06	0.170	0.184
	GSM1900	GPRS(4 Tx slots)	Right Tilted	512	1850.2	26.65	27.00	1.084	0.14	0.125	0.135
	GSM1900	GPRS(4 Tx slots)	Left Cheek	512	1850.2	26.65	27.00	1.084	0.03	0.188	0.204
	GSM1900	GPRS(4 Tx slots)	Left Tilted	512	1850.2	26.65	27.00	1.084	0.05	0.112	0.121
	GSM1900	GPRS(4 Tx slots)	Left Cheek	661	1880	26.57	27.00	1.104	0.06	0.213	0.235
02	GSM1900	GPRS(4 Tx slots)	Left Cheek	810	1909.8	26.47	27.00	1.130	0.05	0.299	0.338



<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA V	RMC 12.2Kbps	Right Cheek	4132	826.4	22.29	22.50	1.050	0.05	0.270	0.283
	WCDMA V	RMC 12.2Kbps	Right Tilted	4132	826.4	22.29	22.50	1.050	0.08	0.145	0.152
	WCDMA V	RMC 12.2Kbps	Left Cheek	4132	826.4	22.29	22.50	1.050	0.03	0.258	0.271
	WCDMA V	RMC 12.2Kbps	Left Tilted	4132	826.4	22.29	22.50	1.050	0.08	0.146	0.153
	WCDMA V	RMC 12.2Kbps	Right Cheek	4182	836.4	22.02	22.50	1.117	0.09	0.314	0.351
03	WCDMA V	RMC 12.2Kbps	Right Cheek	4233	846.6	22.06	22.50	1.107	0.04	0.381	0.422
	WCDMA IV	RMC 12.2Kbps	Right Cheek	1513	1752.6	21.75	22.00	1.059	0.04	0.173	0.183
	WCDMA IV	RMC 12.2Kbps	Right Tilted	1513	1752.6	21.75	22.00	1.059	0.05	0.128	0.136
04	WCDMA IV	RMC 12.2Kbps	Left Cheek	1513	1752.6	21.75	22.00	1.059	0.02	0.175	0.185
	WCDMA IV	RMC 12.2Kbps	Left Tilted	1513	1752.6	21.75	22.00	1.059	0.02	0.104	0.110
	WCDMA IV	RMC 12.2Kbps	Left Cheek	1312	1712.4	21.65	22.00	1.084	0.12	0.155	0.168
	WCDMA IV	RMC 12.2Kbps	Left Cheek	1413	1732.6	21.70	22.00	1.072	0.05	0.158	0.169
	WCDMA II	RMC 12.2Kbps	Right Cheek	9538	1907.6	21.74	22.00	1.062	0.03	0.272	0.289
	WCDMA II	RMC 12.2Kbps	Right Tilted	9538	1907.6	21.74	22.00	1.062	0.09	0.252	0.268
05	WCDMA II	RMC 12.2Kbps	Left Cheek	9538	1907.6	21.74	22.00	1.062	0.04	0.411	0.436
	WCDMA II	RMC 12.2Kbps	Left Tilted	9538	1907.6	21.74	22.00	1.062	0.02	0.204	0.217
	WCDMA II	RMC 12.2Kbps	Left Cheek	9262	1852.4	21.72	22.00	1.067	0.04	0.294	0.314
	WCDMA II	RMC 12.2Kbps	Left Cheek	9400	1880	21.73	22.00	1.064	0.01	0.373	0.397



<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
06	LTE Band 12	10M	QPSK	1RB	0Offset	Right Cheek	23095	707.5	22.42	23.00	1.143	0.08	0.158	0.181
	LTE Band 12	10M	QPSK	1RB	0Offset	Right Tilted	23095	707.5	22.42	23.00	1.143	0.05	0.094	0.107
	LTE Band 12	10M	QPSK	1RB	0Offset	Left Cheek	23095	707.5	22.42	23.00	1.143	0.04	0.135	0.154
	LTE Band 12	10M	QPSK	1RB	0Offset	Left Tilted	23095	707.5	22.42	23.00	1.143	0.07	0.075	0.086
	LTE Band 12	10M	QPSK	25RB	0Offset	Right Cheek	23095	707.5	21.34	22.00	1.164	0.03	0.127	0.148
	LTE Band 12	10M	QPSK	25RB	0Offset	Right Tilted	23095	707.5	21.34	22.00	1.164	0.09	0.076	0.088
	LTE Band 12	10M	QPSK	25RB	0Offset	Left Cheek	23095	707.5	21.34	22.00	1.164	0.09	0.113	0.132
	LTE Band 12	10M	QPSK	25RB	0Offset	Left Tilted	23095	707.5	21.34	22.00	1.164	0.04	0.057	0.066
07	LTE Band 5	10M	QPSK	1RB	0Offset	Right Cheek	20525	836.5	22.48	23.00	1.127	0.03	0.259	0.292
	LTE Band 5	10M	QPSK	1RB	0Offset	Right Tilted	20525	836.5	22.48	23.00	1.127	0.08	0.149	0.168
	LTE Band 5	10M	QPSK	1RB	0Offset	Left Cheek	20525	836.5	22.48	23.00	1.127	0.02	0.242	0.273
	LTE Band 5	10M	QPSK	1RB	0Offset	Left Tilted	20525	836.5	22.48	23.00	1.127	0.01	0.136	0.153
	LTE Band 5	10M	QPSK	25RB	0Offset	Right Cheek	20525	836.5	21.47	22.00	1.130	0.05	0.215	0.243
	LTE Band 5	10M	QPSK	25RB	0Offset	Right Tilted	20525	836.5	21.47	22.00	1.130	0.06	0.120	0.136
	LTE Band 5	10M	QPSK	25RB	0Offset	Left Cheek	20525	836.5	21.47	22.00	1.130	0.06	0.200	0.226
	LTE Band 5	10M	QPSK	25RB	0Offset	Left Tilted	20525	836.5	21.47	22.00	1.130	0.1	0.111	0.125
	LTE Band 4	20M	QPSK	1RB	0Offset	Right Cheek	20175	1732.5	22.15	22.50	1.084	0.02	0.147	0.159
	LTE Band 4	20M	QPSK	1RB	0Offset	Right Tilted	20175	1732.5	22.15	22.50	1.084	0.09	0.125	0.135
08	LTE Band 4	20M	QPSK	1RB	0Offset	Left Cheek	20175	1732.5	22.15	22.50	1.084	0.09	0.227	0.246
	LTE Band 4	20M	QPSK	1RB	0Offset	Left Tilted	20175	1732.5	22.15	22.50	1.084	0.03	0.114	0.124
	LTE Band 4	20M	QPSK	50RB	0Offset	Right Cheek	20175	1732.5	21.15	21.50	1.084	0.05	0.118	0.128
	LTE Band 4	20M	QPSK	50RB	0Offset	Right Tilted	20175	1732.5	21.15	21.50	1.084	0.01	0.104	0.113
	LTE Band 4	20M	QPSK	50RB	0Offset	Left Cheek	20175	1732.5	21.15	21.50	1.084	0.05	0.181	0.196
	LTE Band 4	20M	QPSK	50RB	0Offset	Left Tilted	20175	1732.5	21.15	21.50	1.084	0.05	0.091	0.099



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2	20M	QPSK	1RB	0Offset	Right Cheek	18900	1880	21.78	22.00	1.052	0.09	0.375	0.394
	LTE Band 2	20M	QPSK	1RB	0Offset	Right Tilted	18900	1880	21.78	22.00	1.052	0.02	0.257	0.270
09	LTE Band 2	20M	QPSK	1RB	0Offset	Left Cheek	18900	1880	21.78	22.00	1.052	0.02	0.380	0.400
	LTE Band 2	20M	QPSK	1RB	0Offset	Left Tilted	18900	1880	21.78	22.00	1.052	0.08	0.226	0.238
	LTE Band 2	20M	QPSK	1RB	0Offset	Left Cheek	18700	1860	21.68	22.00	1.076	0.16	0.271	0.292
	LTE Band 2	20M	QPSK	1RB	0Offset	Left Cheek	19100	1900	21.68	22.00	1.076	0.08	0.304	0.327
	LTE Band 2	20M	QPSK	50RB	0Offset	Right Cheek	18900	1880	20.72	21.00	1.067	0.08	0.313	0.334
	LTE Band 2	20M	QPSK	50RB	0Offset	Right Tilted	18900	1880	20.72	21.00	1.067	0.06	0.208	0.222
	LTE Band 2	20M	QPSK	50RB	0Offset	Left Cheek	18900	1880	20.72	21.00	1.067	0.02	0.317	0.338
	LTE Band 2	20M	QPSK	50RB	0Offset	Left Tilted	18900	1880	20.72	21.00	1.067	0.01	0.187	0.199
	LTE Band 7	20M	QPSK	1RB	99Offset	Right Cheek	21350	2560	22.08	22.50	1.102	0.08	0.106	0.117
	LTE Band 7	20M	QPSK	50RB	0Offset	Right Cheek	21350	2560	21.12	21.50	1.091	0.09	0.101	0.110
	LTE Band 7	20M	QPSK	1RB	99Offset	Right Tilted	21350	2560	22.08	22.50	1.102	0.16	0.072	0.079
	LTE Band 7	20M	QPSK	50RB	0Offset	Right Tilted	21350	2560	21.12	21.50	1.091	0.15	0.076	0.083
	LTE Band 7	20M	QPSK	1RB	99Offset	Left Cheek	21350	2560	22.08	22.50	1.102	0.02	0.239	0.263
	LTE Band 7	20M	QPSK	50RB	0Offset	Left Cheek	21350	2560	21.12	21.50	1.091	0.13	0.235	0.256
	LTE Band 7	20M	QPSK	1RB	99Offset	Left Tilted	21350	2560	22.08	22.50	1.102	0.06	0.055	0.061
	LTE Band 7	20M	QPSK	50RB	0Offset	Left Tilted	21350	2560	21.12	21.50	1.091	0.02	0.056	0.061
10	LTE Band 7	20M	QPSK	1RB	99Offset	Left Cheek	20850	2510	21.95	22.50	1.135	0.08	0.367	0.417
	LTE Band 7	20M	QPSK	1RB	99Offset	Left Cheek	21100	2535	21.99	22.50	1.125	0.03	0.329	0.370

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
11	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	6	2437	11.33	12.00	1.167	100%	0.12	0.236	0.275
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	6	2437	11.33	12.00	1.167	100%	0.01	0.182	0.212
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	6	2437	11.33	12.00	1.167	100%	0.01	0.152	0.177
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	6	2437	11.33	12.00	1.167	100%	0.02	0.135	0.158
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	1	2412	10.67	11.50	1.211	100%	0.06	0.213	0.258
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	11	2462	11.06	11.50	1.107	100%	0.16	0.224	0.248

**14.2 Hotspot SAR****<GSM SAR>**

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS(4 Tx slots)	Front	10	189	836.4	28.99	29.50	1.125	0.06	0.368	0.414
	GSM850	GPRS(4 Tx slots)	Back	10	189	836.4	28.99	29.50	1.125	0.09	0.702	0.789
	GSM850	GPRS(4 Tx slots)	Left Side	10	189	836.4	28.99	29.50	1.125	0.05	0.496	0.558
	GSM850	GPRS(4 Tx slots)	Right Side	10	189	836.4	28.99	29.50	1.125	0.02	0.589	0.662
	GSM850	GPRS(4 Tx slots)	Bottom Side	10	189	836.4	28.99	29.50	1.125	0.03	0.097	0.109
	GSM850	GPRS(4 Tx slots)	Back	10	128	824.2	28.96	29.50	1.132	0.01	0.666	0.754
12	GSM850	GPRS(4 Tx slots)	Back	10	251	848.8	28.94	29.50	1.138	0.07	0.770	0.876
	GSM1900	GPRS(4 Tx slots)	Front	10	512	1850.2	26.65	27.00	1.084	0.19	0.240	0.260
	GSM1900	GPRS(4 Tx slots)	Back	10	512	1850.2	26.65	27.00	1.084	0.05	0.277	0.300
	GSM1900	GPRS(4 Tx slots)	Left Side	10	512	1850.2	26.65	27.00	1.084	-0.03	0.162	0.176
	GSM1900	GPRS(4 Tx slots)	Right Side	10	512	1850.2	26.65	27.00	1.084	-0.01	0.153	0.166
	GSM1900	GPRS(4 Tx slots)	Bottom Side	10	512	1850.2	26.65	27.00	1.084	-0.06	0.165	0.179
	GSM1900	GPRS(4 Tx slots)	Back	10	661	1880	26.57	27.00	1.104	0.03	0.306	0.338
13	GSM1900	GPRS(4 Tx slots)	Back	10	810	1909.8	26.47	27.00	1.130	0.02	0.385	0.435



<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA V	RMC 12.2Kbps	Front	10	4132	826.4	22.29	22.50	1.050	0.06	0.265	0.278
	WCDMA V	RMC 12.2Kbps	Back	10	4132	826.4	22.29	22.50	1.050	0.11	0.476	0.500
	WCDMA V	RMC 12.2Kbps	Left Side	10	4132	826.4	22.29	22.50	1.050	-0.06	0.296	0.311
	WCDMA V	RMC 12.2Kbps	Right Side	10	4132	826.4	22.29	22.50	1.050	0.06	0.354	0.372
	WCDMA V	RMC 12.2Kbps	Bottom Side	10	4132	826.4	22.29	22.50	1.050	0.01	0.058	0.061
	WCDMA V	RMC 12.2Kbps	Back	10	4182	836.4	22.02	22.50	1.117	0.02	0.498	0.556
14	WCDMA V	RMC 12.2Kbps	Back	10	4233	846.6	22.06	22.50	1.107	0.09	0.521	0.577
	WCDMA IV	RMC 12.2Kbps	Front	10	1513	1752.6	21.75	22.00	1.059	-0.03	0.254	0.269
	WCDMA IV	RMC 12.2Kbps	Back	10	1513	1752.6	21.75	22.00	1.059	0.09	0.342	0.362
	WCDMA IV	RMC 12.2Kbps	Left Side	10	1513	1752.6	21.75	22.00	1.059	0.07	0.134	0.142
	WCDMA IV	RMC 12.2Kbps	Right Side	10	1513	1752.6	21.75	22.00	1.059	-0.02	0.129	0.137
	WCDMA IV	RMC 12.2Kbps	Bottom Side	10	1513	1752.6	21.75	22.00	1.059	-0.1	0.224	0.237
15	WCDMA IV	RMC 12.2Kbps	Back	10	1312	1712.4	21.65	22.00	1.084	0.04	0.522	0.566
	WCDMA IV	RMC 12.2Kbps	Back	10	1413	1732.6	21.70	22.00	1.072	0.05	0.381	0.408
	WCDMA II	RMC 12.2Kbps	Front	10	9538	1907.6	21.74	22.00	1.062	0.09	0.449	0.477
16	WCDMA II	RMC 12.2Kbps	Back	10	9538	1907.6	21.74	22.00	1.062	0.08	0.482	0.512
	WCDMA II	RMC 12.2Kbps	Left Side	10	9538	1907.6	21.74	22.00	1.062	-0.08	0.320	0.340
	WCDMA II	RMC 12.2Kbps	Right Side	10	9538	1907.6	21.74	22.00	1.062	-0.07	0.104	0.110
	WCDMA II	RMC 12.2Kbps	Bottom Side	10	9538	1907.6	21.74	22.00	1.062	0.04	0.334	0.355
	WCDMA II	RMC 12.2Kbps	Back	10	9262	1852.4	21.72	22.00	1.067	-0.03	0.403	0.430
	WCDMA II	RMC 12.2Kbps	Back	10	9400	1880	21.73	22.00	1.064	0.03	0.480	0.511



<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
17	LTE Band 12	10M	QPSK	1RB	0Offset	Front	10	23095	707.5	22.42	23.00	1.143	0.07	0.139	0.159
	LTE Band 12	10M	QPSK	1RB	0Offset	Back	10	23095	707.5	22.42	23.00	1.143	0.03	0.195	0.223
	LTE Band 12	10M	QPSK	1RB	0Offset	Left Side	10	23095	707.5	22.42	23.00	1.143	0.05	0.179	0.205
	LTE Band 12	10M	QPSK	1RB	0Offset	Right Side	10	23095	707.5	22.42	23.00	1.143	0.03	0.141	0.161
	LTE Band 12	10M	QPSK	1RB	0Offset	Bottom Side	10	23095	707.5	22.42	23.00	1.143	0.03	0.028	0.032
	LTE Band 12	10M	QPSK	25RB	0Offset	Front	10	23095	707.5	21.34	22.00	1.164	0.08	0.126	0.147
	LTE Band 12	10M	QPSK	25RB	0Offset	Back	10	23095	707.5	21.34	22.00	1.164	0.06	0.176	0.205
	LTE Band 12	10M	QPSK	25RB	0Offset	Left Side	10	23095	707.5	21.34	22.00	1.164	-0.1	0.151	0.176
	LTE Band 12	10M	QPSK	25RB	0Offset	Right Side	10	23095	707.5	21.34	22.00	1.164	0.02	0.116	0.135
	LTE Band 12	10M	QPSK	25RB	0Offset	Bottom Side	10	23095	707.5	21.34	22.00	1.164	0.04	0.023	0.027
18	LTE Band 5	10M	QPSK	1RB	0Offset	Front	10	20525	836.5	22.48	23.00	1.127	0.02	0.323	0.364
	LTE Band 5	10M	QPSK	1RB	0Offset	Back	10	20525	836.5	22.48	23.00	1.127	0.06	0.548	0.618
	LTE Band 5	10M	QPSK	1RB	0Offset	Left Side	10	20525	836.5	22.48	23.00	1.127	0.09	0.419	0.472
	LTE Band 5	10M	QPSK	1RB	0Offset	Right Side	10	20525	836.5	22.48	23.00	1.127	0.05	0.411	0.463
	LTE Band 5	10M	QPSK	1RB	0Offset	Bottom Side	10	20525	836.5	22.48	23.00	1.127	0.06	0.080	0.090
	LTE Band 5	10M	QPSK	25RB	0Offset	Front	10	20525	836.5	21.47	22.00	1.130	0.05	0.265	0.299
	LTE Band 5	10M	QPSK	25RB	0Offset	Back	10	20525	836.5	21.47	22.00	1.130	0.03	0.445	0.503
	LTE Band 5	10M	QPSK	25RB	0Offset	Left Side	10	20525	836.5	21.47	22.00	1.130	0.02	0.344	0.389
	LTE Band 5	10M	QPSK	25RB	0Offset	Right Side	10	20525	836.5	21.47	22.00	1.130	0.01	0.332	0.375
	LTE Band 5	10M	QPSK	25RB	0Offset	Bottom Side	10	20525	836.5	21.47	22.00	1.130	-0.02	0.064	0.072
19	LTE Band 4	20M	QPSK	1RB	0Offset	Front	10	20175	1732.5	22.15	22.50	1.084	0.01	0.327	0.354
	LTE Band 4	20M	QPSK	1RB	0Offset	Back	10	20175	1732.5	22.15	22.50	1.084	0.06	0.714	0.774
	LTE Band 4	20M	QPSK	1RB	0Offset	Left Side	10	20175	1732.5	22.15	22.50	1.084	-0.19	0.163	0.177
	LTE Band 4	20M	QPSK	1RB	0Offset	Right Side	10	20175	1732.5	22.15	22.50	1.084	-0.08	0.128	0.139
	LTE Band 4	20M	QPSK	1RB	0Offset	Bottom Side	10	20175	1732.5	22.15	22.50	1.084	-0.03	0.348	0.377
	LTE Band 4	20M	QPSK	50RB	0Offset	Front	10	20175	1732.5	21.15	21.50	1.084	0.05	0.252	0.273
	LTE Band 4	20M	QPSK	50RB	0Offset	Back	10	20175	1732.5	21.15	21.50	1.084	0.07	0.529	0.573
	LTE Band 4	20M	QPSK	50RB	0Offset	Left Side	10	20175	1732.5	21.15	21.50	1.084	-0.04	0.131	0.142
	LTE Band 4	20M	QPSK	50RB	0Offset	Right Side	10	20175	1732.5	21.15	21.50	1.084	-0.02	0.104	0.113
	LTE Band 4	20M	QPSK	50RB	0Offset	Bottom Side	10	20175	1732.5	21.15	21.50	1.084	0.05	0.260	0.282
20	LTE Band 2	20M	QPSK	1RB	0Offset	Front	10	18900	1880	21.78	22.00	1.052	-0.02	0.475	0.500
	LTE Band 2	20M	QPSK	1RB	0Offset	Back	10	18900	1880	21.78	22.00	1.052	0.05	0.579	0.609
	LTE Band 2	20M	QPSK	1RB	0Offset	Left Side	10	18900	1880	21.78	22.00	1.052	0.05	0.304	0.320
	LTE Band 2	20M	QPSK	1RB	0Offset	Right Side	10	18900	1880	21.78	22.00	1.052	0.1	0.235	0.247
	LTE Band 2	20M	QPSK	1RB	0Offset	Bottom Side	10	18900	1880	21.78	22.00	1.052	0.06	0.290	0.305
	LTE Band 2	20M	QPSK	1RB	0Offset	Back	10	18700	1860	21.68	22.00	1.076	0.16	0.416	0.448
	LTE Band 2	20M	QPSK	1RB	0Offset	Back	10	19100	1900	21.68	22.00	1.076	0.03	0.507	0.546
	LTE Band 2	20M	QPSK	50RB	0Offset	Front	10	18900	1880	20.72	21.00	1.067	0.06	0.367	0.391
	LTE Band 2	20M	QPSK	50RB	0Offset	Back	10	18900	1880	20.72	21.00	1.067	0.07	0.458	0.489
	LTE Band 2	20M	QPSK	50RB	0Offset	Left Side	10	18900	1880	20.72	21.00	1.067	-0.16	0.260	0.277
	LTE Band 2	20M	QPSK	50RB	0Offset	Right Side	10	18900	1880	20.72	21.00	1.067	-0.06	0.165	0.176
	LTE Band 2	20M	QPSK	50RB	0Offset	Bottom Side	10	18900	1880	20.72	21.00	1.067	-0.02	0.194	0.207



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	LTE Band 7	20M	QPSK	1RB	99Offset	Front	10	21350	2560	22.08	22.5	1.102	0.06	0.529	0.583
	LTE Band 7	20M	QPSK	50RB	0Offset	Front	10	21350	2560	21.12	21.5	1.091	-0.19	0.494	0.539
	LTE Band 7	20M	QPSK	1RB	99Offset	Back	10	21350	2560	22.08	22.5	1.102	-0.15	0.455	0.501
	LTE Band 7	20M	QPSK	50RB	0Offset	Back	10	21350	2560	21.12	21.5	1.091	-0.04	0.447	0.488
	LTE Band 7	20M	QPSK	1RB	99Offset	Left Side	10	21350	2560	22.08	22.5	1.102	0.05	0.216	0.238
	LTE Band 7	20M	QPSK	50RB	0Offset	Left Side	10	21350	2560	21.12	21.5	1.091	-0.15	0.189	0.206
	LTE Band 7	20M	QPSK	1RB	99Offset	Right Side	10	21350	2560	22.08	22.5	1.102	0.12	0.151	0.166
	LTE Band 7	20M	QPSK	50RB	0Offset	Right Side	10	21350	2560	21.12	21.5	1.091	0.09	0.143	0.156
	LTE Band 7	20M	QPSK	1RB	99Offset	Bottom Side	10	21350	2560	22.08	22.5	1.102	-0.12	0.280	0.308
	LTE Band 7	20M	QPSK	50RB	0Offset	Bottom Side	10	21350	2560	21.12	21.5	1.091	0.06	0.259	0.283
21	LTE Band 7	20M	QPSK	1RB	99Offset	Front	10	20850	2510	21.95	22.5	1.135	-0.18	0.738	0.838
	LTE Band 7	20M	QPSK	1RB	99Offset	Front	10	21100	2535	21.99	22.5	1.125	-0.13	0.658	0.740
	LTE Band 7	20M	QPSK	100RB	0Offset	Front	10	21350	2560	21.1	21.5	1.096	-0.15	0.477	0.523

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	10	6	2437	11.33	12.00	1.167	100%	0.03	0.064	0.075
22	WLAN2.4GHz	802.11b 1Mbps	Back	10	6	2437	11.33	12.00	1.167	100%	0.04	0.100	0.117
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10	6	2437	11.33	12.00	1.167	100%	0.01	0.057	0.066
	WLAN2.4GHz	802.11b 1Mbps	Back	10	1	2412	10.67	11.50	1.211	100%	-0.03	0.082	0.099
	WLAN2.4GHz	802.11b 1Mbps	Back	10	11	2462	11.06	11.50	1.107	100%	-0.02	0.094	0.104

**14.3 Body Worn Accessory SAR****<GSM SAR>**

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS(4 Tx slots)	Front	10	189	836.4	28.99	29.50	1.125	0.06	0.368	0.414
	GSM850	GPRS(4 Tx slots)	Back	10	189	836.4	28.99	29.50	1.125	0.09	0.702	0.789
	GSM850	GPRS(4 Tx slots)	Back	10	128	824.2	28.96	29.50	1.132	0.01	0.666	0.754
12	GSM850	GPRS(4 Tx slots)	Back	10	251	848.8	28.94	29.50	1.138	0.07	0.770	0.876
	GSM1900	GPRS(4 Tx slots)	Front	10	512	1850.2	26.65	27.00	1.084	0.19	0.240	0.260
	GSM1900	GPRS(4 Tx slots)	Back	10	512	1850.2	26.65	27.00	1.084	0.05	0.277	0.300
	GSM1900	GPRS(4 Tx slots)	Back	10	661	1880	26.57	27.00	1.104	0.03	0.306	0.338
13	GSM1900	GPRS(4 Tx slots)	Back	10	810	1909.8	26.47	27.00	1.130	0.02	0.385	0.435

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA V	RMC 12.2Kbps	Front	10	4132	826.4	22.29	22.50	1.050	0.06	0.265	0.278
	WCDMA V	RMC 12.2Kbps	Back	10	4132	826.4	22.29	22.50	1.050	0.11	0.476	0.500
	WCDMA V	RMC 12.2Kbps	Back	10	4182	836.4	22.02	22.50	1.117	0.02	0.498	0.556
14	WCDMA V	RMC 12.2Kbps	Back	10	4233	846.6	22.06	22.50	1.107	0.09	0.521	0.577
	WCDMA IV	RMC 12.2Kbps	Front	10	1513	1752.6	21.75	22.00	1.059	-0.03	0.254	0.269
	WCDMA IV	RMC 12.2Kbps	Back	10	1513	1752.6	21.75	22.00	1.059	0.09	0.342	0.362
15	WCDMA IV	RMC 12.2Kbps	Back	10	1312	1712.4	21.65	22.00	1.084	0.04	0.522	0.566
	WCDMA IV	RMC 12.2Kbps	Back	10	1413	1732.6	21.7	22.00	1.072	0.05	0.381	0.408
	WCDMA II	RMC 12.2Kbps	Front	10	9538	1907.6	21.74	22.00	1.062	0.09	0.449	0.477
16	WCDMA II	RMC 12.2Kbps	Back	10	9538	1907.6	21.74	22.00	1.062	0.08	0.482	0.512
	WCDMA II	RMC 12.2Kbps	Back	10	9262	1852.4	21.72	22.00	1.067	-0.03	0.403	0.430
	WCDMA II	RMC 12.2Kbps	Back	10	9400	1880	21.73	22.00	1.064	0.03	0.480	0.511



<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 12	10M	QPSK	1RB	0Offset	Front	10	23095	707.5	22.42	23.00	1.143	0.07	0.139	0.159
17	LTE Band 12	10M	QPSK	1RB	0Offset	Back	10	23095	707.5	22.42	23.00	1.143	0.03	0.195	0.223
	LTE Band 12	10M	QPSK	25RB	0Offset	Front	10	23095	707.5	21.34	22.00	1.164	0.08	0.126	0.147
	LTE Band 12	10M	QPSK	25RB	0Offset	Back	10	23095	707.5	21.34	22.00	1.164	0.06	0.176	0.205
	LTE Band 5	10M	QPSK	1RB	0Offset	Front	10	20525	836.5	22.48	23.00	1.127	0.02	0.323	0.364
18	LTE Band 5	10M	QPSK	1RB	0Offset	Back	10	20525	836.5	22.48	23.00	1.127	0.06	0.548	0.618
	LTE Band 5	10M	QPSK	25RB	0Offset	Front	10	20525	836.5	21.47	22.00	1.130	0.05	0.265	0.299
	LTE Band 5	10M	QPSK	25RB	0Offset	Back	10	20525	836.5	21.47	22.00	1.130	0.03	0.445	0.503
	LTE Band 4	20M	QPSK	1RB	0Offset	Front	10	20175	1732.5	22.15	22.50	1.084	0.01	0.327	0.354
19	LTE Band 4	20M	QPSK	1RB	0Offset	Back	10	20175	1732.5	22.15	22.50	1.084	0.06	0.714	0.774
	LTE Band 4	20M	QPSK	50RB	0Offset	Front	10	20175	1732.5	21.15	21.50	1.084	0.05	0.252	0.273
	LTE Band 4	20M	QPSK	50RB	0Offset	Back	10	20175	1732.5	21.15	21.50	1.084	0.07	0.529	0.573
	LTE Band 2	20M	QPSK	1RB	0Offset	Front	10	18900	1880	21.78	22.00	1.052	-0.02	0.475	0.500
20	LTE Band 2	20M	QPSK	1RB	0Offset	Back	10	18900	1880	21.78	22.00	1.052	0.05	0.579	0.609
	LTE Band 2	20M	QPSK	1RB	0Offset	Back	10	18700	1860	21.68	22.00	1.076	0.16	0.416	0.448
	LTE Band 2	20M	QPSK	1RB	0Offset	Back	10	19100	1900	21.68	22.00	1.076	0.03	0.507	0.546
	LTE Band 2	20M	QPSK	50RB	0Offset	Front	10	18900	1880	20.72	21.00	1.067	0.06	0.367	0.391
	LTE Band 2	20M	QPSK	50RB	0Offset	Back	10	18900	1880	20.72	21.00	1.067	0.07	0.458	0.489

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1RB	99Offset	Front	10	21350	2560	22.08	22.5	1.102	0.06	0.529	0.583
	LTE Band 7	20M	QPSK	50RB	0Offset	Front	10	21350	2560	21.12	21.5	1.091	-0.19	0.494	0.539
	LTE Band 7	20M	QPSK	1RB	99Offset	Back	10	21350	2560	22.08	22.5	1.102	-0.15	0.455	0.501
	LTE Band 7	20M	QPSK	50RB	0Offset	Back	10	21350	2560	21.12	21.5	1.091	-0.04	0.447	0.488
21	LTE Band 7	20M	QPSK	1RB	99Offset	Front	10	20850	2510	21.95	22.5	1.135	-0.18	0.738	0.838
	LTE Band 7	20M	QPSK	1RB	99Offset	Front	10	21100	2535	21.99	22.5	1.125	-0.13	0.658	0.740
	LTE Band 7	20M	QPSK	100RB	0Offset	Front	10	21350	2560	21.1	21.5	1.096	-0.15	0.477	0.523

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	10	6	2437	11.33	12.00	1.167	100%	0.03	0.064	0.075
22	WLAN2.4GHz	802.11b 1Mbps	Back	10	6	2437	11.33	12.00	1.167	100%	0.04	0.100	0.117
	WLAN2.4GHz	802.11b 1Mbps	Back	10	1	2412	10.67	11.50	1.211	100%	-0.03	0.082	0.099
	WLAN2.4GHz	802.11b 1Mbps	Back	10	11	2462	11.06	11.50	1.107	100%	-0.02	0.094	0.104

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	10	39	2441	5.90	6.50	1.149	-0.01	0.011	0.013
	Bluetooth	1Mbps	Back	10	39	2441	5.90	6.50	1.149	0.19	0.015	0.017
	Bluetooth	1Mbps	Back	10	0	2402	4.91	6.50	1.443	-0.08	0.018	0.026
23	Bluetooth	1Mbps	Back	10	78	2480	4.90	6.50	1.446	-0.04	0.019	0.027

15. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Handset			Note
		Head	Body-worn	Hotspot	
1.	GSM Voice + WLAN2.4GHz	Yes	Yes		
2.	GPRS/EDGE + WLAN2.4GHz	Yes	Yes	Yes	Hotspot
3.	WCDMA + WLAN2.4GHz	Yes	Yes	Yes	Hotspot
4.	LTE + WLAN2.4GHz	Yes	Yes	Yes	Hotspot
5.	GSM Voice + Bluetooth		Yes		
6.	GPRS/EDGE + Bluetooth		Yes		WWAN VoIP
7.	WCDMA+ Bluetooth		Yes		WWAN VoIP
8.	LTE + Bluetooth		Yes		WWAN VoIP

General Note:

1. This device supported VoIP in GPRS, EGPRS, WCDMA, LTE (e.g. 3rd party VoIP).
2. This device 2.4GHz WLAN supports Hotspot operation.
3. WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.
4. Chose each GSM, WCDMA and LTE according to the network signal condition; therefore, they will not operate simultaneously at any moment.
5. The Scaled SAR summation is calculated based on the same configuration and test position.
6. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - i) Scalar SAR summation < 1.6W/kg.
 - ii) $SPLSR = (SAR1 + SAR2)^{1.5} / (\min. \text{ separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - iii) If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary.
 - iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.

15.1 Head Exposure Conditions

WWAN Band		Exposure Position	1	2	1+2 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	2.4GHz WLAN			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Right Cheek	0.532	0.275	0.81		
		Right Tilted	0.283	0.212	0.50		
		Left Cheek	0.425	0.177	0.60		
		Left Tilted	0.254	0.158	0.41		
	GSM1900	Right Cheek	0.184	0.275	0.46		
		Right Tilted	0.135	0.212	0.35		
		Left Cheek	0.338	0.177	0.52		
		Left Tilted	0.121	0.158	0.28		
WCDMA	WCDMA II	Right Cheek	0.289	0.275	0.56		
		Right Tilted	0.268	0.212	0.48		
		Left Cheek	0.436	0.177	0.61		
		Left Tilted	0.217	0.158	0.38		
	WCDMA IV	Right Cheek	0.183	0.275	0.46		
		Right Tilted	0.136	0.212	0.35		
		Left Cheek	0.185	0.177	0.36		
		Left Tilted	0.110	0.158	0.27		
	WCDMA V	Right Cheek	0.422	0.275	0.70		
		Right Tilted	0.152	0.212	0.36		
		Left Cheek	0.271	0.177	0.45		
		Left Tilted	0.153	0.158	0.31		
LTE	LTE Band 2	Right Cheek	0.394	0.275	0.67		
		Right Tilted	0.270	0.212	0.48		
		Left Cheek	0.400	0.177	0.58		
		Left Tilted	0.238	0.158	0.40		
	LTE Band 4	Right Cheek	0.159	0.275	0.43		
		Right Tilted	0.135	0.212	0.35		
		Left Cheek	0.246	0.177	0.42		
		Left Tilted	0.124	0.158	0.28		
	LTE Band 5	Right Cheek	0.292	0.275	0.57		
		Right Tilted	0.168	0.212	0.38		
		Left Cheek	0.273	0.177	0.45		
		Left Tilted	0.153	0.158	0.31		
	LTE Band 7	Right Cheek	0.117	0.275	0.39		
		Right Tilted	0.083	0.212	0.30		
		Left Cheek	0.417	0.177	0.59		
		Left Tilted	0.061	0.158	0.22		
	LTE Band 12	Right Cheek	0.181	0.275	0.46		



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		Right Tilted	0.107	0.212	0.32		
		Left Cheek	0.154	0.177	0.33		
		Left Tilted	0.086	0.158	0.24		



15.2 Hotspot Exposure Conditions

WWAN Band		Exposure Position	1	2	1+2 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	2.4GHz WLAN			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.414	0.075	0.49		
		Back	0.876	0.117	0.99		
		Left side	0.558		0.56		
		Right side	0.662		0.66		
		Top side		0.066	0.07		
		Bottom side	0.109		0.11		
	GSM1900	Front	0.260	0.075	0.34		
		Back	0.435	0.117	0.55		
		Left side	0.176		0.18		
		Right side	0.166		0.17		
		Top side		0.066	0.07		
		Bottom side	0.179		0.18		
WCDMA	WCDMA II	Front	0.477	0.075	0.55		
		Back	0.512	0.117	0.63		
		Left side	0.340		0.34		
		Right side	0.110		0.11		
		Top side		0.066	0.07		
		Bottom side	0.355		0.36		
	WCDMA IV	Front	0.269	0.075	0.34		
		Back	0.566	0.117	0.68		
		Left side	0.142		0.14		
		Right side	0.137		0.14		
		Top side		0.066	0.07		
		Bottom side	0.237		0.24		
	WCDMA V	Front	0.278	0.075	0.35		
		Back	0.577	0.117	0.69		
		Left side	0.311		0.31		
		Right side	0.372		0.37		
		Top side		0.066	0.07		
		Bottom side	0.061		0.06		
LTE	LTE Band 2	Front	0.500	0.075	0.58		
		Back	0.609	0.117	0.73		
		Left side	0.320		0.32		
		Right side	0.247		0.25		
		Top side		0.066	0.07		
		Bottom side	0.305		0.31		

	LTE Band 4	Front	0.354	0.075	0.43		
		Back	0.774	0.117	0.89		
		Left side	0.177		0.18		
		Right side	0.139		0.14		
		Top side		0.066	0.07		
		Bottom side	0.377		0.38		
	LTE Band 5	Front	0.364	0.075	0.44		
		Back	0.618	0.117	0.74		
		Left side	0.472		0.47		
		Right side	0.463		0.46		
		Top side		0.066	0.07		
		Bottom side	0.090		0.09		
	LTE Band 7	Front	0.838	0.075	0.91		
		Back	0.501	0.117	0.62		
		Left side	0.238		0.24		
		Right side	0.166		0.17		
		Top side		0.066	0.07		
		Bottom side	0.308		0.31		
	LTE Band 12	Front	0.159	0.075	0.23		
		Back	0.223	0.117	0.34		
		Left side	0.205		0.21		
		Right side	0.161		0.16		
		Top side		0.066	0.07		
		Bottom side	0.032		0.03		



15.3 Body-Worn Accessory Exposure Conditions

WWAN Band		Exposure Position	1	2	3	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	2.4GHz WLAN	Bluetooth				
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)				
GSM	GSM850	Front	0.414	0.075	0.013	0.49	0.43		
		Back	0.876	0.117	0.027	0.99	0.90		
	GSM1900	Front	0.260	0.075	0.013	0.34	0.27		
		Back	0.435	0.117	0.027	0.55	0.46		
WCDMA	WCDMA II	Front	0.477	0.075	0.013	0.55	0.49		
		Back	0.512	0.117	0.027	0.63	0.54		
	WCDMA IV	Front	0.269	0.075	0.013	0.34	0.28		
		Back	0.566	0.117	0.027	0.68	0.59		
	WCDMA V	Front	0.278	0.075	0.013	0.35	0.29		
		Back	0.577	0.117	0.027	0.69	0.60		
LTE	LTE Band 2	Front	0.500	0.075	0.013	0.58	0.51		
		Back	0.609	0.117	0.027	0.73	0.64		
	LTE Band 4	Front	0.354	0.075	0.013	0.43	0.37		
		Back	0.774	0.117	0.027	0.89	0.80		
	LTE Band 5	Front	0.364	0.075	0.013	0.44	0.38		
		Back	0.618	0.117	0.027	0.74	0.65		
	LTE Band 7	Front	0.838	0.075	0.013	0.91	0.85		
		Back	0.501	0.117	0.027	0.62	0.53		
	LTE Band 12	Front	0.159	0.075	0.013	0.23	0.17		
		Back	0.223	0.117	0.027	0.34	0.25		

Test Engineer : Luke Lu

16. Uncertainty Assessment

The component of uncertainty may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainty by the statistical analysis of a series of observations is termed a Type A evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience, and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in table below.

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor ^(a)	1/ κ ^(b)	1/ $\sqrt{3}$	1/ $\sqrt{6}$	1/ $\sqrt{2}$

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) κ is the coverage factor

Table 16.1. Standard Uncertainty for Assumed Distribution

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in the following tables.

Error Description	Uncertainty Value (±%)	Probability	Divisor	(Ci) 1g	(Ci) 10g	Standard Uncertainty (1g) (±%)	Standard Uncertainty (10g) (±%)
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
Device Holder	3.6	N	1	1	1	3.6	3.6
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
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
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%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						22.9%	22.7%

Table 16.2. Uncertainty Budget for frequency range 300 MHz to 3 GHz

17. References

- [1] FCC 47 CFR Part 2 "Frequency Allocations and Radio Treaty Matters; General Rules and Regulations"
- [2] ANSI/IEEE Std. C95.1-1992, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz", September 1992
- [3] IEEE Std. 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 248227 D01 v02r02, "SAR Guidance for IEEE 802.11 (WiFi) Transmitters", Oct 2015.
- [6] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [7] FCC KDB 648474 D04 v01r03, "SAR Evaluation Considerations for Wireless Handsets", Oct 2015.
- [8] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [9] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [10] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.
- [11] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [12] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.



Appendix A. Plots of System Performance Check

The plots are shown as follows.

System Check_Head_750MHz_160719**DUT: D750V3**

Communication System: UID 0, CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium: HSL_750_160719 Medium parameters used: $f = 750$ MHz; $\sigma = 0.888$ S/m; $\epsilon_r = 40.879$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(9.91, 9.91, 9.91); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.41 W/kg

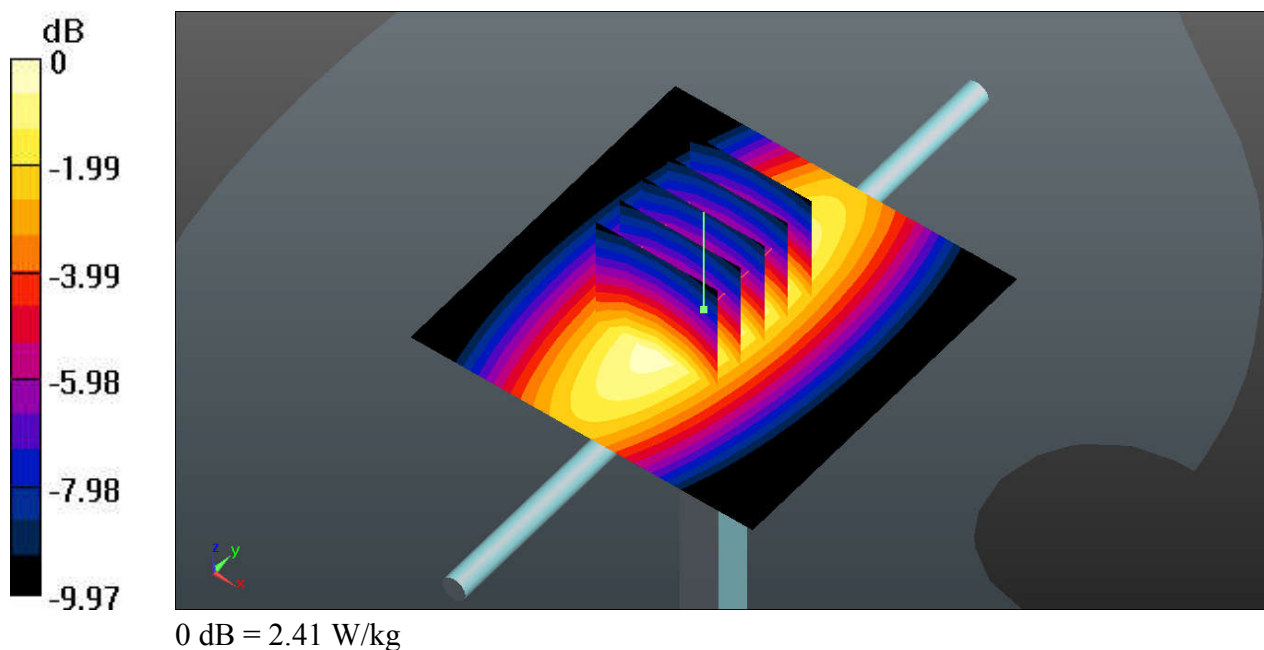
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 53.13 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 2.82 W/kg

SAR(1 g) = 1.93 W/kg; SAR(10 g) = 1.29 W/kg

Maximum value of SAR (measured) = 2.42 W/kg



System Check_Head_835MHz_160719

DUT: D835V2

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL_835_160719 Medium parameters used: $f = 835$ MHz; $\sigma = 0.92$ S/m; $\epsilon_r = 42.227$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(9.41, 9.41, 9.41); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.95 W/kg

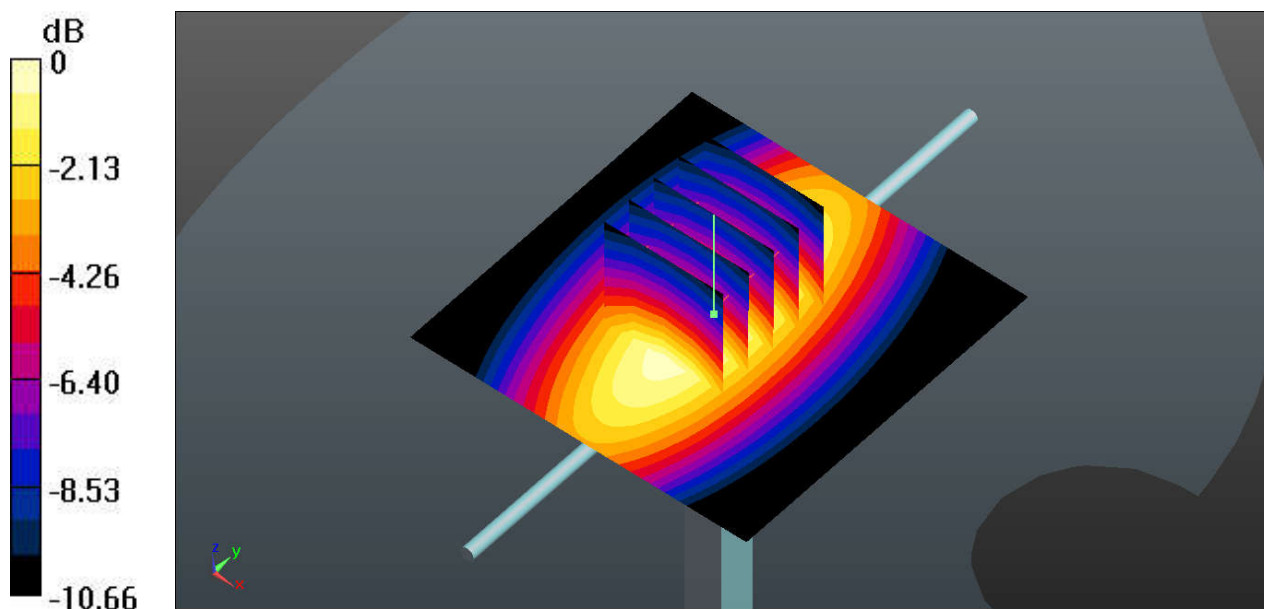
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 57.80 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 3.47 W/kg

SAR(1 g) = 2.34 W/kg; SAR(10 g) = 1.54 W/kg

Maximum value of SAR (measured) = 2.96 W/kg



0 dB = 2.95 W/kg

System Check_Head_1750MHz_160718**DUT: D1750V2**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: HSL_1800_160718 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.395$ S/m; $\epsilon_r = 40.742$;

$\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(8.12, 8.12, 8.12); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 11.3 W/kg

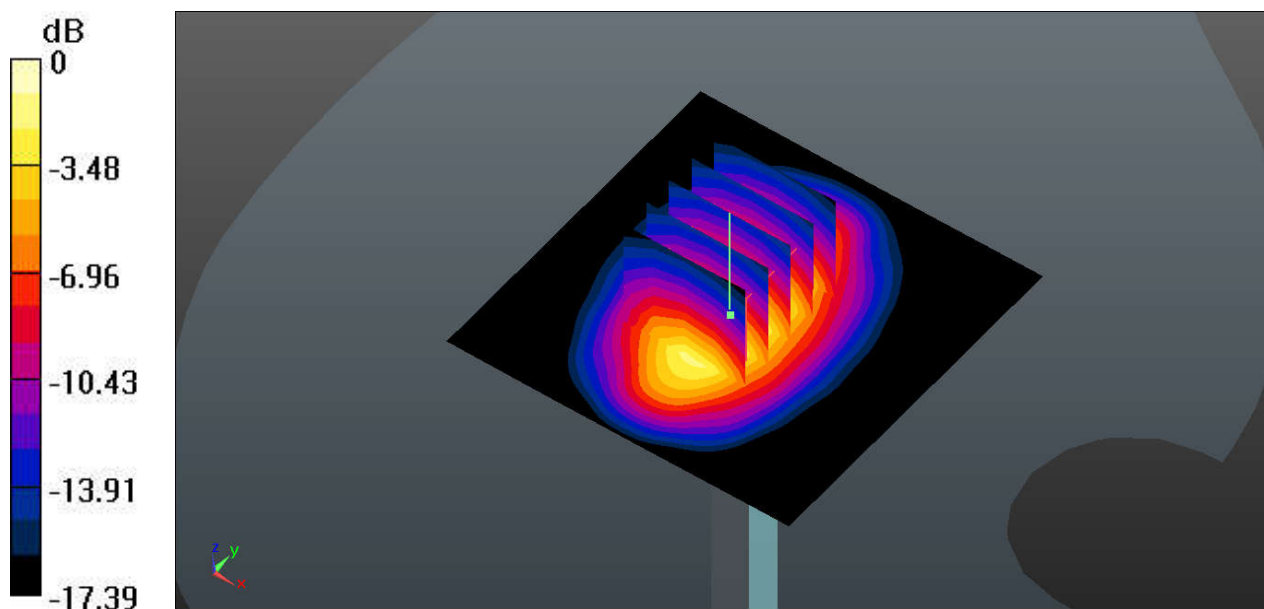
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 89.32 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 13.9 W/kg

SAR(1 g) = 8.55 W/kg; SAR(10 g) = 4.81 W/kg

Maximum value of SAR (measured) = 11.2 W/kg



0 dB = 11.3 W/kg

System Check_Head_1900MHz_160718

DUT: D1900V2

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL_1900_160718 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.448$ S/m; $\epsilon_r = 39.145$;

$\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C; Liquid Temperature : 22.9 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(7.79, 7.79, 7.79); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 14.3 W/kg

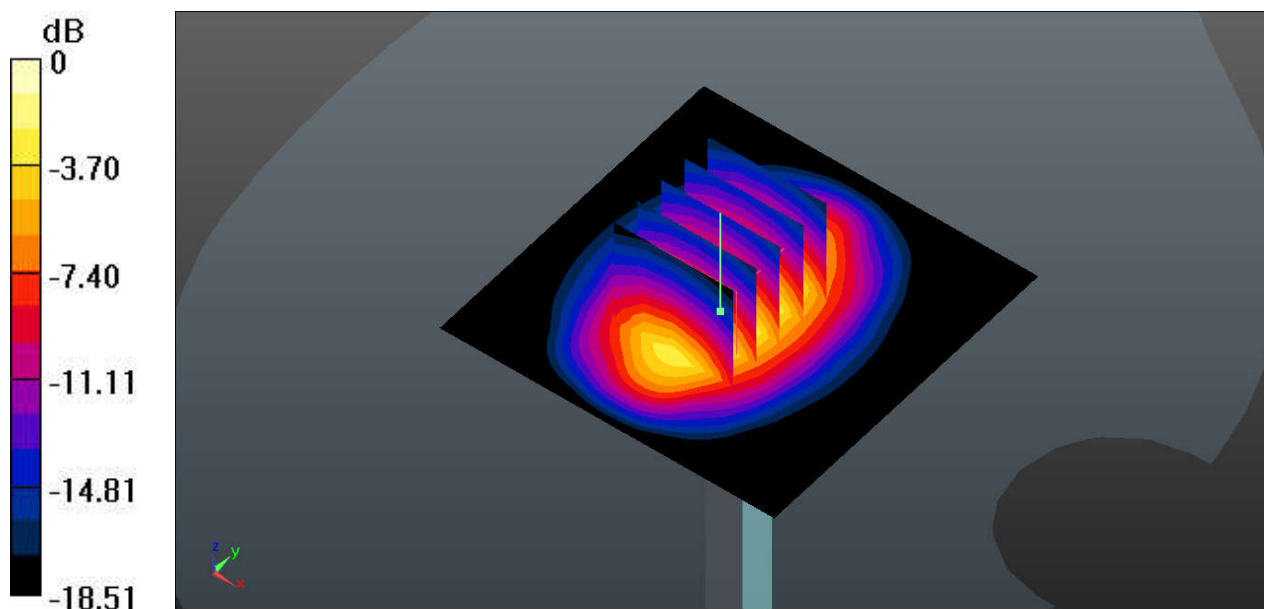
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 99.99 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 18.1 W/kg

SAR(1 g) = 9.84 W/kg; SAR(10 g) = 5.11 W/kg

Maximum value of SAR (measured) = 14.1 W/kg



System Check_Head_2450MHz_160719**DUT: D2450V2**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL_2450_160719 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.823$ S/m; $\epsilon_r = 37.953$;

$\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C ; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(6.93, 6.93, 6.93); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 18.9 W/kg

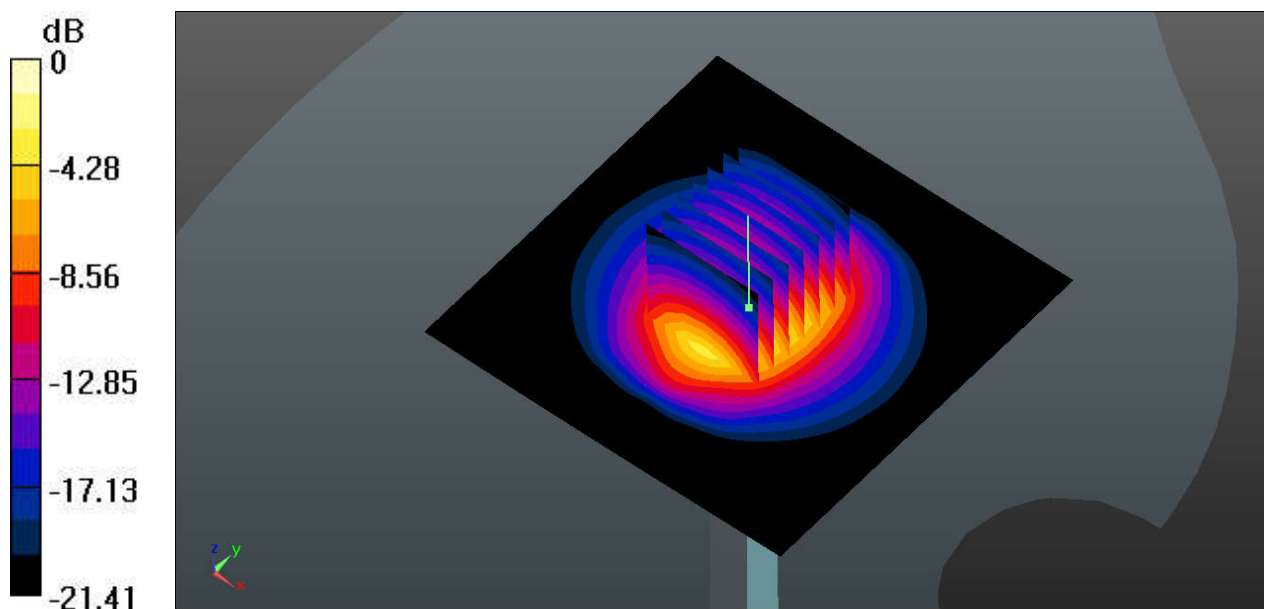
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 88.41 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 25.1 W/kg

SAR(1 g) = 12.3 W/kg; SAR(10 g) = 5.69 W/kg

Maximum value of SAR (measured) = 18.8 W/kg



0 dB = 18.9 W/kg

System Check_Head_2600MHz_160727**DUT: D2600V2 - SN:1061**

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: HSL_2600_160727 Medium parameters used: $f = 2600$ MHz; $\sigma = 1.981$ S/m; $\epsilon_r = 38.254$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3857; ConvF(7.08, 7.08, 7.08); Calibrated: 2016.5.25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2016.5.18
- Phantom: SAM2; Type: SAM; Serial: TP-1477
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 22.9 W/kg

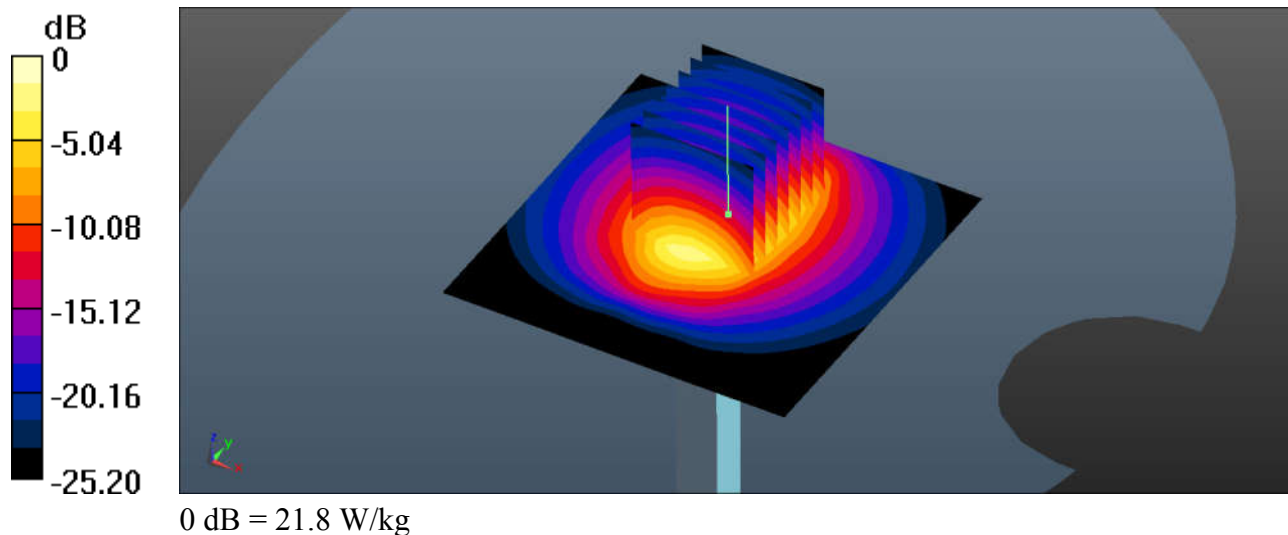
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 83.13 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 23.7 W/kg

SAR(1 g) = 14.8 W/kg; SAR(10 g) = 6.54 W/kg

Maximum value of SAR (measured) = 21.8 W/kg



System Check_Body_750MHz_160717**DUT: D750V3**

Communication System: UID 0, CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium: MSL_750_160717 Medium parameters used: $f = 750$ MHz; $\sigma = 0.961$ S/m; $\epsilon_r = 53.931$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(9.69, 9.69, 9.69); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm

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

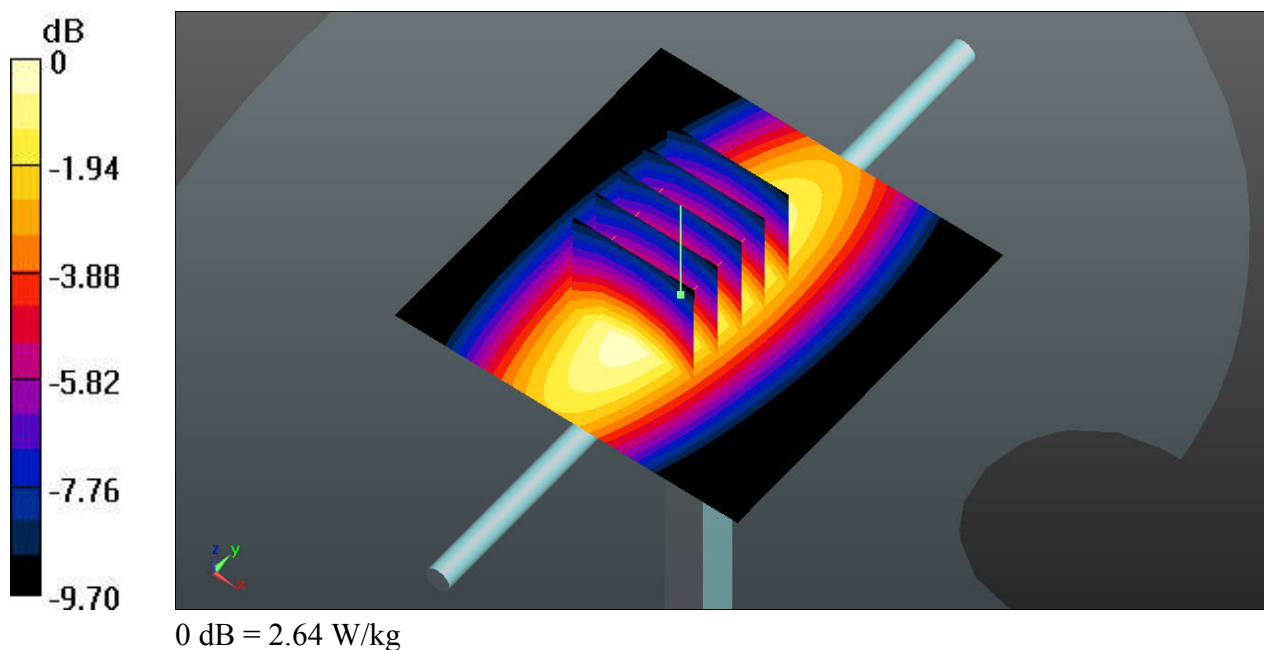
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 53.76 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 3.07 W/kg

SAR(1 g) = 2.13 W/kg; SAR(10 g) = 1.44 W/kg

Maximum value of SAR (measured) = 2.66 W/kg



System Check_Body_835MHz_160717**DUT: D835V2**

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: MSL_835_160717 Medium parameters used: $f = 835$ MHz; $\sigma = 0.977$ S/m; $\epsilon_r = 54.466$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(9.47, 9.47, 9.47); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 3.00 W/kg

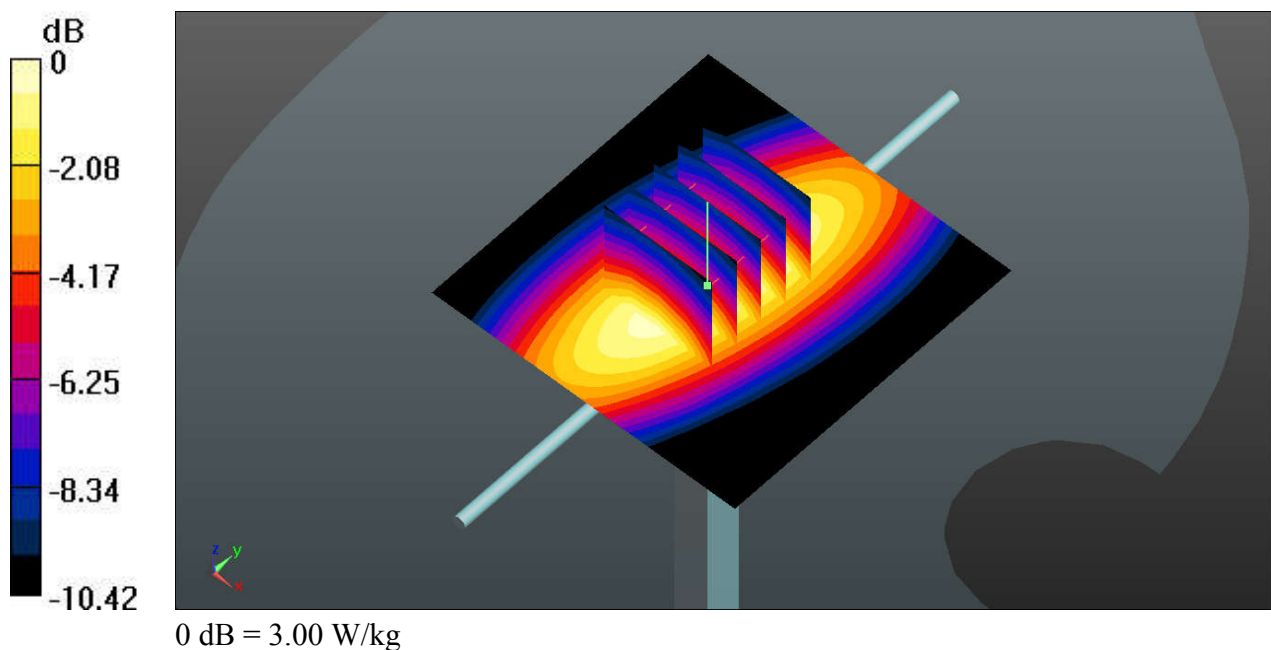
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 56.77 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 3.45 W/kg

SAR(1 g) = 2.38 W/kg; SAR(10 g) = 1.58 W/kg

Maximum value of SAR (measured) = 2.98 W/kg



System Check_Body_1750MHz_160716

DUT: D1750V2

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: MSL_1800_160716 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.527$ S/m; $\epsilon_r = 52.039$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(7.71, 7.71, 7.71); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 13.1 W/kg

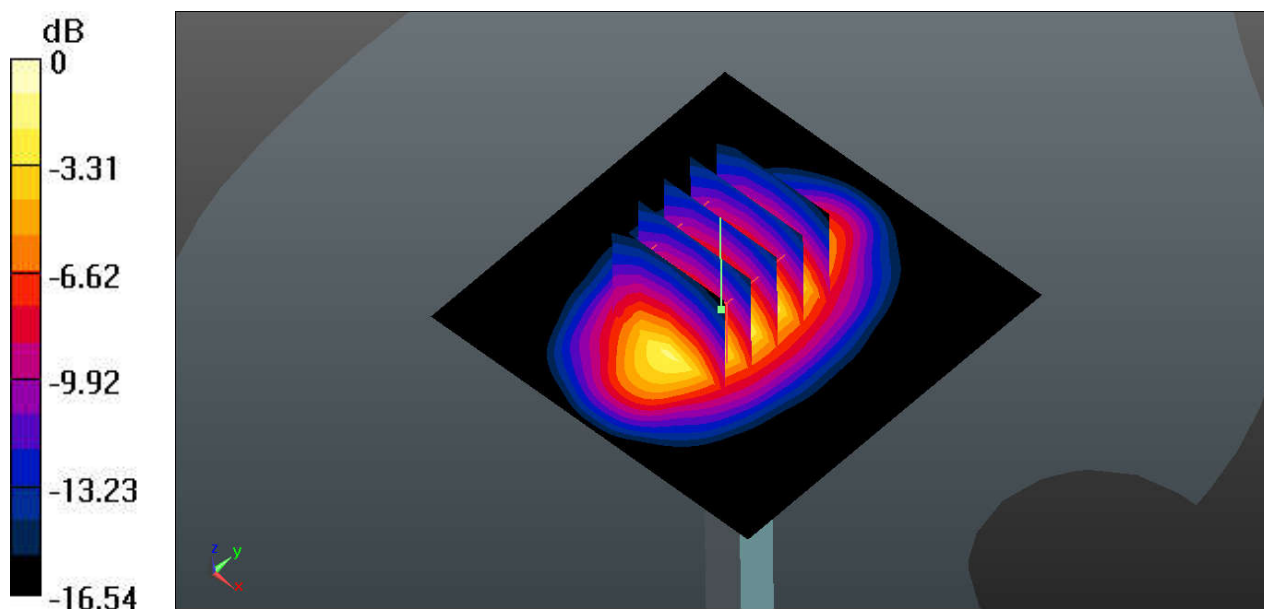
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 94.03 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 16.1 W/kg

SAR(1 g) = 9.16 W/kg; SAR(10 g) = 4.9 W/kg

Maximum value of SAR (measured) = 12.9 W/kg



System Check_Body_1900MHz_160716**DUT: D1900V2**

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: MSL_1900_160716 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.547$ S/m; $\epsilon_r = 53.803$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(7.39, 7.39, 7.39); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 14.6 W/kg

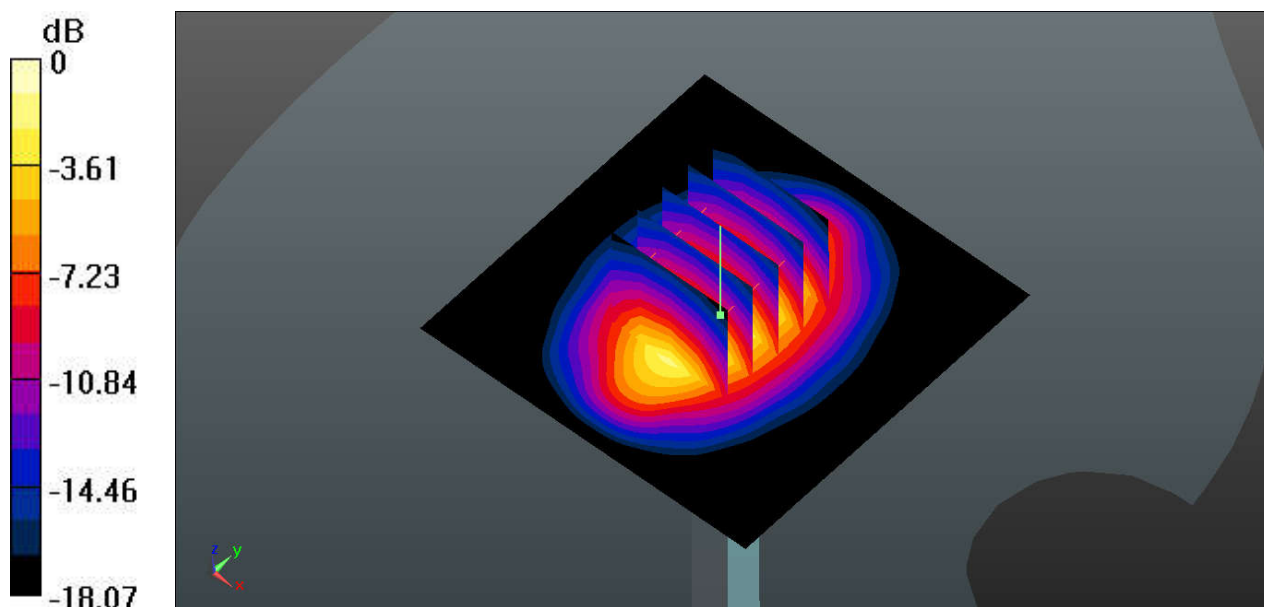
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 86.32 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 18.1 W/kg

SAR(1 g) = 9.98 W/kg; SAR(10 g) = 5.15 W/kg

Maximum value of SAR (measured) = 14.4 W/kg



0 dB = 14.6 W/kg

System Check_Body_2450MHz_160719**DUT: D2450V2**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: MSL_2450_160719 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.992$ S/m; $\epsilon_r = 52.291$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(7.08, 7.08, 7.08); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=12mm, dy=12mm

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

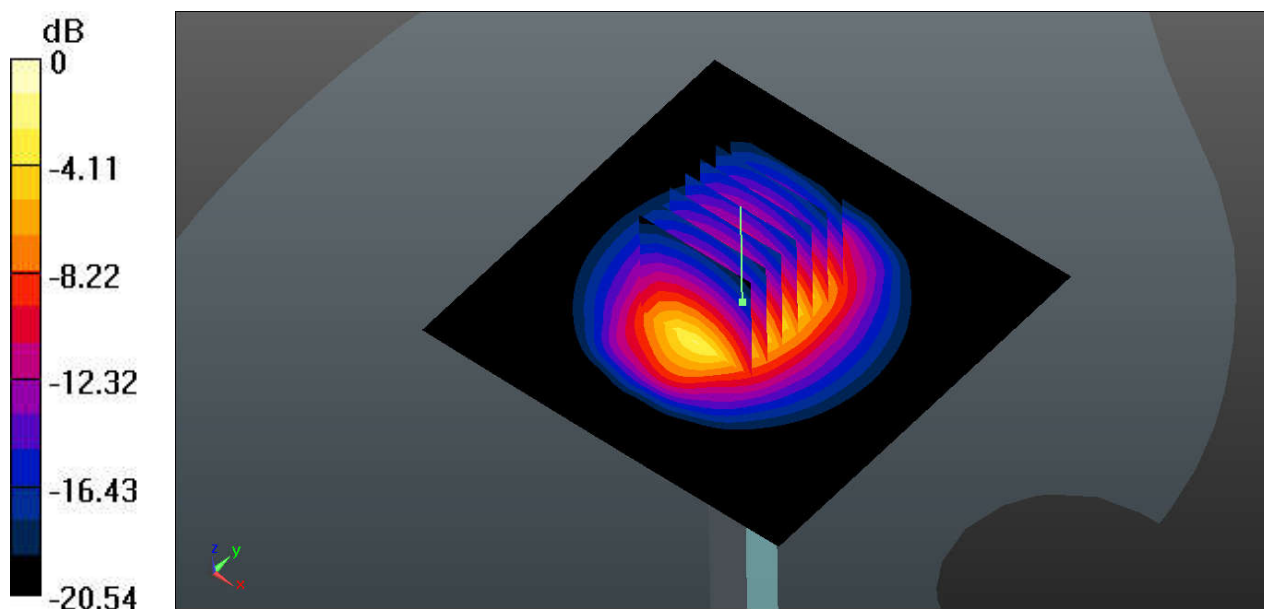
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 88.04 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 27.1 W/kg

SAR(1 g) = 13.7 W/kg; SAR(10 g) = 6.48 W/kg

Maximum value of SAR (measured) = 20.6 W/kg



0 dB = 20.4 W/kg

System Check_Body_2600MHz_160727**DUT: D2600V2 - SN:1061**

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: MSL_2600_160727 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.136$ S/m; $\epsilon_r = 52.925$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3954; ConvF(7.08, 7.08, 7.08); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2016.4.4
- Phantom: SAM2; Type: SAM; Serial: TP-1542
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

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

Maximum value of SAR (interpolated) = 16.1 W/kg

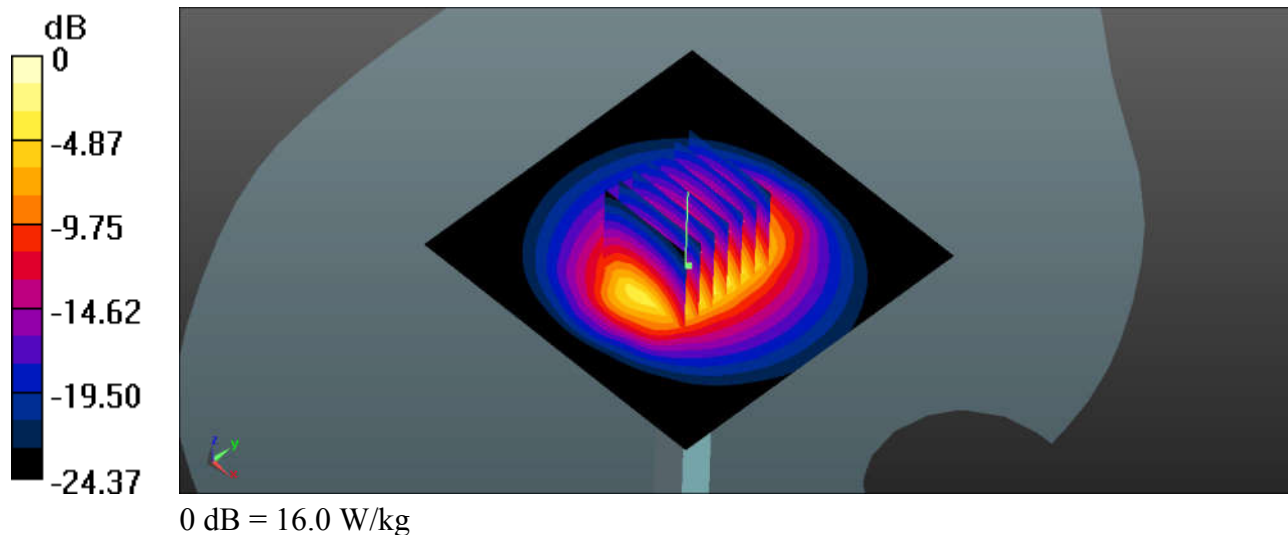
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 74.86 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 22.2 W/kg

SAR(1 g) = 12.8 W/kg; SAR(10 g) = 6.67 W/kg

Maximum value of SAR (measured) = 16.0 W/kg





Appendix B. Plots of High SAR Measurement

The plots are shown as follows.

01_GSM850_GPRS (4 Tx slots)_Right Cheek_Ch251

Communication System: UID 0, GPRS/EDGE12 (0); Frequency: 848.8 MHz; Duty Cycle: 1:2.08
Medium: HSL_835_160719 Medium parameters used: $f = 849$ MHz; $\sigma = 0.933$ S/m; $\epsilon_r = 42.075$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(9.41, 9.41, 9.41); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch251/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.530 W/kg

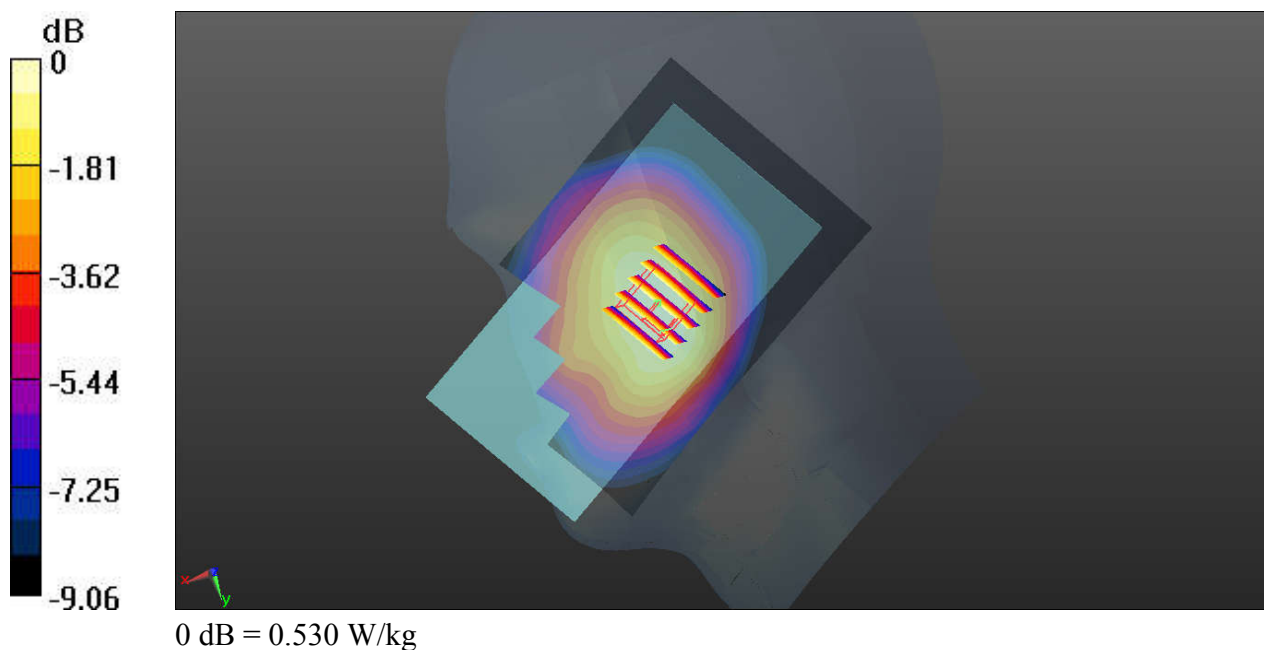
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.005 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.592 W/kg

SAR(1 g) = 0.468 W/kg; SAR(10 g) = 0.361 W/kg

Maximum value of SAR (measured) = 0.534 W/kg



02_GSM1900_GPRS (4 Tx slots)_Left Cheek_Ch810

Communication System: UID 0, GPRS/EDGE12 (0); Frequency: 1909.8 MHz; Duty Cycle: 1:2.08
Medium: HSL_1900_160718 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.458$ S/m; $\epsilon_r = 39.11$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C; Liquid Temperature : 22.9 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(7.79, 7.79, 7.79); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch810/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.394 W/kg

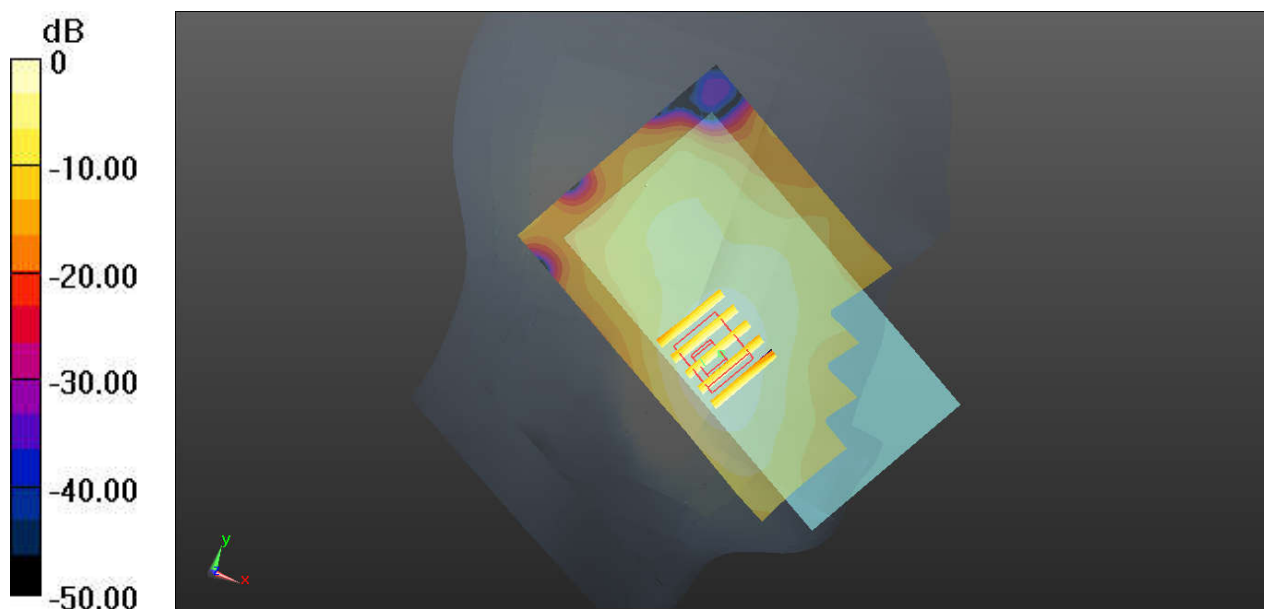
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.276 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.460 W/kg

SAR(1 g) = 0.299 W/kg; SAR(10 g) = 0.186 W/kg

Maximum value of SAR (measured) = 0.384 W/kg



03_WCDMA V_RMC 12.2Kbps_Right Cheek_Ch4233

Communication System: UID 0, UMTS (0); Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: HSL_835_160719 Medium parameters used: $f = 847$ MHz; $\sigma = 0.931$ S/m; $\epsilon_r = 42.097$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(9.41, 9.41, 9.41); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4233/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.433 W/kg

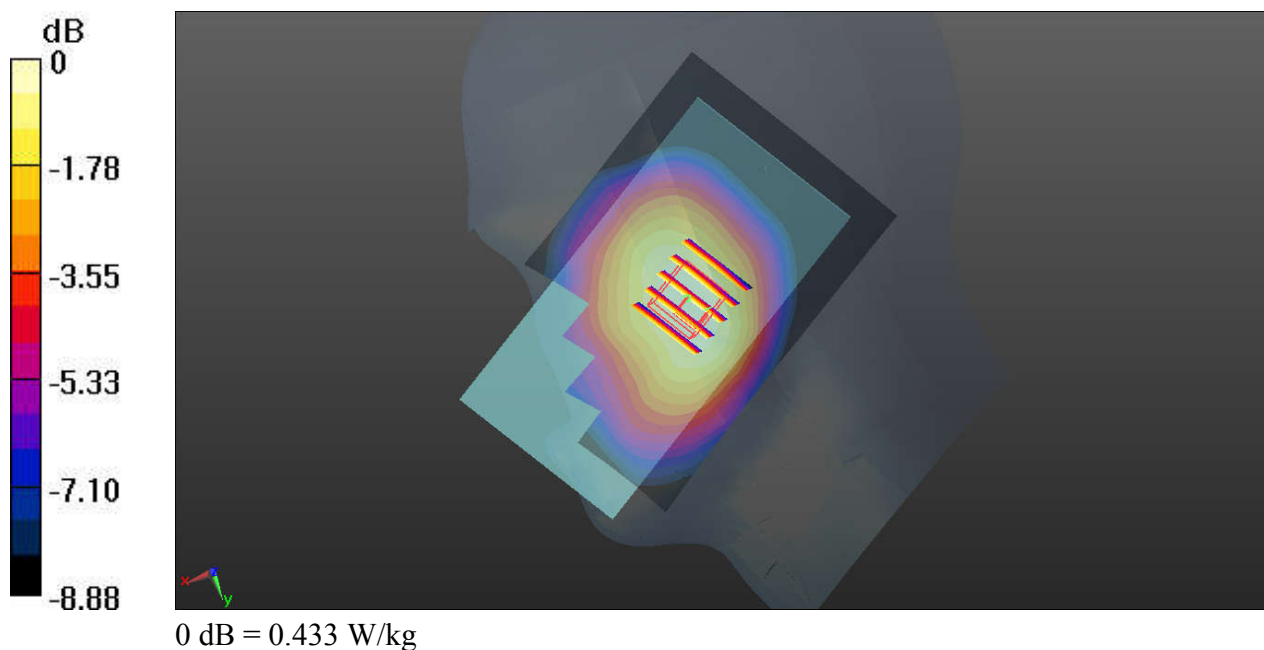
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.362 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.474 W/kg

SAR(1 g) = 0.381 W/kg; SAR(10 g) = 0.296 W/kg

Maximum value of SAR (measured) = 0.432 W/kg



04_WCDMA IV_RMC 12.2Kbps_Left Cheek_Ch1513

Communication System: UID 0, UMTS (0); Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: HSL_1800_160718 Medium parameters used: $f = 1753$ MHz; $\sigma = 1.398$ S/m; $\epsilon_r = 40.735$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(8.12, 8.12, 8.12); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1513/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm

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

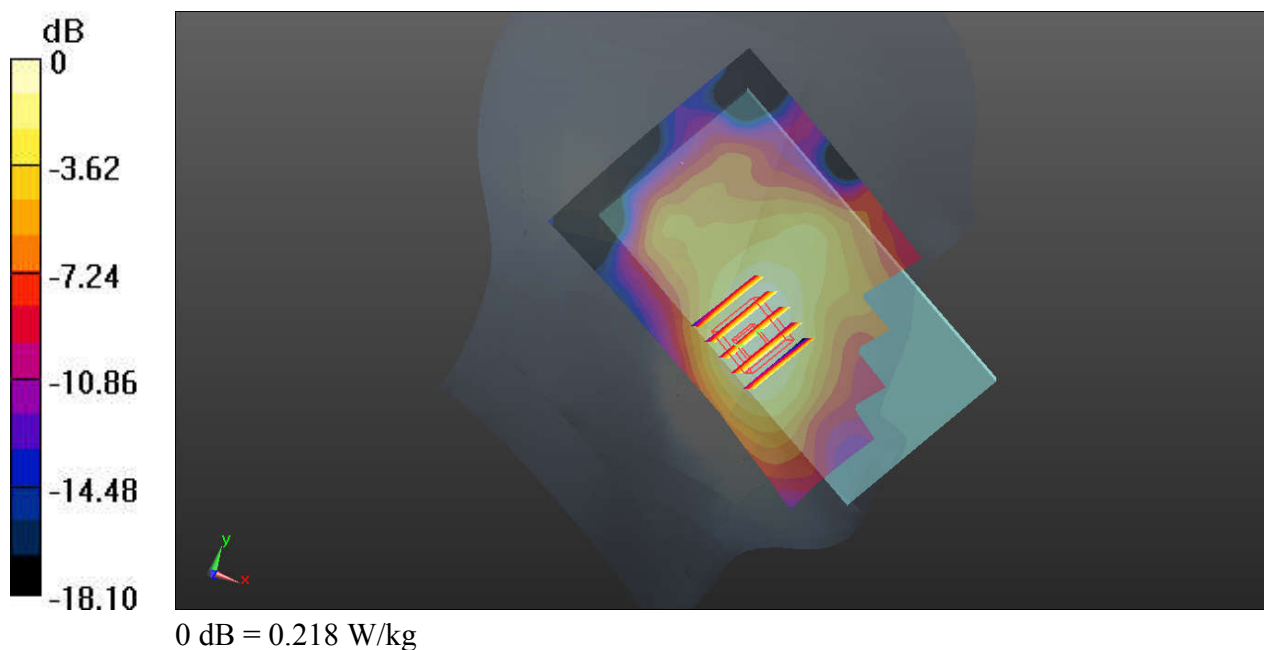
Ch1513/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.842 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.253 W/kg

SAR(1 g) = 0.175 W/kg; SAR(10 g) = 0.115 W/kg

Maximum value of SAR (measured) = 0.216 W/kg



05_WCDMA II_RMC 12.2Kbps_Left Cheek_Ch9538

Communication System: UID 0, UMTS (0); Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: HSL_1900_160718 Medium parameters used: $f = 1908$ MHz; $\sigma = 1.456$ S/m; $\epsilon_r = 39.115$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C; Liquid Temperature : 22.9 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(7.79, 7.79, 7.79); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch9538/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.521 W/kg

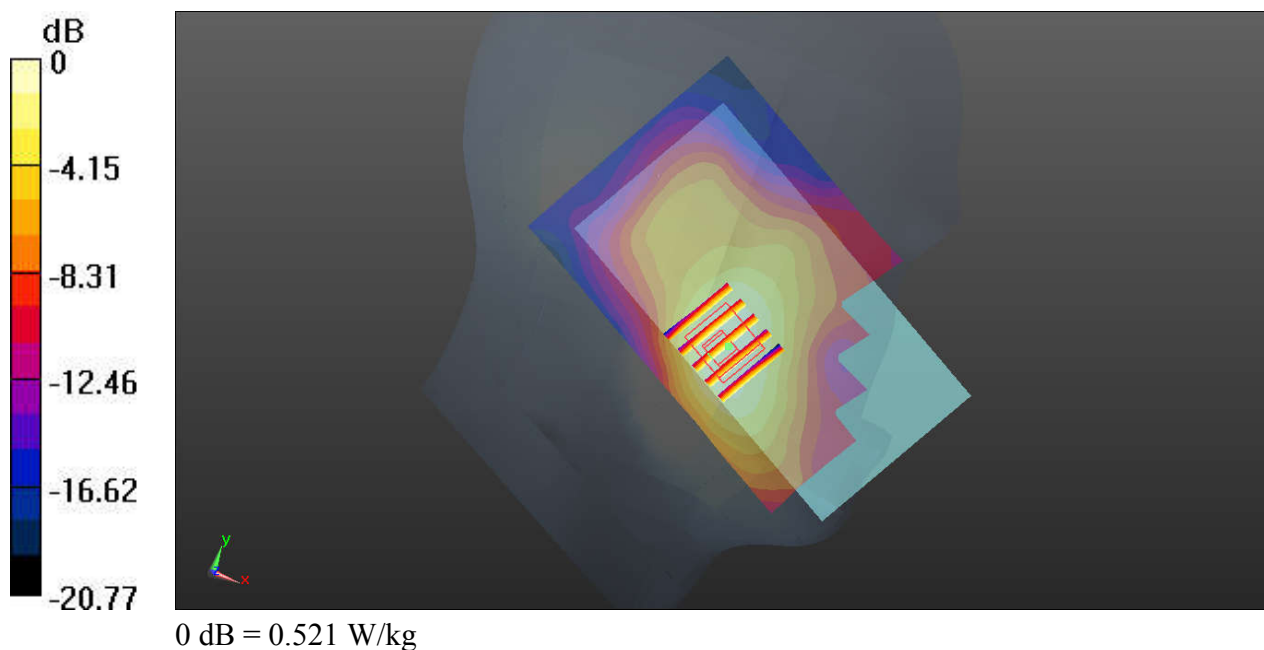
Ch9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.752 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.620 W/kg

SAR(1 g) = 0.411 W/kg; SAR(10 g) = 0.258 W/kg

Maximum value of SAR (measured) = 0.506 W/kg



06_LTE Band 12_10M_QPSK_1RB_0Offset_Right Cheek_Ch23095

Communication System: UID 0, LTE (0); Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium: HSL_750_160719 Medium parameters used: $f = 707.5$ MHz; $\sigma = 0.866$ S/m; $\epsilon_r = 41.805$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(9.91, 9.91, 9.91); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch23095/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.178 W/kg

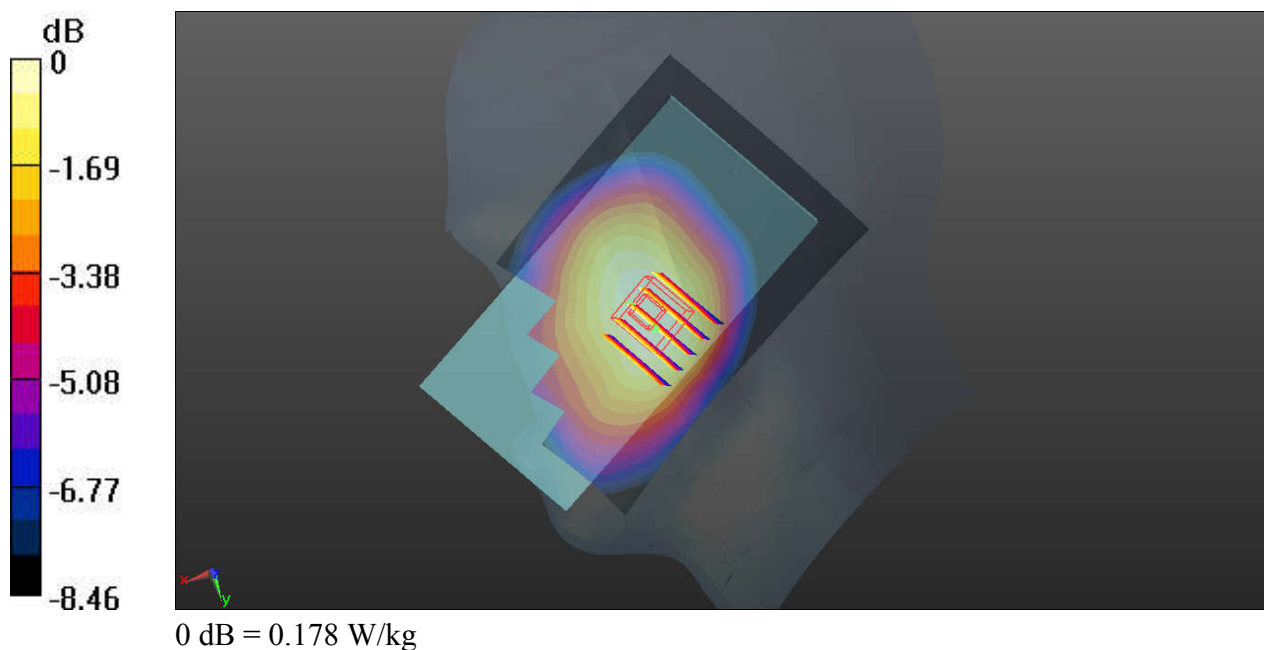
Ch23095/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.667 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.201 W/kg

SAR(1 g) = 0.158 W/kg; SAR(10 g) = 0.125 W/kg

Maximum value of SAR (measured) = 0.177 W/kg



07_LTE Band 5_10M_QPSK_1RB_0Offset_Right Cheek_Ch20525

Communication System: UID 0, LTE (0); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: HSL_835_160719 Medium parameters used: $f = 836.5$ MHz; $\sigma = 0.922$ S/m; $\epsilon_r = 42.218$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3819; ConvF(9.41, 9.41, 9.41); Calibrated: 2015.11.27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2015.11.23
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20525/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.292 W/kg

Ch20525/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.018 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.316 W/kg

SAR(1 g) = 0.259 W/kg; SAR(10 g) = 0.199 W/kg

Maximum value of SAR (measured) = 0.290 W/kg

