

Hotspot SAR

GSM850 – Body SAR Test (Gap: 10mm)									
Plot No.	Mode	Test Position Body	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
77.	GPRS_2TX	Back Side	190	836.6	30.81	31.0	1.045	0.342	0.357
78.	GPRS_2TX	Front Side	190	836.6	30.81	31.0	1.045	0.381	0.398
79.	GPRS_2TX	Right side	190	836.6	30.81	31.0	1.045	0.169	0.177
80.	GPRS_2TX	Left side	190	836.6	30.81	31.0	1.045	0.217	0.227
81.	GPRS_2TX	Bottom side	190	836.6	30.81	31.0	1.045	0.247	0.258

GSM1900 – Body SAR Test (Gap: 10mm)									
Plot No.	Mode	Test Position Body	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
82.	GPRS_3TX	Back Side	661	1880.0	26.31	26.5	1.045	0.310	0.324
83.	GPRS_3TX	Front Side	661	1880.0	26.31	26.5	1.045	0.301	0.314
84.	GPRS_3TX	Right side	661	1880.0	26.31	26.5	1.045	0.203	0.212
85.	GPRS_3TX	Left side	661	1880.0	26.31	26.5	1.045	0.241	0.252
86.	GPRS_3TX	Bottom side	661	1880.0	26.31	26.5	1.045	0.281	0.294

WCDMA Band 2 – Body SAR Test (Gap: 10mm)									
Plot No.	Mode	Test Position Body	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
87.	RMC 12.2k	Back Side	9400	1880.0	22.18	22.5	1.076	0.478	0.515
88.	RMC 12.2k	Front Side	9400	1880.0	22.18	22.5	1.076	0.475	0.511
89.	RMC 12.2k	Right side	9400	1880.0	22.18	22.5	1.076	0.266	0.286
90.	RMC 12.2k	Left side	9400	1880.0	22.18	22.5	1.076	0.317	0.341
91.	RMC 12.2k	Bottom side	9400	1880.0	22.18	22.5	1.076	0.394	0.424

WCDMA Band 5 – Body SAR Test (Gap: 10mm)									
Plot No.	Mode	Test Position Body	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
92.	RMC 12.2k	Back Side	4233	846.6	22.27	22.5	1.054	0.187	0.197
93.	RMC 12.2k	Front Side	4233	846.6	22.27	22.5	1.054	0.202	0.213
94.	RMC 12.2k	Right side	4233	846.6	22.27	22.5	1.054	0.078	0.082
95.	RMC 12.2k	Left side	4233	846.6	22.27	22.5	1.054	0.113	0.119
96.	RMC 12.2k	Bottom side	4233	846.6	22.27	22.5	1.054	0.127	0.134

WCDMA Band 4 – Body SAR Test (Gap: 10mm)									
Plot No.	Mode	Test Position Body	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
97.	RMC 12.2k	Back Side	1513	1752.6	22.42	22.5	1.019	0.480	0.489
98.	RMC 12.2k	Front Side	1513	1752.6	22.42	22.5	1.019	0.517	0.527
99.	RMC 12.2k	Right side	1513	1752.6	22.42	22.5	1.019	0.311	0.317
100.	RMC 12.2k	Left side	1513	1752.6	22.42	22.5	1.019	0.336	0.342
101.	RMC 12.2k	Bottom side	1513	1752.6	22.42	22.5	1.019	0.501	0.510

LTE Band 2–Body SAR Test (Gap: 10mm)								
Plot No.	Mode	Test Position Body	Freque ncy	Output Power (dBm)	Rate d Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
102.	RMC QPSK 20MHz 1RB	Back Side	1860.0	23.16	23.5	1.081	0.485	0.524
103.	RMC QPSK 20MHz 1RB	Front Side	1860.0	23.16	23.5	1.081	0.471	0.509
104.	RMC QPSK 20MHz 1RB	Right side	1860.0	23.16	23.5	1.081	0.277	0.300
105.	RMC QPSK 20MHz 1RB	Left side	1860.0	23.16	23.5	1.081	0.312	0.337
106.	RMC QPSK 20MHz 1RB	Bottom side	1860.0	23.16	23.5	1.081	0.462	0.500
107.	RMC QPSK 20MHz 50%RB	Back Side	1860.0	23.16	23.5	1.081	0.241	0.261
108.	RMC QPSK 20MHz 50%RB	Front Side	1860.0	23.16	23.5	1.081	0.221	0.239
109.	RMC QPSK 20MHz 50%RB	Right side	1860.0	23.16	23.5	1.081	0.166	0.180
110.	RMC QPSK 20MHz 50%RB	Left side	1860.0	23.16	23.5	1.081	0.172	0.186
111.	RMC QPSK 20MHz 50%RB	Bottom side	1860.0	23.16	23.5	1.081	0.217	0.235

LTE Band 4–Body SAR Test (Gap: 10mm)								
Plot No.	Mode	Test Position Body	Freque ncy	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
112.	RMC QPSK 20MHz 1RB	Back Side	1745.0	22.99	23.0	1.002	0.441	0.442
113.	RMC QPSK 20MHz 1RB	Front Side	1745.0	22.99	23.0	1.002	0.456	0.457
114.	RMC QPSK 20MHz 1RB	Right side	1745.0	22.99	23.0	1.002	0.232	0.233
115.	RMC QPSK 20MHz 1RB	Left side	1745.0	22.99	23.0	1.002	0.311	0.312
116.	RMC QPSK 20MHz 1RB	Bottom side	1745.0	22.99	23.0	1.002	0.494	0.495
117.	RMC QPSK 20MHz 50%RB	Back Side	1745.0	22.99	23.0	1.002	0.223	0.224
118.	RMC QPSK 20MHz 50%RB	Front Side	1745.0	22.99	23.0	1.002	0.234	0.235
119.	RMC QPSK 20MHz 50%RB	Right side	1745.0	22.99	23.0	1.002	0.122	0.122
120.	RMC QPSK 20MHz 50%RB	Left side	1745.0	22.99	23.0	1.002	0.147	0.147
121.	RMC QPSK 20MHz 50%RB	Bottom side	1745.0	22.99	23.0	1.002	0.231	0.232

LTE Band 5–Body SAR Test (Gap: 10mm)								
Plot No.	Mode	Test Position Body	Frequency	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
122.	RMC QPSK 10MHz 1RB	Back Side	844.0	23.35	23.5	1.035	0.163	0.169
123.	RMC QPSK 10MHz 1RB	Front Side	844.0	23.35	23.5	1.035	0.195	0.202
124.	RMC QPSK 10MHz 1RB	Right side	844.0	23.35	23.5	1.035	0.059	0.061
125.	RMC QPSK 10MHz 1RB	Left side	844.0	23.35	23.5	1.035	0.077	0.080
126.	RMC QPSK 10MHz 1RB	Bottom side	844.0	23.35	23.5	1.035	0.133	0.138
127.	RMC QPSK 10MHz 50%RB	Back Side	844.0	23.35	23.5	1.035	0.088	0.091
128.	RMC QPSK 10MHz 50%RB	Front Side	844.0	23.35	23.5	1.035	0.112	0.116
129.	RMC QPSK 10MHz 50%RB	Right side	844.0	23.35	23.5	1.035	0.031	0.032
130.	RMC QPSK 10MHz 50%RB	Left side	844.0	23.35	23.5	1.035	0.037	0.038
131.	RMC QPSK 10MHz 50%RB	Bottom side	844.0	23.35	23.5	1.035	0.071	0.073

LTE Band 7–Body SAR Test (Gap: 10mm)								
Plot No.	Mode	Test Position Body	Frequency	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
132.	RMC QPSK 20MHz 1RB	Back Side	2560.0	22.99	23.0	1.002	0.377	0.378
133.	RMC QPSK 20MHz 1RB	Front Side	2560.0	22.99	23.0	1.002	0.430	0.431
134.	RMC QPSK 20MHz 1RB	Right side	2560.0	22.99	23.0	1.002	0.267	0.268
135.	RMC QPSK 20MHz 1RB	Left side	2560.0	22.99	23.0	1.002	0.311	0.312
136.	RMC QPSK 20MHz 1RB	Bottom side	2560.0	22.99	23.0	1.002	0.458	0.459
137.	RMC QPSK 20MHz 50%RB	Back Side	2560.0	22.99	23.0	1.002	0.172	0.172
138.	RMC QPSK 20MHz 50%RB	Front Side	2560.0	22.99	23.0	1.002	0.223	0.224
139.	RMC QPSK 20MHz 50%RB	Right side	2560.0	22.99	23.0	1.002	0.139	0.139
140.	RMC QPSK 20MHz 50%RB	Left side	2560.0	22.99	23.0	1.002	0.153	0.153
141.	RMC QPSK 20MHz 50%RB	Bottom side	2560.0	22.99	23.0	1.002	0.241	0.242

LTE Band 17–Body SAR Test (Gap: 10mm)								
Plot No.	Mode	Test Position Body	Frequency	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
142.	RMC QPSK 10MHz 1RB	Back Side	709.0	22.7	23.0	1.072	0.388	0.416
143.	RMC QPSK 10MHz 1RB	Front Side	709.0	22.7	23.0	1.072	0.354	0.379
144.	RMC QPSK 10MHz 1RB	Right side	709.0	22.7	23.0	1.072	0.061	0.065
145.	RMC QPSK 10MHz 1RB	Left side	709.0	22.7	23.0	1.072	0.066	0.071
146.	RMC QPSK 10MHz 1RB	Bottom side	709.0	22.7	23.0	1.072	0.073	0.078
147.	RMC QPSK 10MHz 50%RB	Back Side	709.0	22.7	23.0	1.072	0.169	0.181
148.	RMC QPSK 10MHz 50%RB	Front Side	709.0	22.7	23.0	1.072	0.157	0.168
149.	RMC QPSK 10MHz 50%RB	Right side	709.0	22.7	23.0	1.072	0.034	0.036
150.	RMC QPSK 10MHz 50%RB	Left side	709.0	22.7	23.0	1.072	0.037	0.040
151.	RMC QPSK 10MHz 50%RB	Bottom side	709.0	22.7	23.0	1.072	0.081	0.087

WLAN 2.4GHz –Body SAR Test									
Plot No.	Mode	Test Position Body	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
152.	802.11b	Back Side	11	2462	17.84	18.0	1.038	0.360	0.374
153.	802.11b	Front Side	11	2462	17.84	18.0	1.038	0.347	0.360
154.	802.11b	Right side	11	2462	17.84	18.0	1.038	0.152	0.158
155.	802.11b	Top Side	11	2462	17.84	18.0	1.038	0.369	0.383

9.3 Simultaneous Multi-band Transmission SAR Analysis

List of Mode for Simultaneous Multi-band Transmission

No.	Configurations	Head SAR	Body-worn SAR	Hotspot SAR
1	GSM(Voice/Data) + WLAN(Data)	Yes	Yes	Yes
2	WCDMA (Voice/Data)+ WLAN(Data)	Yes	Yes	Yes
3	LTE(Data) + WLAN(Data)	Yes	Yes	Yes
4	GSM(Voice/Data) + Bluetooth(Data)	Yes	Yes	-
5	WCDMA (Voice/Data) + Bluetooth(Data)	Yes	Yes	-
6	LTE(Data) + Bluetooth(Data)	Yes	Yes	-

Remark:

1. GSM and WCDMA share the same antenna, and cannot transmit simultaneously.
2. WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.
3. According to the KDB 447498 D01 v06, when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

$(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm}) \cdot [\sqrt{f(\text{GHz})}/x]$ W/kg for test separation distances ≤ 50 mm;

where $x = 7.5$ for 1-g SAR, and $x = 18.75$ for 10-g SAR.

For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01 v06 as below:

Bluetooth:

Tune-Up Power (dBm)	Max. Power (mW)	Distance (mm)	Frequency (GHz)	X	SAR(1g) 5mm	SAR(1g) 10mm
7.5	5.62	5/10	2.480	7.5	0.236	0.118

4. The maximum SAR summation is calculated based on the same configuration and test position.

Head SAR

WWAN and WLAN

	WWAN		WLAN	Summed SAR (W/kg)
Position	Band	Scaled SAR (W/kg)	Scaled SAR (W/kg)	
Right Cheek	GSM850	0.489	0.777	1.266
Right Tilted	GSM850	0.248	0.364	0.612
Left Cheek	GSM850	0.386	0.807	1.193
Left Tilted	GSM850	0.217	0.376	0.593
Right Cheek	GSM1900	0.158	0.777	0.935
Right Tilted	GSM1900	0.077	0.364	0.441
Left Cheek	GSM1900	0.180	0.807	0.987
Left Tilted	GSM1900	0.096	0.376	0.472
Right Cheek	GPRS850	0.652	0.777	1.429
Right Tilted	GPRS850	0.354	0.364	0.718
Left Cheek	GPRS850	0.520	0.807	1.327
Left Tilted	GPRS850	0.270	0.376	0.646
Right Cheek	GPRS1900	0.240	0.777	1.017
Right Tilted	GPRS1900	0.143	0.364	0.507
Left Cheek	GPRS1900	0.200	0.807	1.007
Left Tilted	GPRS1900	0.124	0.376	0.500
Right Cheek	WCDMA Band 2	0.381	0.777	1.158
Right Tilted	WCDMA Band 2	0.213	0.364	0.577
Left Cheek	WCDMA Band 2	0.302	0.807	1.109
Left Tilted	WCDMA Band 2	0.160	0.376	0.536
Right Cheek	WCDMA Band 5	0.275	0.777	1.052
Right Tilted	WCDMA Band 5	0.140	0.364	0.504
Left Cheek	WCDMA Band 5	0.216	0.807	1.023
Left Tilted	WCDMA Band 5	0.123	0.376	0.499
Right Cheek	WCDMA Band 4	0.375	0.777	1.152
Right Tilted	WCDMA Band 4	0.172	0.364	0.536
Left Cheek	WCDMA Band 4	0.239	0.807	1.046
Left Tilted	WCDMA Band 4	0.140	0.376	0.516
Right Cheek	LTE Band 2	0.297	0.777	1.074
Right Tilted	LTE Band 2	0.171	0.364	0.535
Left Cheek	LTE Band 2	0.444	0.807	1.251
Left Tilted	LTE Band 2	0.218	0.376	0.594
Right Cheek	LTE Band 4	0.295	0.777	1.072
Right Tilted	LTE Band 4	0.161	0.364	0.525
Left Cheek	LTE Band 4	0.262	0.807	1.069
Left Tilted	LTE Band 4	0.134	0.376	0.510
Right Cheek	LTE Band 5	0.269	0.777	1.046

Right Tilted	LTE Band 5	0.138	0.364	0.502
Left Cheek	LTE Band 5	0.212	0.807	1.019
Left Tilted	LTE Band 5	0.111	0.376	0.487
Right Cheek	LTE Band 7	0.356	0.777	1.133
Right Tilted	LTE Band 7	0.177	0.364	0.541
Left Cheek	LTE Band 7	0.114	0.807	0.921
Left Tilted	LTE Band 7	0.065	0.376	0.441
Right Cheek	LTE Band 17	0.244	0.777	1.021
Right Tilted	LTE Band 17	0.136	0.364	0.500
Left Cheek	LTE Band 17	0.227	0.807	1.034
Left Tilted	LTE Band 17	0.130	0.376	0.506

WWAN and Bluetooth

	WWAN		Bluetooth	Summed SAR (W/kg)
Position	Band	Scaled SAR (W/kg)	Scaled SAR (W/kg)	
Right Cheek	GSM850	0.489	0.236	0.725
Right Tilted	GSM850	0.248	0.236	0.484
Left Cheek	GSM850	0.386	0.236	0.622
Left Tilted	GSM850	0.217	0.236	0.453
Right Cheek	GSM1900	0.158	0.236	0.394
Right Tilted	GSM1900	0.077	0.236	0.313
Left Cheek	GSM1900	0.180	0.236	0.416
Left Tilted	GSM1900	0.096	0.236	0.332
Right Cheek	GPRS850	0.652	0.236	0.888
Right Tilted	GPRS850	0.354	0.236	0.590
Left Cheek	GPRS850	0.520	0.236	0.756
Left Tilted	GPRS850	0.270	0.236	0.506
Right Cheek	GPRS1900	0.240	0.236	0.476
Right Tilted	GPRS1900	0.143	0.236	0.379
Left Cheek	GPRS1900	0.200	0.236	0.436
Left Tilted	GPRS1900	0.124	0.236	0.360
Right Cheek	WCDMA Band 2	0.381	0.236	0.617
Right Tilted	WCDMA Band 2	0.213	0.236	0.449
Left Cheek	WCDMA Band 2	0.302	0.236	0.538
Left Tilted	WCDMA Band 2	0.160	0.236	0.396
Right Cheek	WCDMA Band 5	0.275	0.236	0.511
Right Tilted	WCDMA Band 5	0.140	0.236	0.376
Left Cheek	WCDMA Band 5	0.216	0.236	0.452
Left Tilted	WCDMA Band 5	0.123	0.236	0.359
Right Cheek	WCDMA Band 4	0.375	0.236	0.611
Right Tilted	WCDMA Band 4	0.172	0.236	0.408
Left Cheek	WCDMA Band 4	0.239	0.236	0.475
Left Tilted	WCDMA Band 4	0.140	0.236	0.376
Right Cheek	LTE Band 2	0.297	0.236	0.533
Right Tilted	LTE Band 2	0.171	0.236	0.407
Left Cheek	LTE Band 2	0.444	0.236	0.680
Left Tilted	LTE Band 2	0.218	0.236	0.454
Right Cheek	LTE Band 4	0.295	0.236	0.531
Right Tilted	LTE Band 4	0.161	0.236	0.397
Left Cheek	LTE Band 4	0.262	0.236	0.498
Left Tilted	LTE Band 4	0.134	0.236	0.370
Right Cheek	LTE Band 5	0.269	0.236	0.505
Right Tilted	LTE Band 5	0.138	0.236	0.374

Left Cheek	LTE Band 5	0.212	0.236	0.448
Left Tilted	LTE Band 5	0.111	0.236	0.347
Right Cheek	LTE Band 7	0.356	0.236	0.592
Right Tilted	LTE Band 7	0.177	0.236	0.413
Left Cheek	LTE Band 7	0.114	0.236	0.350
Left Tilted	LTE Band 7	0.065	0.236	0.301
Right Cheek	LTE Band 12	0.244	0.236	0.480
Right Tilted	LTE Band 12	0.136	0.236	0.372
Left Cheek	LTE Band 12	0.227	0.236	0.463
Left Tilted	LTE Band 12	0.130	0.236	0.366

Body-worn SAR
WWAN and WLAN

	WWAN		WLAN	Summed SAR (W/kg)
Position	Band	Scaled SAR (W/kg)	Scaled SAR (W/kg)	
Back	GSM850	0.278	0.374	0.652
Front	GSM850	0.331	0.360	0.691
Back	GSM1900	0.270	0.374	0.644
Front	GSM1900	0.270	0.360	0.630
Back	WCDMA Band 2	0.515	0.374	0.889
Front	WCDMA Band 2	0.511	0.360	0.871
Back	WCDMA Band 5	0.197	0.374	0.571
Front	WCDMA Band 5	0.213	0.360	0.573
Back	WCDMA Band 4	0.489	0.374	0.863
Front	WCDMA Band 4	0.527	0.360	0.887
Back	LTE Band 2	0.524	0.374	0.898
Front	LTE Band 2	0.509	0.360	0.869
Back	LTE Band 4	0.442	0.374	0.816
Front	LTE Band 4	0.457	0.360	0.817
Back	LTE Band 5	0.169	0.374	0.543
Front	LTE Band 5	0.202	0.360	0.562
Back	LTE Band 7	0.378	0.374	0.752
Front	LTE Band 7	0.431	0.360	0.791
Back	LTE Band 17	0.416	0.374	0.790
Front	LTE Band 17	0.379	0.360	0.739

WWAN and Bluetooth

	WWAN		Bluetooth	Summed SAR (W/kg)
Position	Band	Scaled SAR (W/kg)	Scaled SAR (W/kg)	
Back	GSM850	0.278	0.118	0.396
Front	GSM850	0.331	0.118	0.449
Back	GSM1900	0.270	0.118	0.388
Front	GSM1900	0.270	0.118	0.388
Back	WCDMA Band 2	0.515	0.118	0.633
Front	WCDMA Band 2	0.511	0.118	0.629
Back	WCDMA Band 5	0.197	0.118	0.315
Front	WCDMA Band 5	0.213	0.118	0.331
Back	WCDMA Band 4	0.489	0.118	0.607
Front	WCDMA Band 4	0.527	0.118	0.645
Back	LTE Band 2	0.524	0.118	0.642
Front	LTE Band 2	0.509	0.118	0.627

Back	LTE Band 4	0.442	0.118	0.560
Front	LTE Band 4	0.457	0.118	0.575
Back	LTE Band 5	0.169	0.118	0.287
Front	LTE Band 5	0.202	0.118	0.320
Back	LTE Band 7	0.378	0.118	0.496
Front	LTE Band 7	0.431	0.118	0.549
Back	LTE Band 12	0.416	0.118	0.534
Front	LTE Band 12	0.379	0.118	0.497

Hotspot SAR

WWAN and WLAN

	WWAN		WLAN	Summed SAR (W/kg)
Position	Band	Scaled SAR (W/kg)	Scaled SAR (W/kg)	
Back	GSM850	0.357	0.374	0.731
Front	GSM850	0.398	0.360	0.758
Top side	GSM850	--	0.383	0.383
Bottom side	GSM850	0.258	--	0.258
Right side	GSM850	0.177	0.158	0.335
Left side	GSM850	0.227	--	0.227
Back	GSM1900	0.324	0.374	0.698
Front	GSM1900	0.314	0.360	0.674
Top side	GSM1900	--	0.383	0.383
Bottom side	GSM1900	0.294	--	0.294
Right side	GSM1900	0.212	0.158	0.370
Left side	GSM1900	0.252	--	0.252
Back	WCDMA Band 2	0.515	0.374	0.889
Front	WCDMA Band 2	0.511	0.360	0.871
Top side	WCDMA Band 2	--	0.383	0.383
Bottom side	WCDMA Band 2	0.424	--	0.424
Right side	WCDMA Band 2	0.286	0.158	0.444
Left side	WCDMA Band 2	0.341	--	0.341
Back	WCDMA Band 5	0.197	0.374	0.571
Front	WCDMA Band 5	0.213	0.360	0.573
Top side	WCDMA Band 5	--	0.383	0.383
Bottom side	WCDMA Band 5	0.134	--	0.134
Right side	WCDMA Band 5	0.082	0.158	0.240
Left side	WCDMA Band 5	0.119	--	0.119
Back	WCDMA Band 4	0.489	0.374	0.863
Front	WCDMA Band 4	0.527	0.360	0.887
Top side	WCDMA Band 4	--	0.383	0.383
Bottom side	WCDMA Band 4	0.510	--	0.510
Right side	WCDMA Band 4	0.317	0.158	0.475

Left side	WCDMA Band 4	0.342	--	0.342
Back	LTE Band 2	0.524	0.374	0.898
Front	LTE Band 2	0.509	0.360	0.869
Top side	LTE Band 2	--	0.383	0.383
Bottom side	LTE Band 2	0.500	--	0.500
Right side	LTE Band 2	0.300	0.158	0.458
Left side	LTE Band 2	0.337	--	0.337
Back	LTE Band 4	0.442	0.374	0.816
Front	LTE Band 4	0.457	0.360	0.817
Top side	LTE Band 4	--	0.383	0.383
Bottom side	LTE Band 4	0.495	--	0.495
Right side	LTE Band 4	0.233	0.158	0.391
Left side	LTE Band 4	0.312	--	0.312
Back	LTE Band 5	0.169	0.374	0.543
Front	LTE Band 5	0.202	0.360	0.562
Top side	LTE Band 5	--	0.383	0.383
Bottom side	LTE Band 5	0.138	--	0.138
Right side	LTE Band 5	0.061	0.158	0.219
Left side	LTE Band 5	0.080	--	0.080
Back	LTE Band 7	0.378	0.374	0.752
Front	LTE Band 7	0.431	0.360	0.791
Top side	LTE Band 7	--	0.383	0.383
Bottom side	LTE Band 7	0.459	--	0.459
Right side	LTE Band 7	0.268	0.158	0.426
Left side	LTE Band 7	0.312	--	0.312
Back	LTE Band 12	0.416	0.374	0.790
Front	LTE Band 12	0.379	0.360	0.739
Top side	LTE Band 12	--	0.383	0.383
Bottom side	LTE Band 12	0.078	--	0.078
Right side	LTE Band 12	0.065	0.158	0.223
Left side	LTE Band 12	0.071	--	0.071

10. Measurement Uncertainty

10.1 Uncertainty for EUT SAR Test

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+ - %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+ - %)	10g Ui (+ - %)	Vi
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	$(1_{Cp})^{1/2}$	$(1_{Cp})^{1/2}$	1.02	1.02	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	$(Cp)^{1/2}$	$(Cp)^{1/2}$	1.63	1.63	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.02	∞
Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
RF ambient Conditions – Noise	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient Conditions - Reflections	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	E.5	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Test Sample Related									
Test sample positioning	E.4.2	0.03	N	1	1	1	0.03	0.03	N-1
Device Holder Uncertainty	E.4.1	5.00	N	1	1	1	5.00	5.00	
Output power Variation - SAR drift measurement	E.2.9	12.02	R	$\sqrt{3}$	1	1	6.94	6.94	∞
SAR scaling	E6.5	0.0	R	$\sqrt{3}$	1	1	0.0	0.0	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E3.2	1.9	R	$\sqrt{3}$	1	0.84	1.10	0.90	∞
Liquid conductivity - deviation	E.3.2	5.00	R	$\sqrt{3}$	0.64	0.43	1.85	1.24	∞

from target value									
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	∞
Liquid permittivity - deviation from target value	E.3.2	0.37	R	$\sqrt{3}$	0.6	0.49	0.13	0.10	∞
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	∞
Combined Standard Uncertainty			RSS				12.98	12.53	
Expanded Uncertainty (95% Confidence interval)			K=2				25.32	24.43	

10.2 Uncertainty for System Performance Check

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+ - %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+ - %)	10g Ui (+ - %)	Vi
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	$(1_Cp)^{1/2}$	$(1_Cp)^{1/2}$	1.02	1.02	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	$(Cp)^{1/2}$	$(Cp)^{1/2}$	1.63	1.63	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	E.2.5	0	R	$\sqrt{3}$	0	0	0.0	0.0	∞
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.02	∞
Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
RF ambient Conditions – Noise	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient Conditions - Reflections	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Extrapolation, interpolation and integration Algorithms for Max.	E.5.2	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞

SAR Evaluation									
Dipole									
Dipole axis to liquid Distance	8,E.4.2	1.00	N	$\sqrt{3}$	1	1	0.58	0.58	N-1
Input power and SAR drift measurement	8,6.6.2	12.02	R	$\sqrt{3}$	1	1	6.94	6.94	∞
Deviation of experimental dipole from numerical dipole	E.6.4	5.5	R	$\sqrt{3}$	1	1	3.20	3.20	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	2.0	R	$\sqrt{3}$	1	0.84	1.10	1.10	∞
Liquid conductivity - deviation from target value	E.3.2	5.00	R	$\sqrt{3}$	0.64	0.43	1.85	1.24	
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	
Liquid permittivity - deviation from target value	E.3.2	0.37	R	$\sqrt{3}$	0.6	0.49	0.13	0.10	
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	M
Combined Standard Uncertainty			RSS				12.00	11.50	
Expanded Uncertainty (95% Confidence interval)			K=2				23.39	22.43	

Annex A. Plots of System Performance Check

MEASUREMENT 1

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Date of measurement: 09/23/2019

Measurement duration: 7 minutes 21 seconds

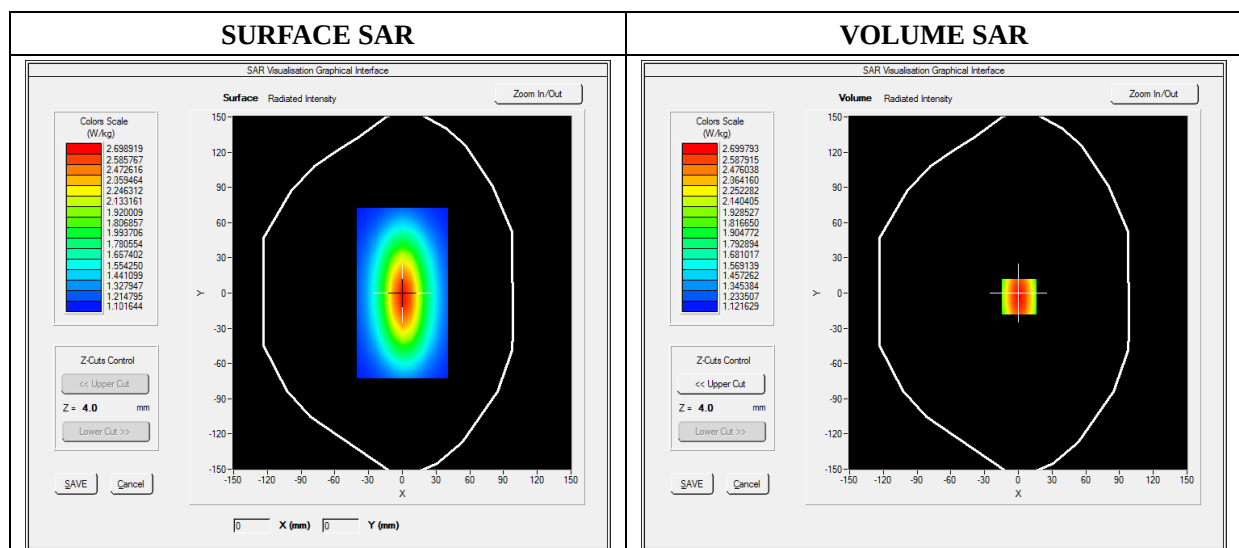
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.99; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW750
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	750.000000
Relative Permittivity (real part)	41.320574
Conductivity (S/m)	0.862373
Power Variation (%)	0.038363
Ambient Temperature	21.1
Liquid Temperature	21.3

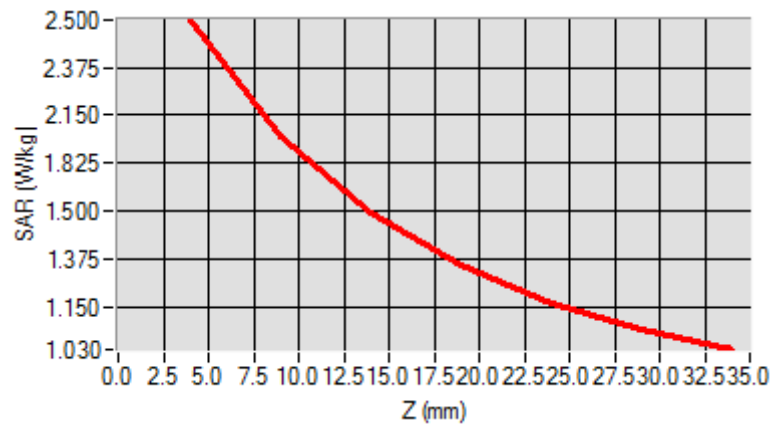


Maximum location: X=0.00, Y=0.00

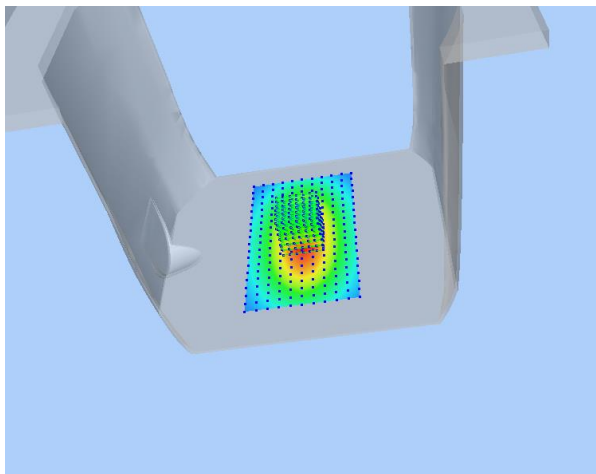
SAR 10g (W/Kg)	1.042744
SAR 1g (W/Kg)	2.164534

Z Axis Scan

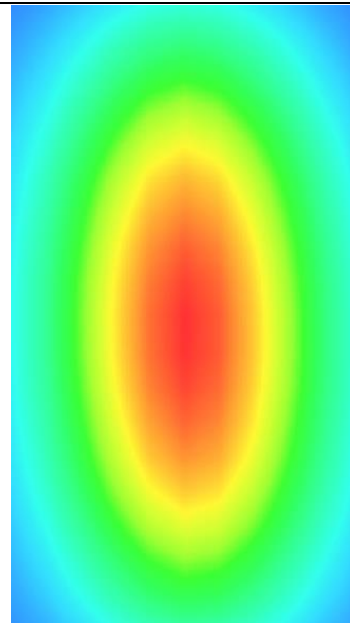
Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.3634	1.8023	1.4523	1.2514	1.1005	1.0245



3D screen shot



Hot spot position



MEASUREMENT 2

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Date of measurement: 09/23/2019

Measurement duration: 7 minutes 21 seconds

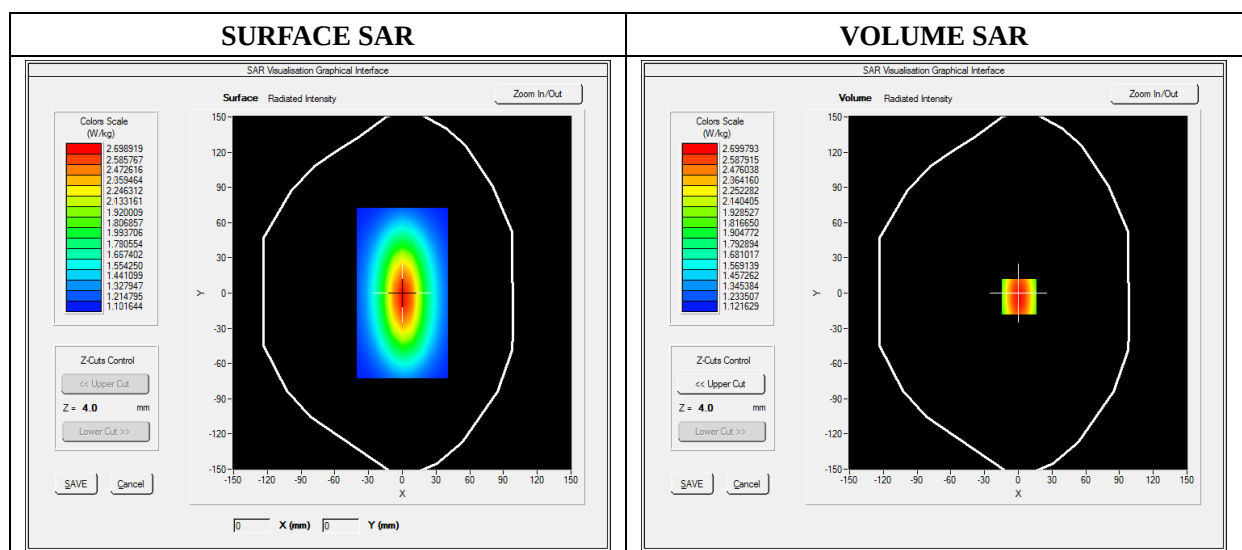
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.93; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	835.000000
Relative Permittivity (real part)	41.110245
Conductivity (S/m)	0.871245
Power Variation (%)	0.038437
Ambient Temperature	21.1
Liquid Temperature	21.3

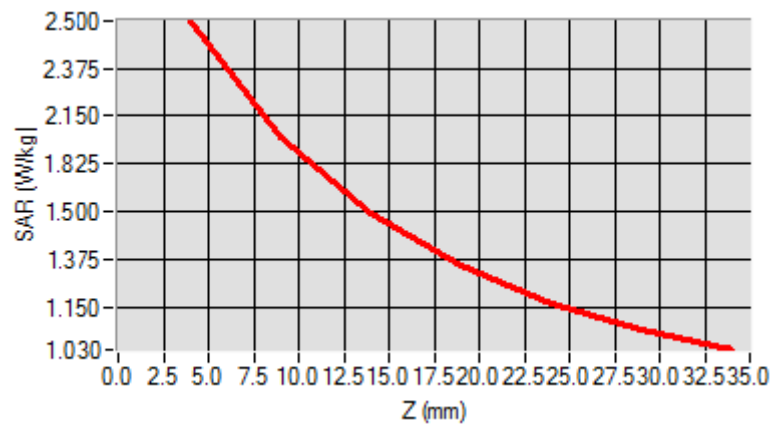


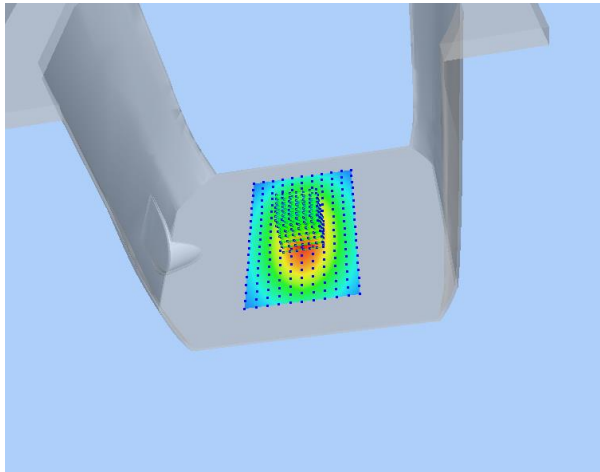
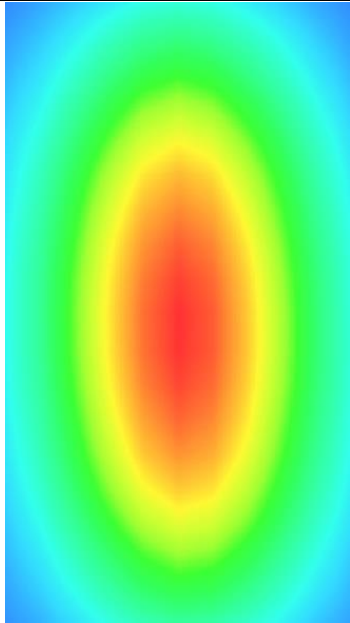
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	1.129489
SAR 1g (W/Kg)	2.411253

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.4900	1.8942	1.4811	1.3541	1.1123	1.0539



3D screen shot	Hot spot position
	

MEASUREMENT 3

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Date of measurement: 09/24/2019

Measurement duration: 12 minutes 21 seconds

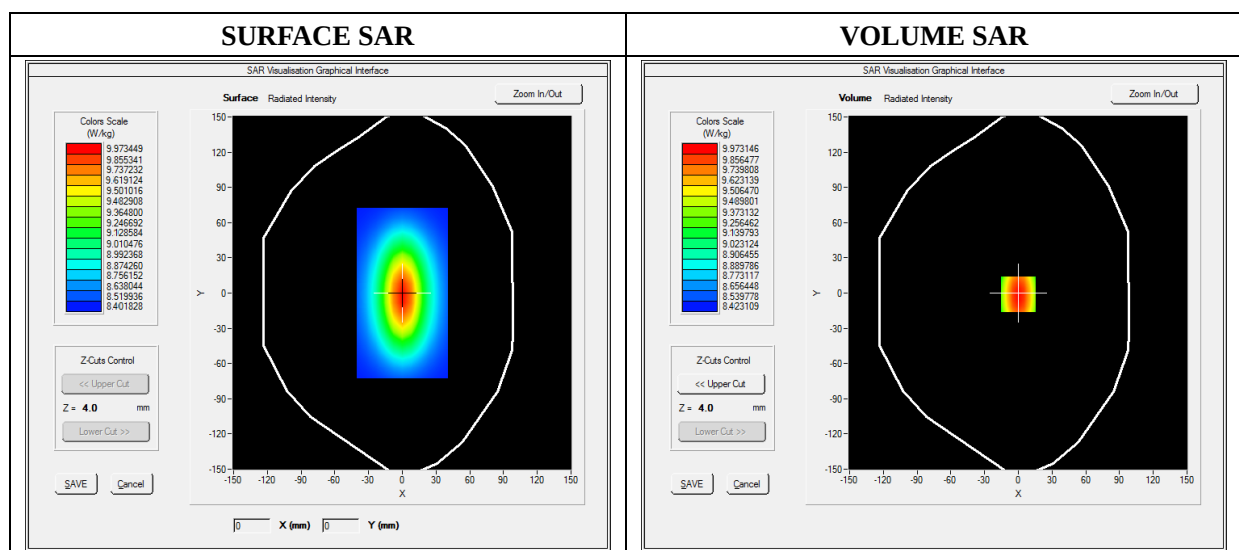
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 5.84; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

Frequency (MHz)	1800.000000
Relative Permittivity (real part)	39.024890
Conductivity (S/m)	1.371250
Power Variation (%)	1.401232
Ambient Temperature	21.1
Liquid Temperature	21.2

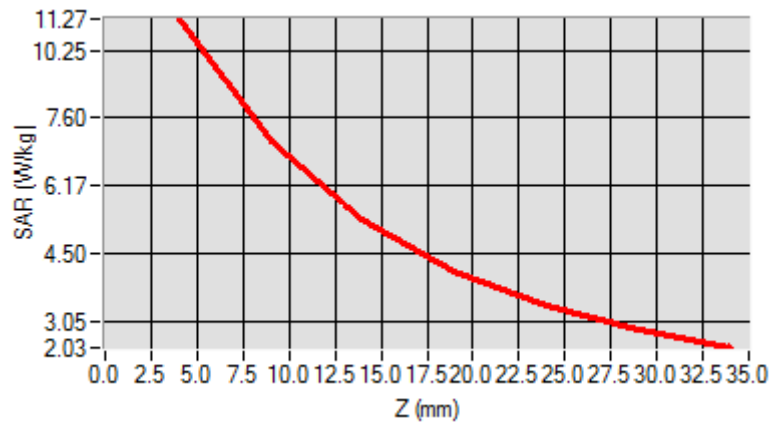


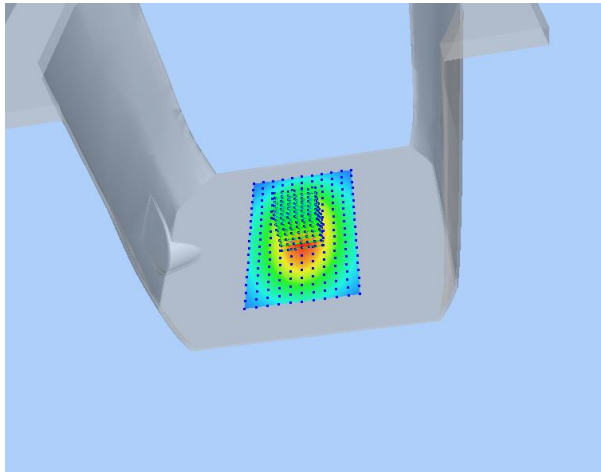
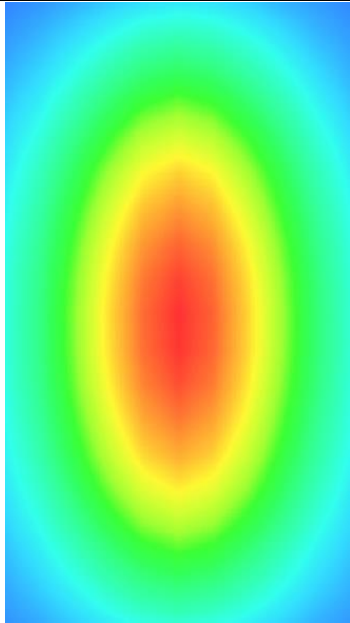
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	5.171252
SAR 1g (W/Kg)	9.611250

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	10.3455	7.1125	5.1026	3.425	3.0242	2.1125



3D screen shot	Hot spot position
	

MEASUREMENT 4

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Date of measurement: 09/24/2019

Measurement duration: 12 minutes 21 seconds

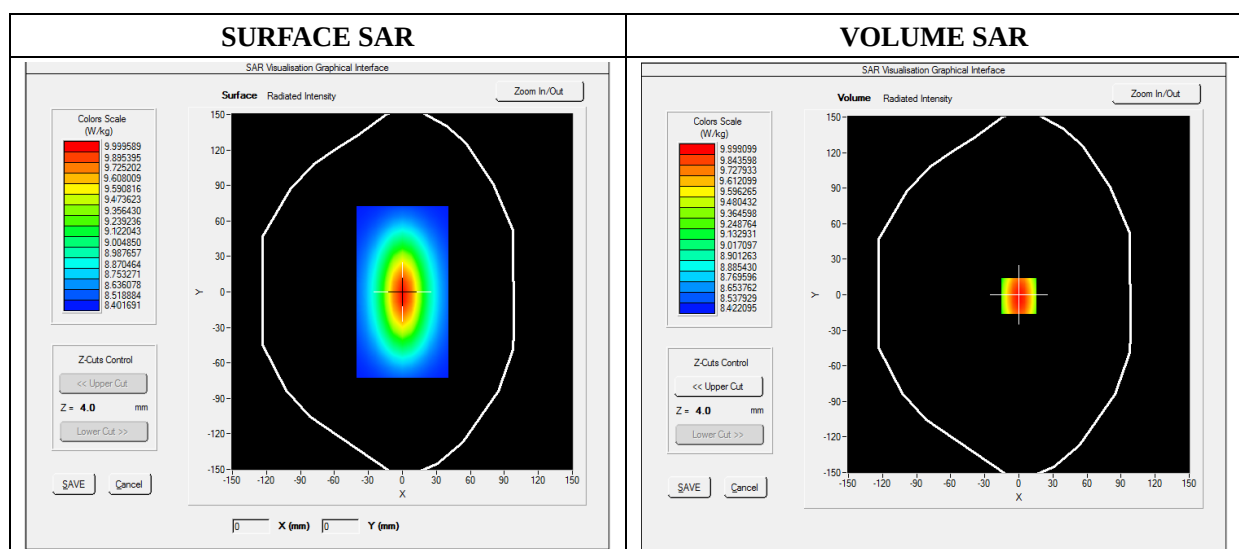
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.35; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1900.000000
Relative Permittivity (real part)	38.560124
Conductivity (S/m)	1.380369
Power Variation (%)	1.022540
Ambient Temperature	21.1
Liquid Temperature	21.3

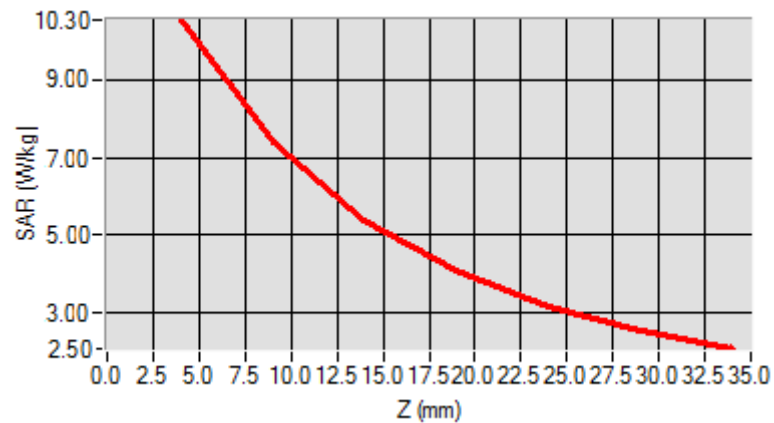


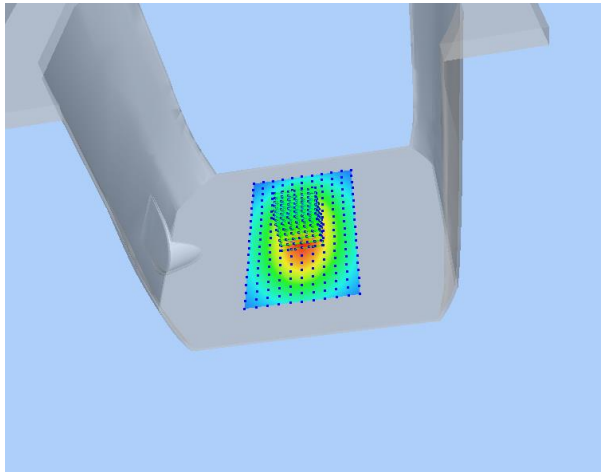
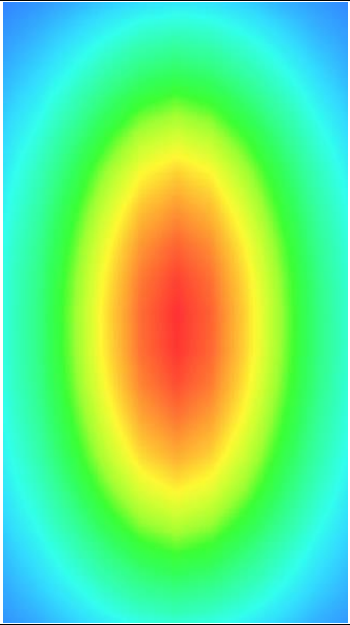
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	7.174526
SAR 1g (W/Kg)	9.913214

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	10.2354	6.8400	5.0121	4.1189	3.0522	2.8424



3D screen shot	Hot spot position
	

MEASUREMENT 5

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Date of measurement: 09/25/2019

Measurement duration: 12 minutes 21 seconds

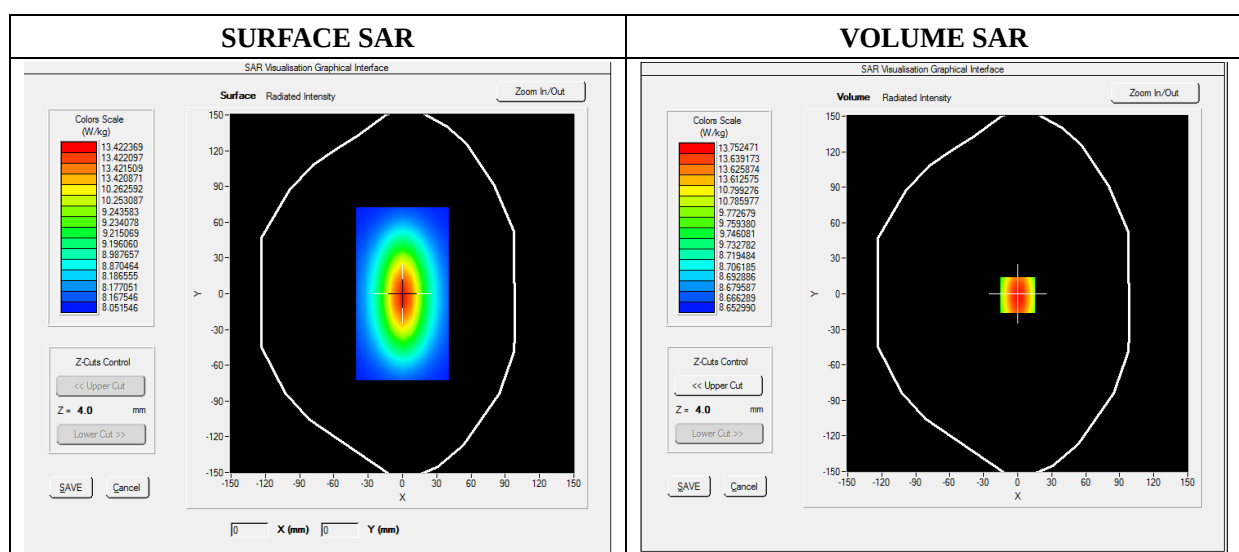
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 5.64; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2450.000000
Relative Permittivity (real part)	38.153660
Conductivity (S/m)	1.740236
Power Variation (%)	1.141452
Ambient Temperature	21.1
Liquid Temperature	21.2

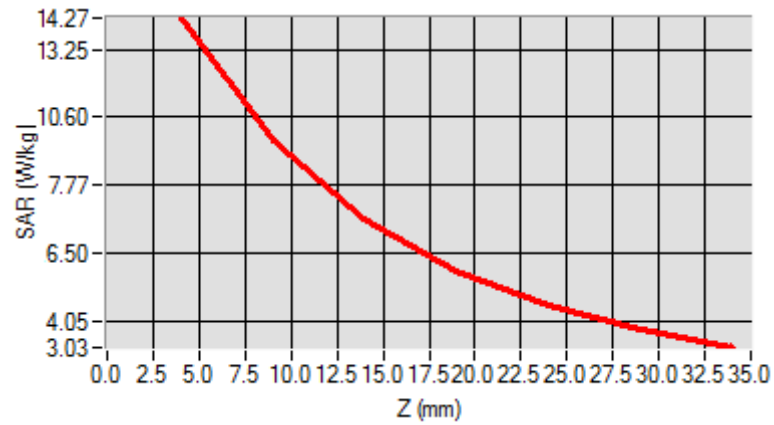


Maximum location: X=0.00, Y=0.00

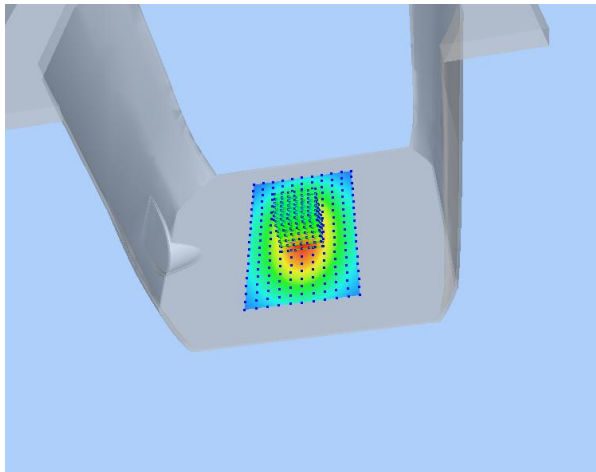
SAR 10g (W/Kg)	8.020427
SAR 1g (W/Kg)	13.452457

Z Axis Scan

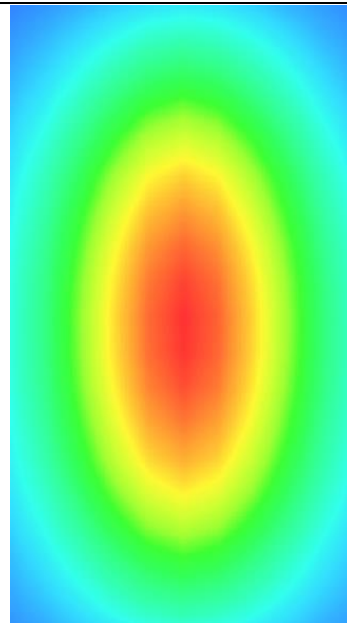
Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	14.1034	12.0012	10.2624	7.4715	5.9022	4.5114



3D screen shot



Hot spot position



MEASUREMENT 6

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Date of measurement: 09/25/2019

Measurement duration: 12 minutes 21 seconds

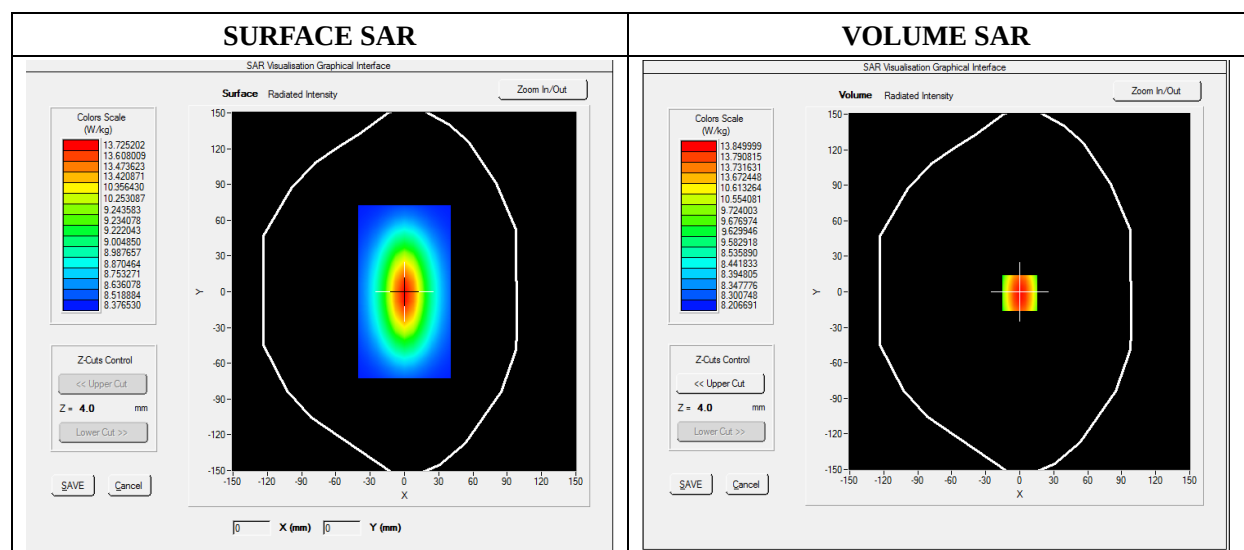
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 5.37; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2600.000000
Relative Permittivity (real part)	38.631092
Conductivity (S/m)	1.930182
Power Variation (%)	1.028221
Ambient Temperature	21.1
Liquid Temperature	21.2

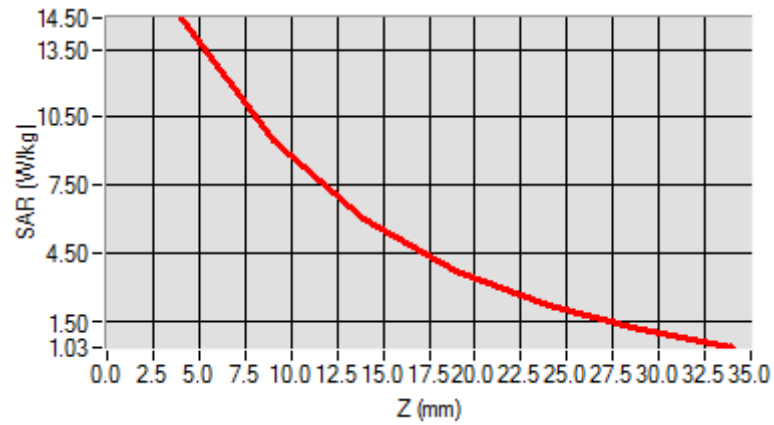


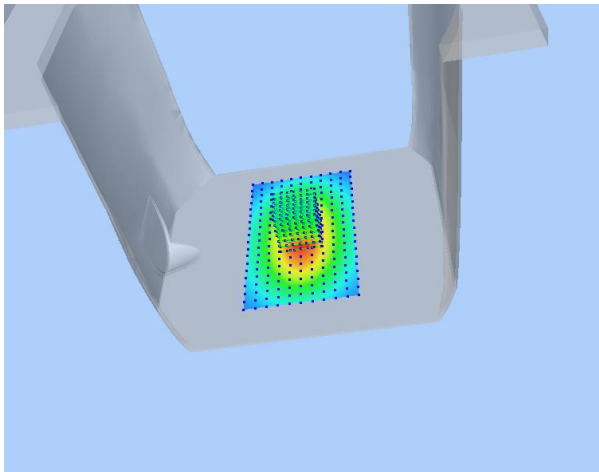
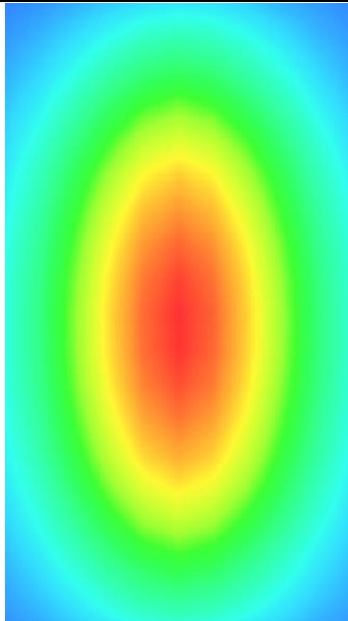
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	8.270822
SAR 1g (W/Kg)	13.670282

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	14.0426	12.1354	10.2965	7.4854	5.9354	4.5186



3D screen shot	Hot spot position
	

MEASUREMENT 7

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Date of measurement: 09/23/2019

Measurement duration: 12 minutes 21 seconds

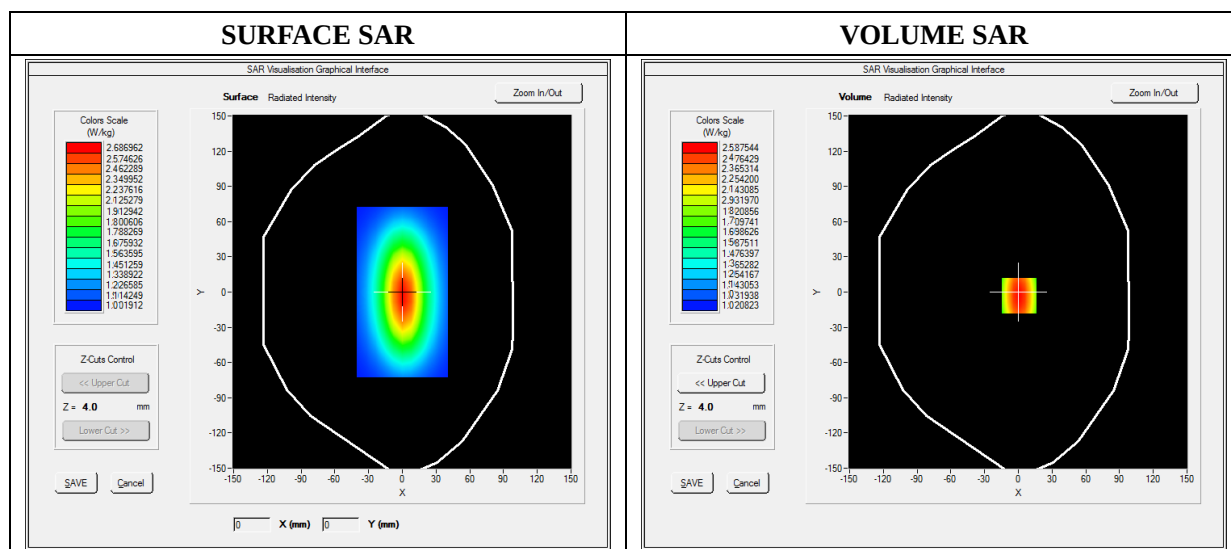
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 7.28; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW750
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	750.000000
Relative Permittivity (real part)	54.964739
Conductivity (S/m)	0.931048
Power Variation (%)	0.034745
Ambient Temperature	21.1
Liquid Temperature	21.3

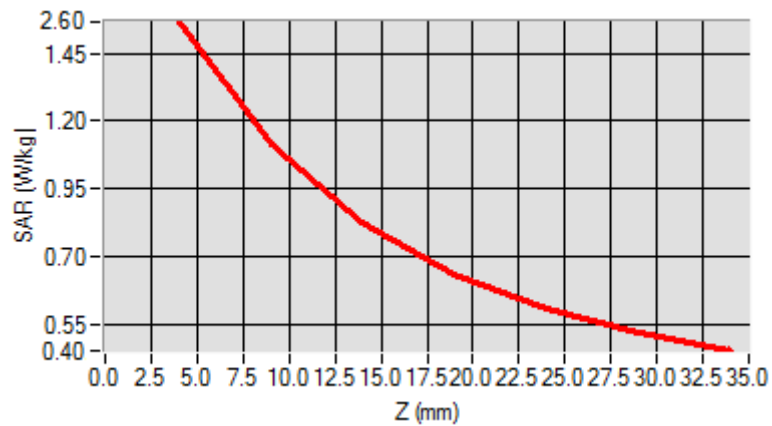


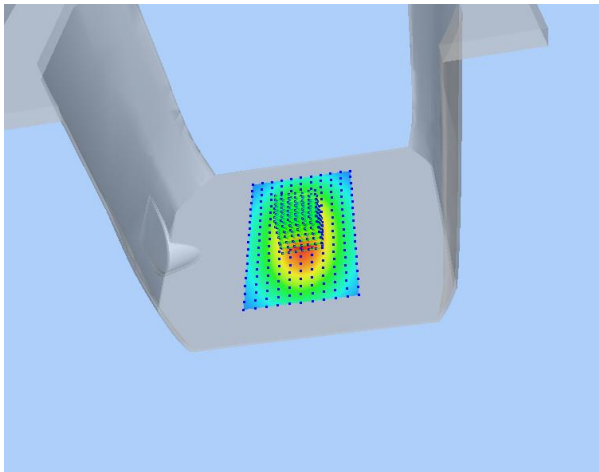
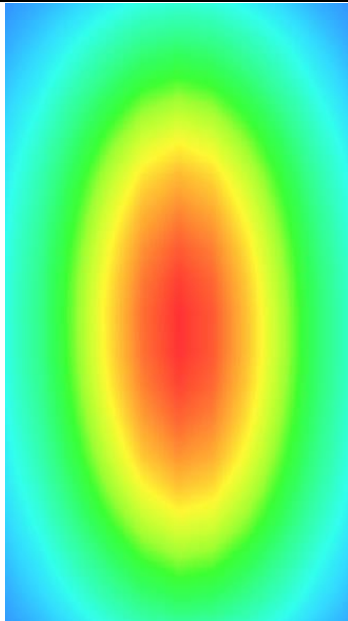
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	1.000865
SAR 1g (W/Kg)	2.124211

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.5132	1.1087	0.8214	0.5160	0.4875	0.4864



3D screen shot	Hot spot position
	

MEASUREMENT 8

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Date of measurement: 09/23/2019

Measurement duration: 12 minutes 21 seconds

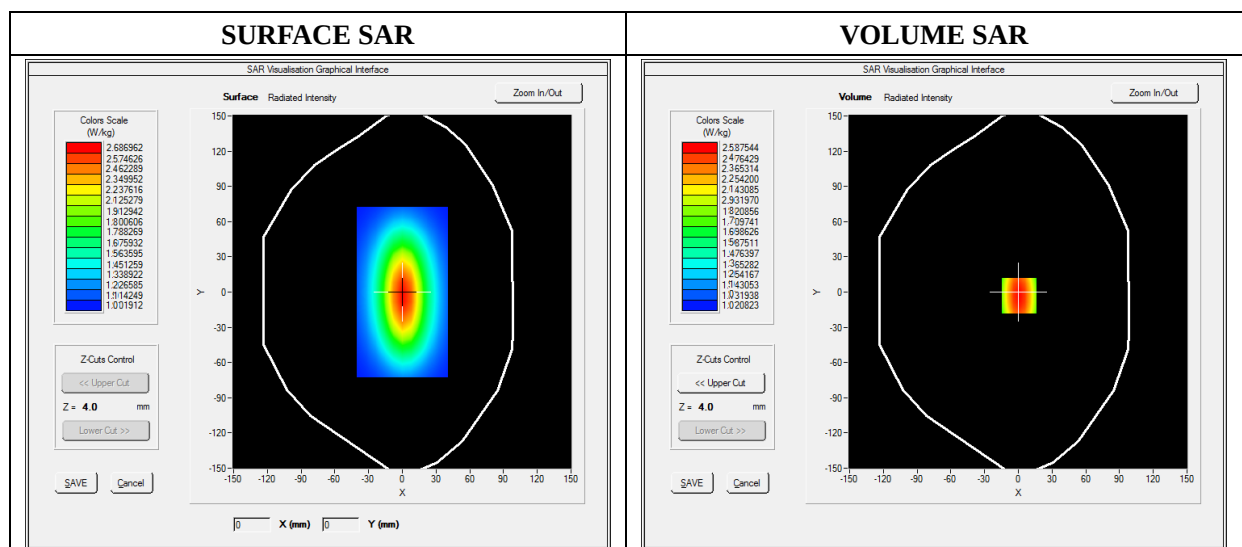
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 7.13; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	835.000000
Relative Permittivity (real part)	54.851214
Conductivity (S/m)	0.951454
Power Variation (%)	0.901472
Ambient Temperature	21.1
Liquid Temperature	21.3

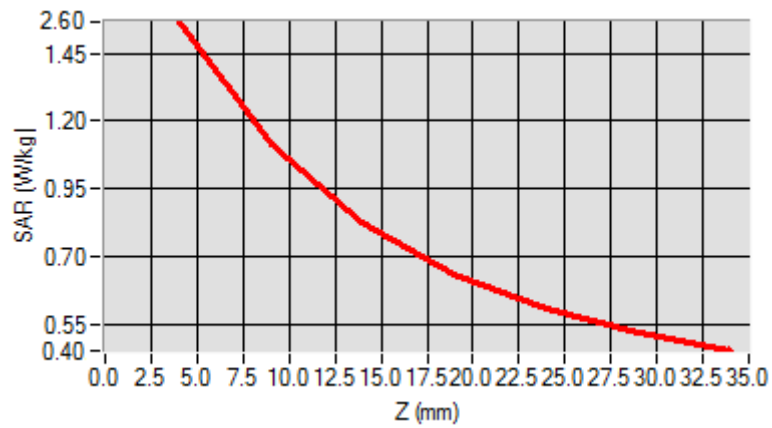


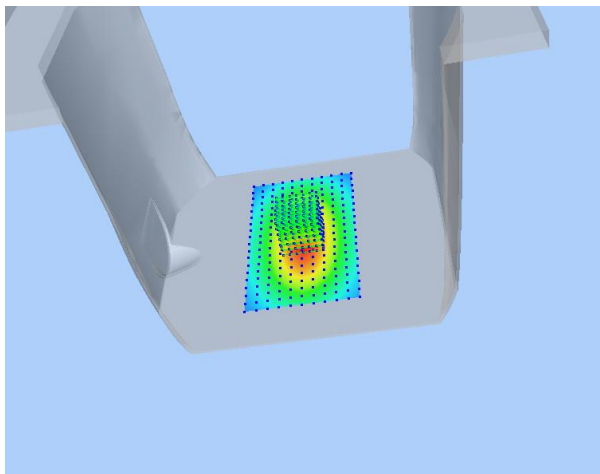
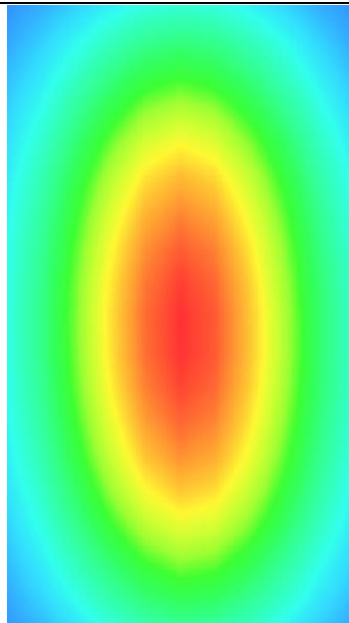
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	1.028956
SAR 1g (W/Kg)	2.354211

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.5789	1.1300	0.8795	0.5940	0.5011	0.5100



3D screen shot	Hot spot position
	

MEASUREMENT 9

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Date of measurement: 09/24/2019

Measurement duration: 12 minutes 21 seconds

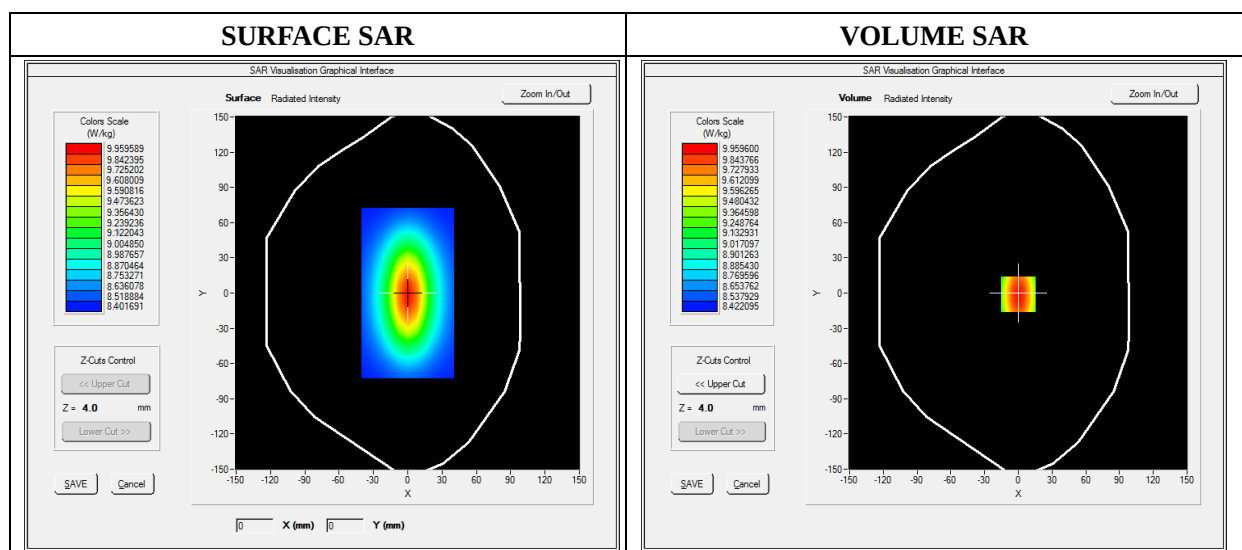
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.06; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

Frequency (MHz)	1800.000000
Relative Permittivity (real part)	51.224510
Conductivity (S/m)	1.461261
Power Variation (%)	0.845690
Ambient Temperature	21.1
Liquid Temperature	21.2

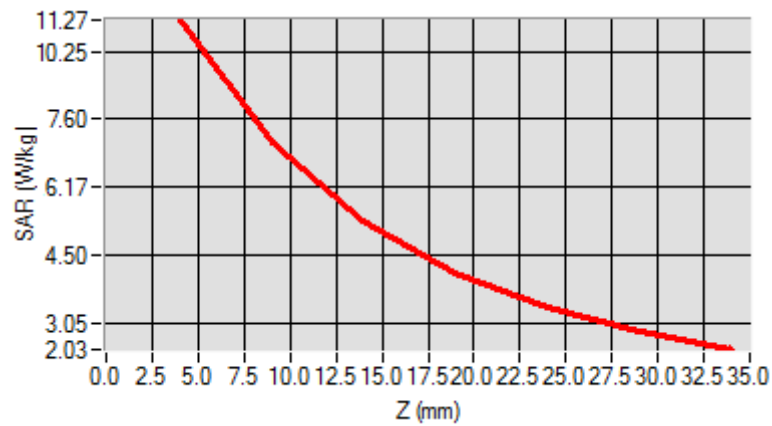


Maximum location: X=0.00, Y=0.00

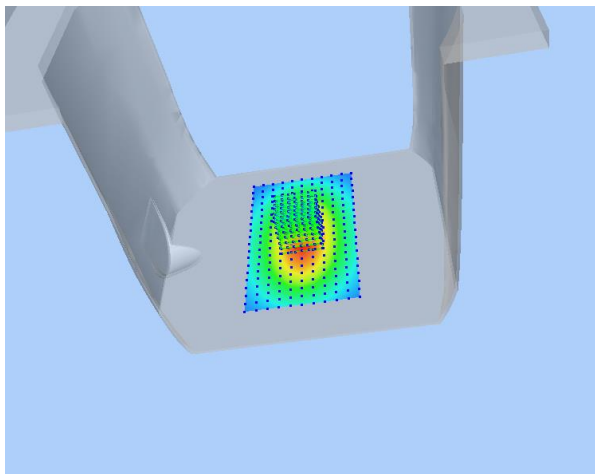
SAR 10g (W/Kg)	5.221202
SAR 1g (W/Kg)	9.582560

Z Axis Scan

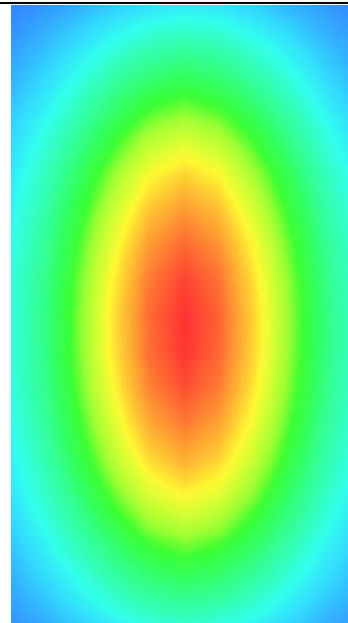
Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	11.2425	9.4123	8.0345	6.9125	6.3092	3.9460



3D screen shot



Hot spot position



MEASUREMENT 10

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Date of measurement: 09/24/2019

Measurement duration: 12 minutes 21 seconds

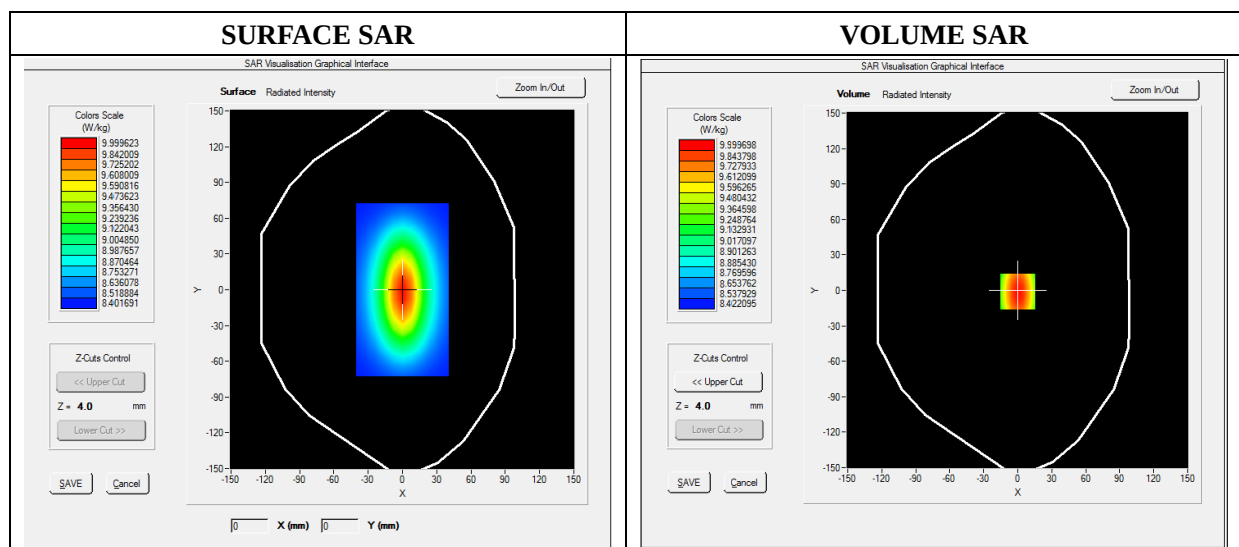
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.55; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1900.000000
Relative Permittivity (real part)	52.420415
Conductivity (S/m)	1.501966
Power Variation (%)	0.541872
Ambient Temperature	21.1
Liquid Temperature	21.3

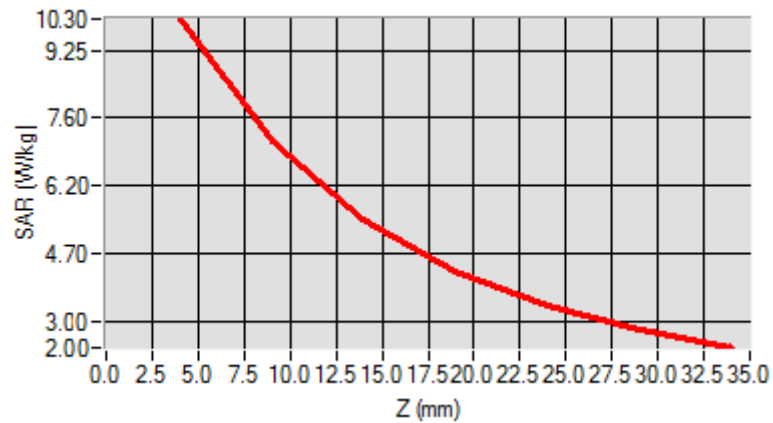


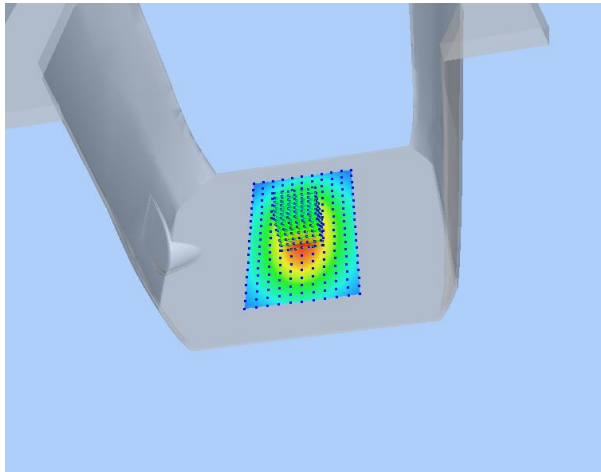
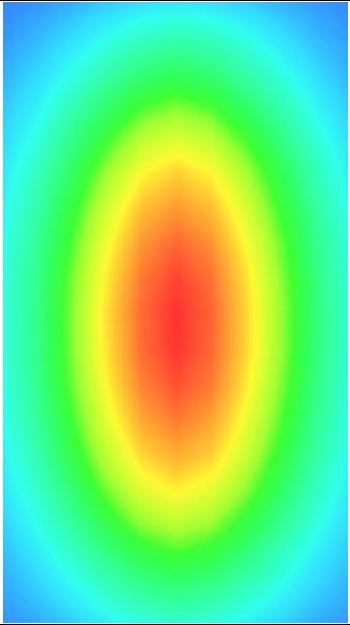
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	5.134651
SAR 1g (W/Kg)	9.781550

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	10.2031	6.43001	4.9011	4.5325	3.1201	2.5024



3D screen shot	Hot spot position
	

MEASUREMENT 11

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Date of measurement: 09/25/2019

Measurement duration: 12 minutes 21 seconds

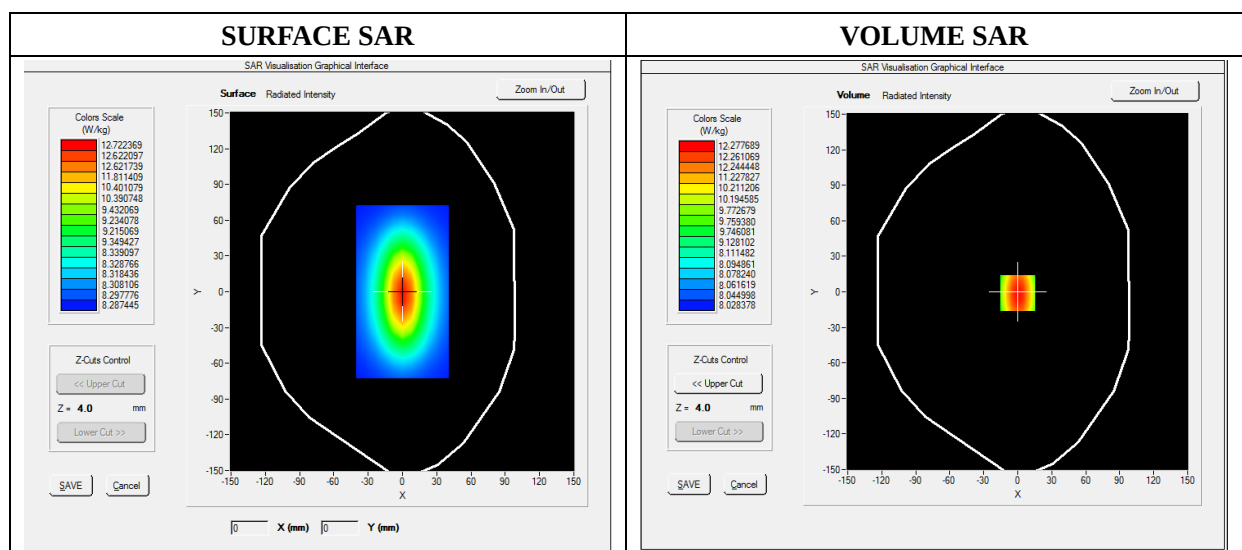
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 5.80; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2450.000000
Relative Permittivity (real part)	52.010212
Conductivity (S/m)	1.910255
Power Variation (%)	1.369745
Ambient Temperature	21.1
Liquid Temperature	21.2

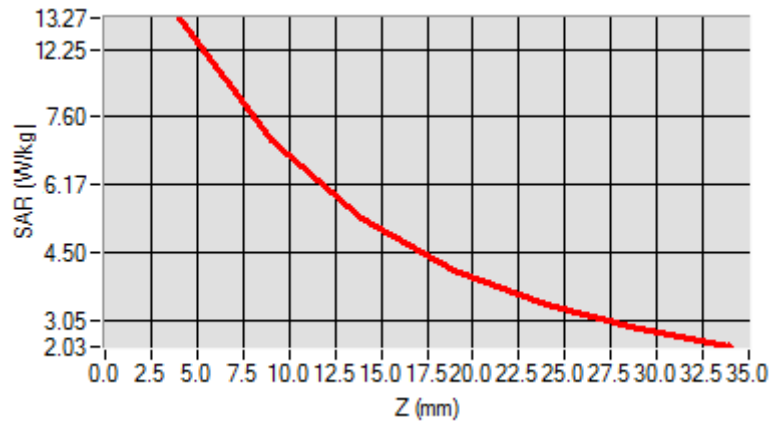


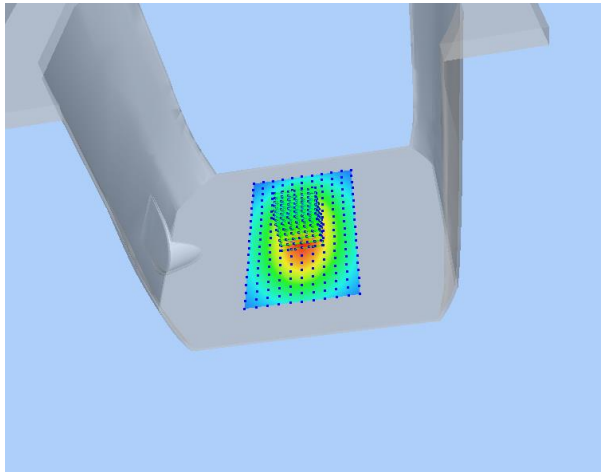
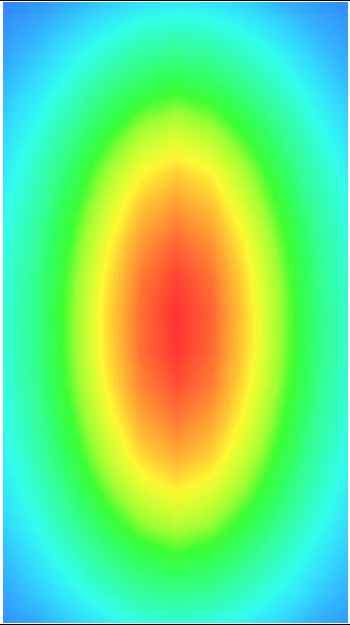
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	7.119522
SAR 1g (W/Kg)	12.592360

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	13.1911	11.7951	9.2945	8.5400	6.3712	4.6225



3D screen shot	Hot spot position
	

MEASUREMENT 12

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Date of measurement: 09/25/2019

Measurement duration: 12 minutes 21 seconds

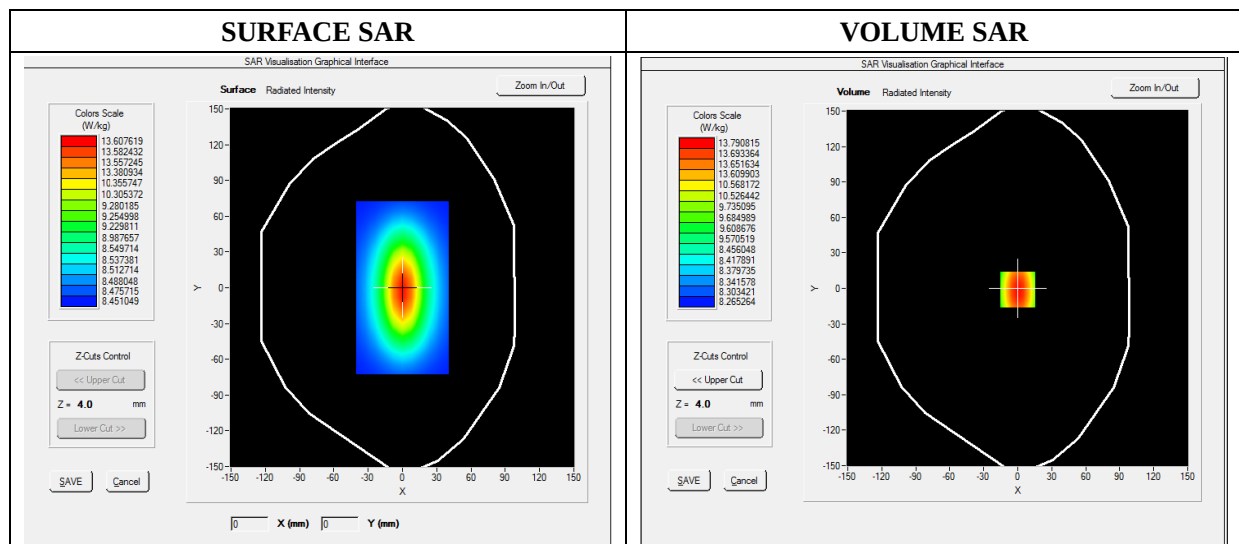
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 5.58; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2600.000000
Relative Permittivity (real part)	52.241202
Conductivity (S/m)	2.120943
Power Variation (%)	1.038832
Ambient Temperature	21.1
Liquid Temperature	21.2

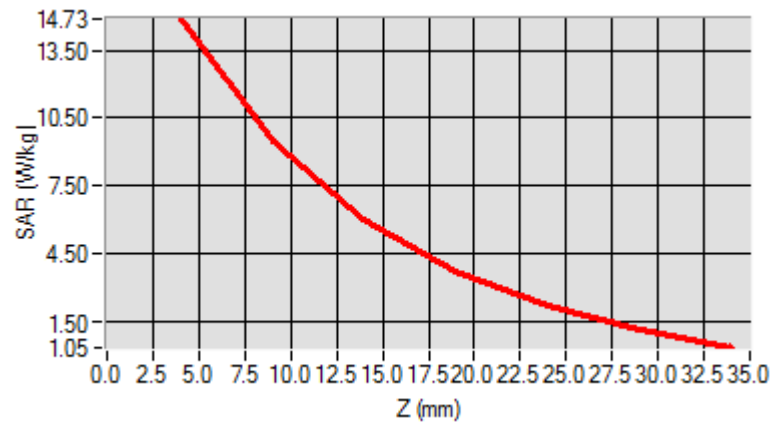


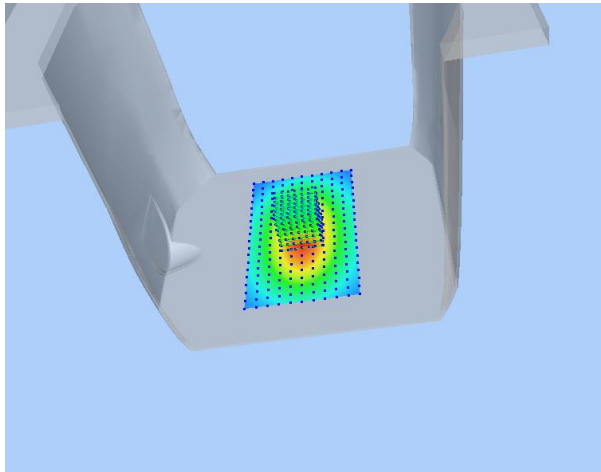
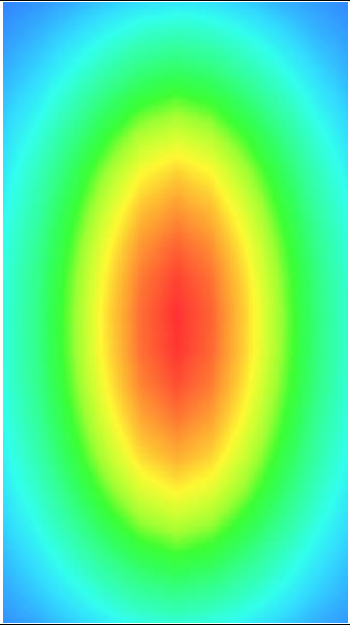
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	6.083781
SAR 1g (W/Kg)	13.430481

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	13.6473	11.8441	9.3627	8.5782	6.4357	4.6342



3D screen shot	Hot spot position
	

Annex B. Plots of SAR Measurement

<u>TYPE</u>	<u>BAND</u>	<u>PARAMETERS</u>
Phone	GSM850	<u>Measurement 1:</u> Right Head with Cheek device position on High Channel in GSM mode
Phone	GSM1900	<u>Measurement 7:</u> Left Head with Cheek device position on Low Channel in GSM mode
Phone	GPRS850_2TX	<u>Measurement 9:</u> Right Head with Cheek device position on Middle Channel in GPRS mode
Phone	GPRS1900_3TX	<u>Measurement 13:</u> Left Head with Cheek device position on High Channel in GPRS mode
Phone	WCDMA1900_RMC	<u>Measurement 17:</u> Right Head with Cheek device position on Middle Channel in WCDMA mode
Phone	WCDMA850_RMC	<u>Measurement 21:</u> Right Head with Cheek device position on High Channel in WCDMA mode
Phone	WCDMA1700_RMC	<u>Measurement 25:</u> Right Head with Cheek device position on High Channel in WCDMA mode
Phone	LTE Band 2_RMC	<u>Measurement 31:</u> Left Head with Cheek device position on Low Channel in LTE mode
Phone	LTE Band 4_RMC	<u>Measurement 37:</u> Right Head with Cheek device position on High Channel in LTE mode
Phone	LTE Band 5_RMC	<u>Measurement 45:</u> Right Head with Cheek device position on High Channel in LTE mode
Phone	LTE Band 7_RMC	<u>Measurement 53:</u> Right Head with Cheek device position on High Channel in LTE mode
Phone	LTE Band 17_RMC	<u>Measurement 61:</u> Right Head with Cheek device position on Low Channel in LTE mode
Phone	WiFi_802.11b	<u>Measurement 71:</u> Left Head with Cheek device position on High Channel in 802.11b mode
Phone	GSM850	<u>Measurement 74:</u> Flat Plane with Front(Body-worn) device position on High Channel in GSM mode
Phone	GSM1900	<u>Measurement 76:</u> Flat Plane with Front(Body-worn) device position on Low Channel in GSM mode
Phone	GPRS850_2TX	<u>Measurement 78:</u> Flat Plane with Front device position on Middle Channel in GPRS mode
Phone	GPRS1900_3TX	<u>Measurement 82:</u> Flat Plane with Back device position on Middle Channel in GPRS mode
Phone	WCDMA1900_RMC	<u>Measurement 87:</u> Flat Plane with Back side device position on Middle Channel in WCDMA mode
Phone	WCDMA850_RMC	<u>Measurement 93:</u> Flat Plane with Front device position on High Channel in WCDMA mode

Phone	WCDMA1700_RMC	<u>Measurement 98:</u> Flat Plane with Front device position on High Channel in WCDMA mode
Phone	LTE Band 2_RMC	<u>Measurement 102:</u> Flat Plane with Back device position on Low Channel in LTE mode
Phone	LTE Band 4_RMC	<u>Measurement 116:</u> Flat Plane with Bottom device position on High Channel in LTE mode
Phone	LTE Band 5_RMC	<u>Measurement 123:</u> Flat Plane with Front device position on High Channel in LTE mode
Phone	LTE Band 7_RMC	<u>Measurement 136:</u> Flat Plane with Bottom device position on High Channel in LTE mode
Phone	LTE Band 17_RMC	<u>Measurement 142:</u> Flat Plane with Back device position on Low Channel in LTE mode
Phone	WiFi_802.11b	<u>Measurement 155:</u> Flat Plane with Top side device position on High Channel in 802.11b mode
<i>Remark: SAR plot is showed the highest measured SAR in each exposure configuration, wireless mode and frequency band combination.</i>		

MEASUREMENT 1

Type: Phone measurement (Complete)

Date of measurement: 09/23/2019

Measurement duration: 11 minutes 48 seconds

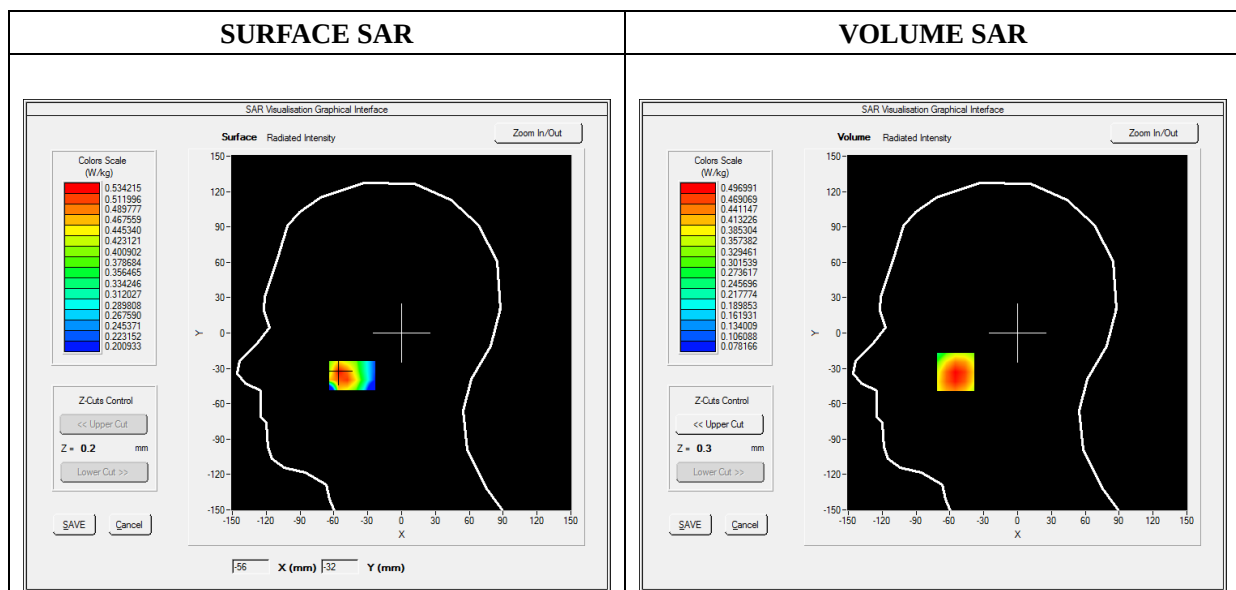
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.93; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	High
Signal	TDMA (Crest factor: 8.0)

B. SAR Measurement Results

Frequency (MHz)	848.800000
Relative Permittivity (real part)	41.110245
Conductivity (S/m)	0.871245
Power Variation (%)	1.144536
Ambient Temperature	21.1
Liquid Temperature	21.3

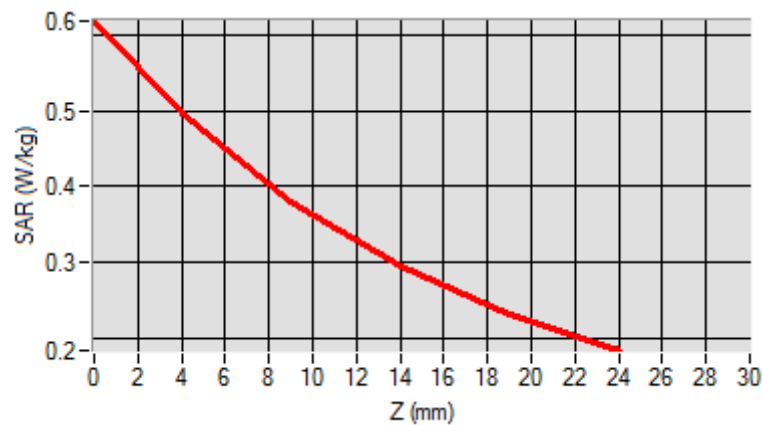


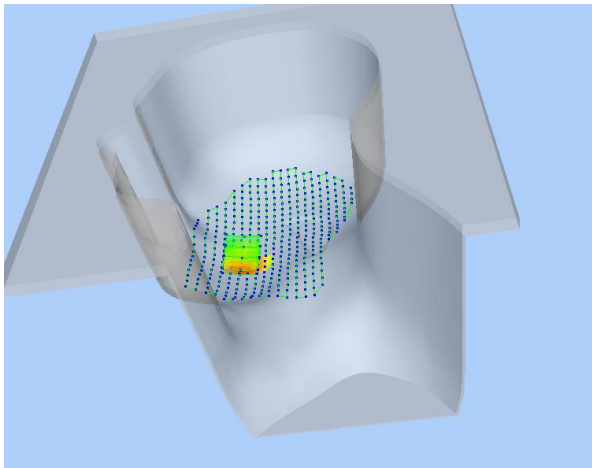
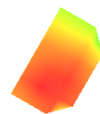
Maximum location: X=-55.00, Y=-33.00

SAR Peak: 0.63 W/kg

SAR 10g (W/Kg)	0.348430
SAR 1g (W/Kg)	0.480301

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.6193	0.4970	0.3794	0.2942	0.2323



3D screen shot	Hot spot position
	

MEASUREMENT 7

Type: Phone measurement (Complete)

Date of measurement: 09/24/2019

Measurement duration: 11 minutes 48 seconds

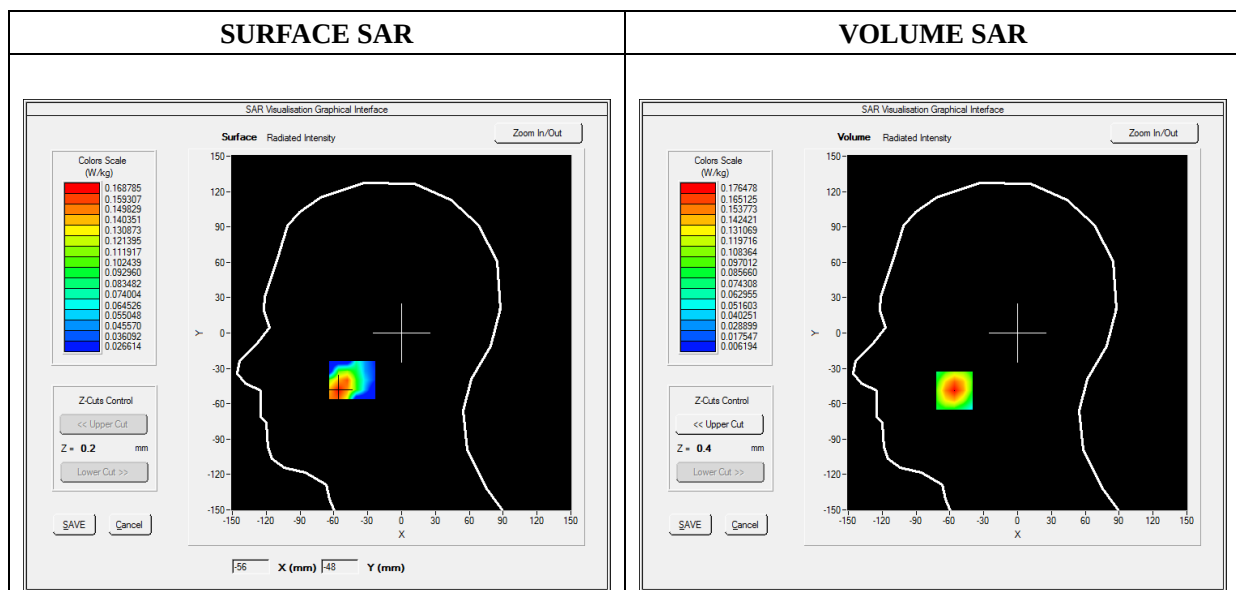
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.35; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Low
Signal	TDMA (Crest factor: 8.0)

B. SAR Measurement Results

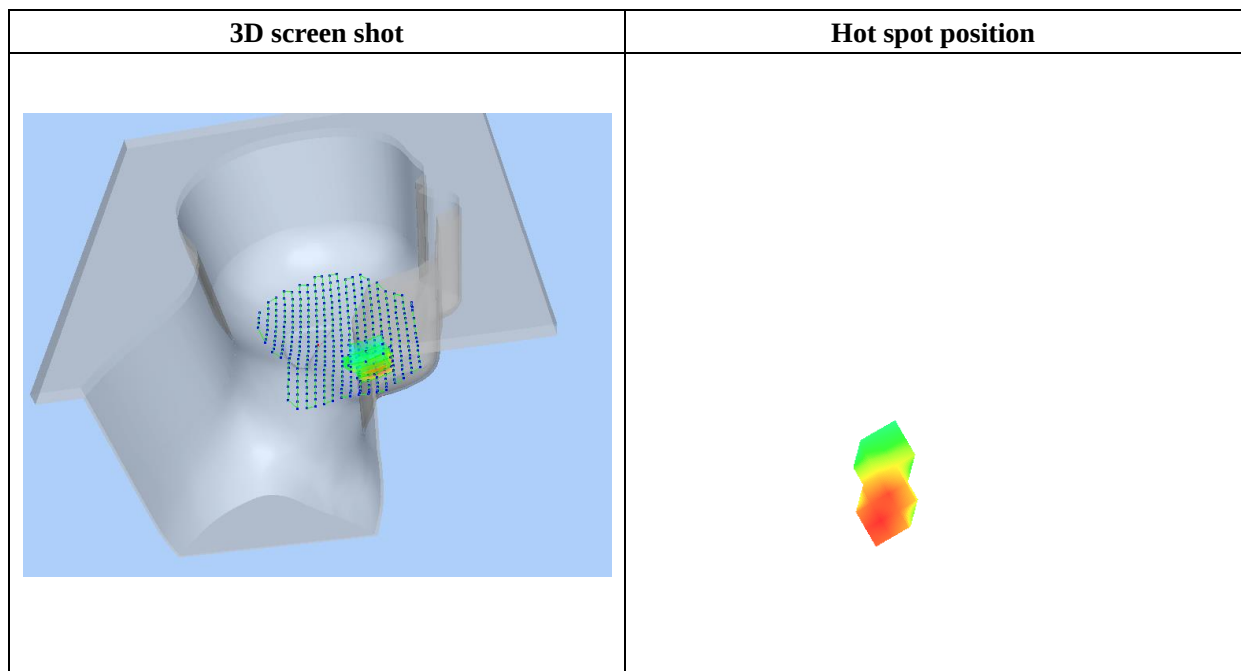
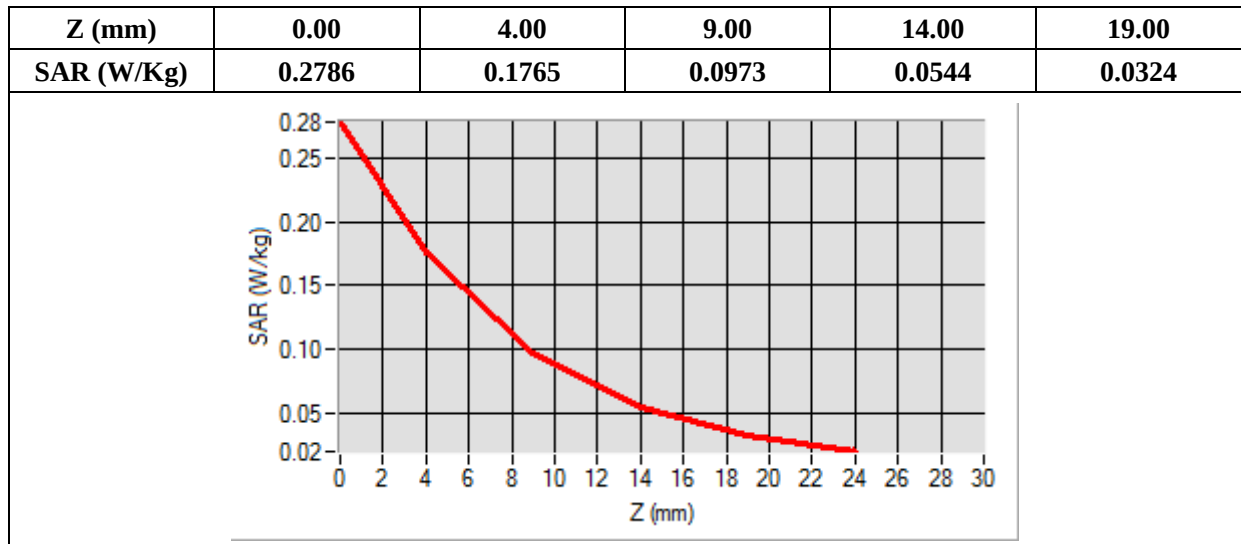
Frequency (MHz)	1850.200000
Relative Permittivity (real part)	38.560124
Conductivity (S/m)	1.380369
Power Variation (%)	1.442440
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-56.00, Y=-49.00

SAR Peak: 0.28 W/kg

SAR 10g (W/Kg)	0.089647
SAR 1g (W/Kg)	0.165369



MEASUREMENT 9

Type: Phone measurement (Complete)

Date of measurement: 09/23/2019

Measurement duration: 12 minutes 3 seconds

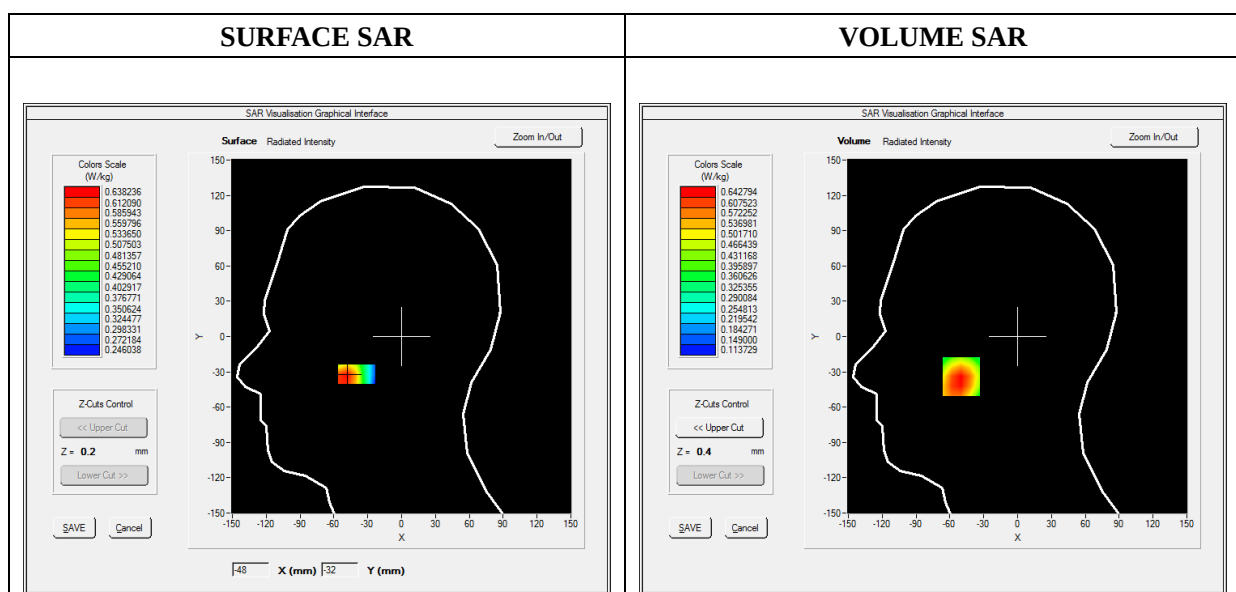
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.35; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GPRS850_2TX
Channels	Middle
Signal	Duty Cycle: 1:4

B. SAR Measurement Results

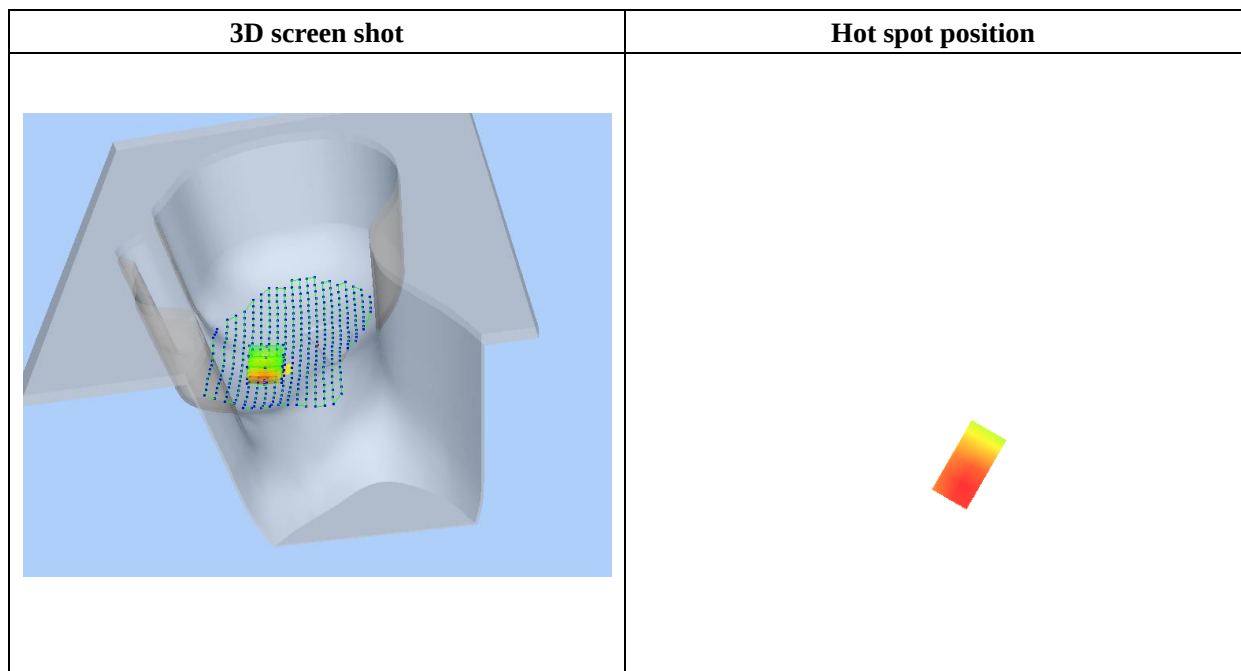
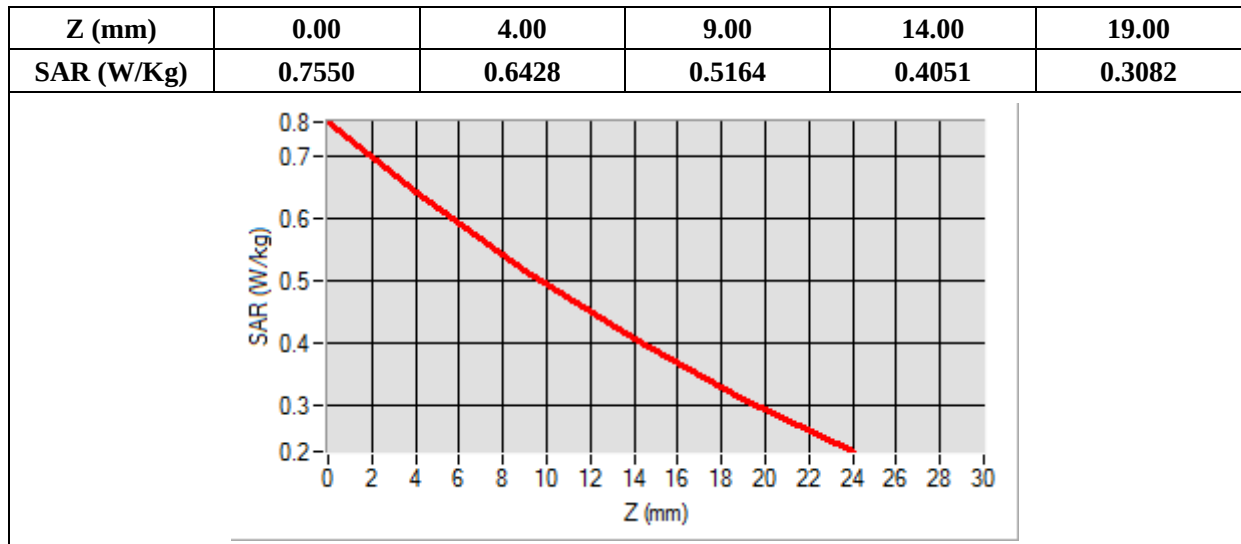
Frequency (MHz)	836.600000
Relative Permittivity (real part)	38.560124
Conductivity (S/m)	1.380369
Power Variation (%)	1.536272
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-50.00, Y=-34.00

SAR Peak: 0.77 W/kg

SAR 10g (W/Kg)	0.450375
SAR 1g (W/Kg)	0.623549



MEASUREMENT 13

Type: Phone measurement (Complete)

Date of measurement: 09/24/2019

Measurement duration: 12 minutes 3 seconds

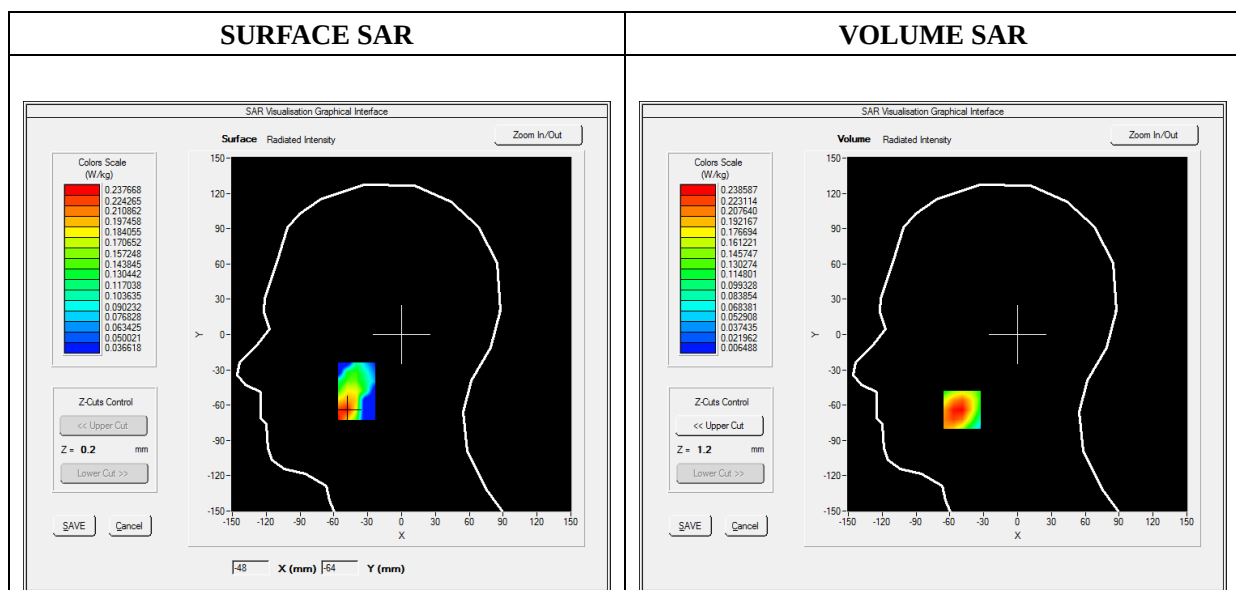
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.35; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GPRS1900_3TX
Channels	Middle
Signal	Duty Cycle: 1:2.66

B. SAR Measurement Results

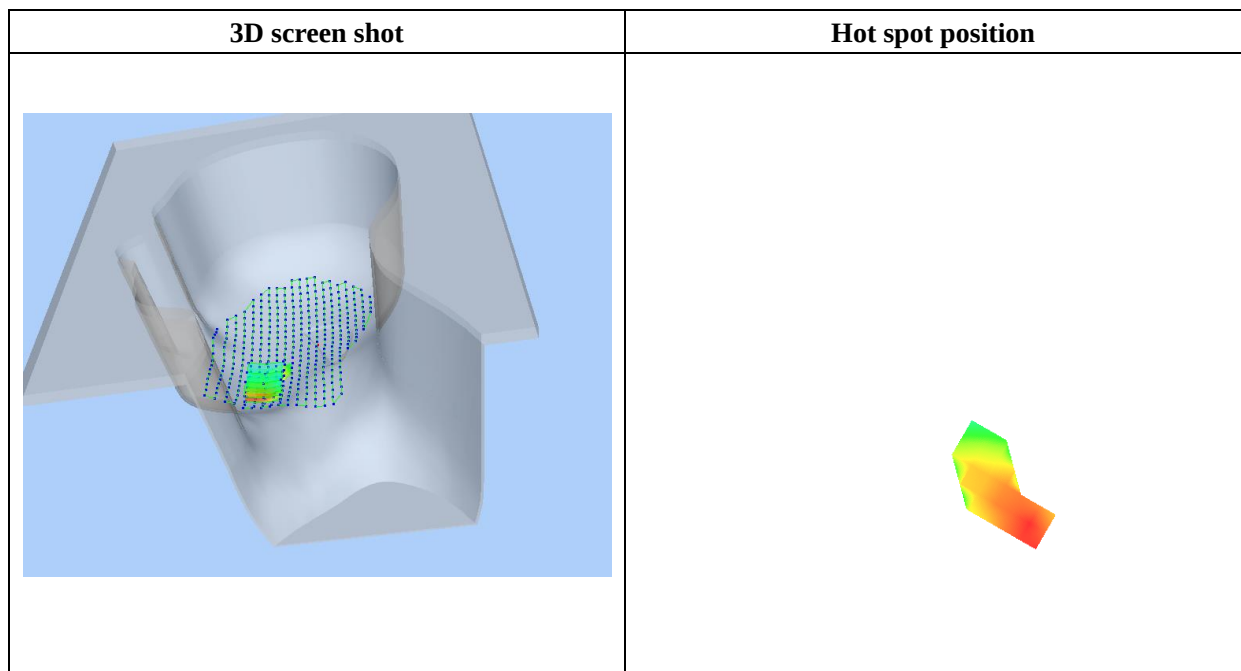
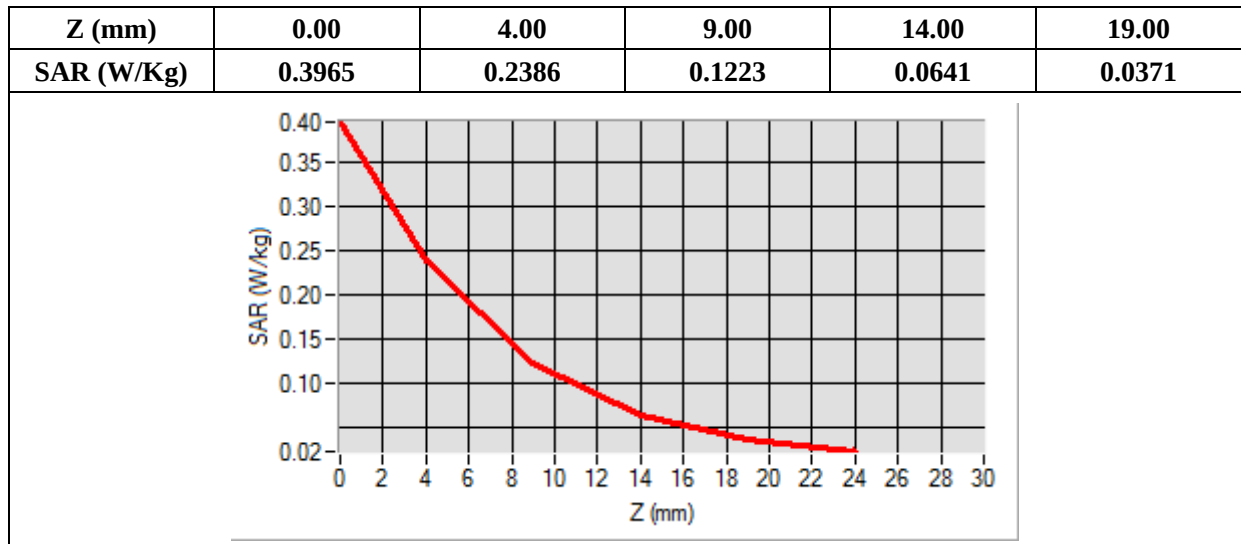
Frequency (MHz)	1880.000000
Relative Permittivity (real part)	38.560124
Conductivity (S/m)	1.380369
Power Variation (%)	1.536272
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-49.00, Y=-64.00

SAR Peak: 0.40 W/kg

SAR 10g (W/Kg)	0.125018
SAR 1g (W/Kg)	0.230269



MEASUREMENT 17

Type: Phone measurement (Complete)

Date of measurement: 09/24/2019

Measurement duration: 12 minutes 3 seconds

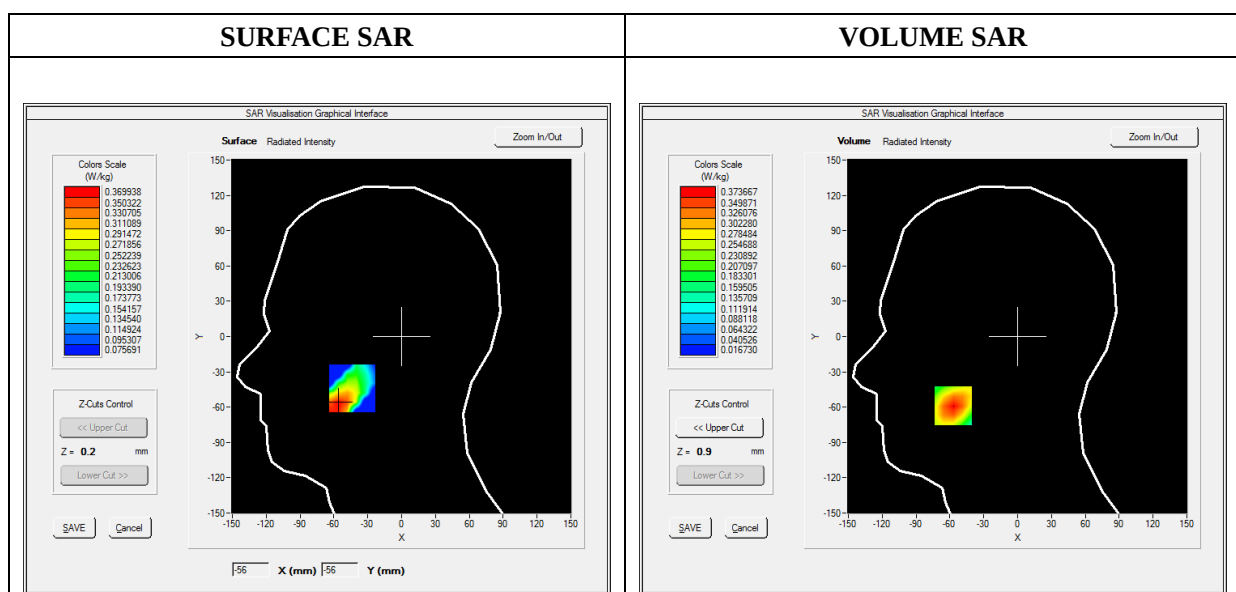
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.35; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	WCDMA1900_RMC
Channels	Middle
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1880.000000
Relative Permittivity (real part)	38.560124
Conductivity (S/m)	1.380369
Power Variation (%)	1.524540
Ambient Temperature	21.1
Liquid Temperature	21.3

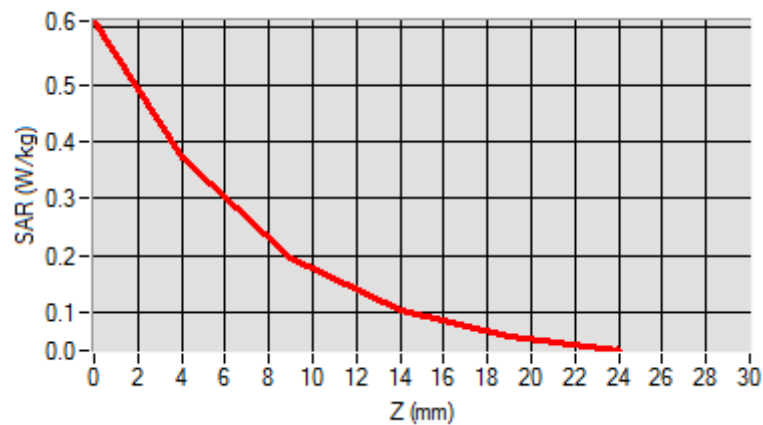


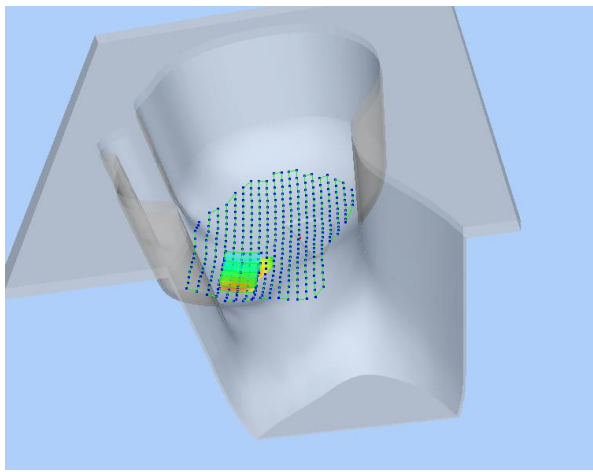
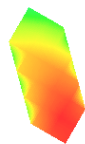
Maximum location: X=-57.00, Y=-59.00

SAR Peak: 0.61 W/kg

SAR 10g (W/Kg)	0.192488
SAR 1g (W/Kg)	0.353719

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.6122	0.3737	0.1947	0.1023	0.0576



3D screen shot	Hot spot position
	

MEASUREMENT 21

Type: Phone measurement (Complete)

Date of measurement: 09/23/2019

Measurement duration: 12 minutes 3 seconds

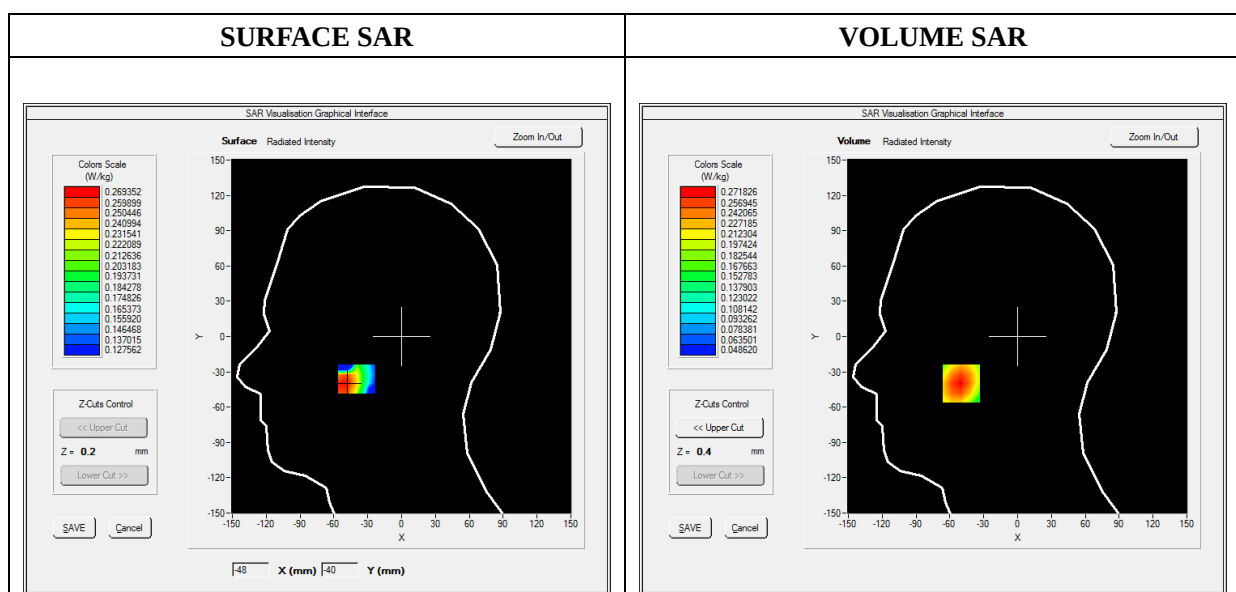
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.93; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	WCDMA850_RMC
Channels	High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

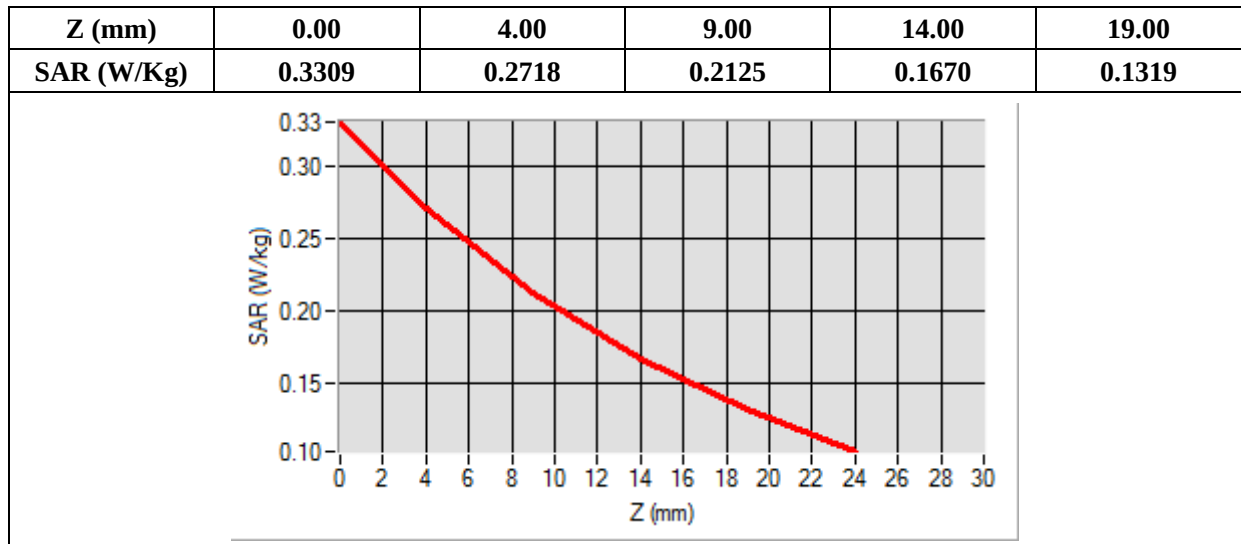
Frequency (MHz)	846.600000
Relative Permittivity (real part)	41.110245
Conductivity (S/m)	0.871245
Power Variation (%)	1.342427
Ambient Temperature	21.1
Liquid Temperature	21.3

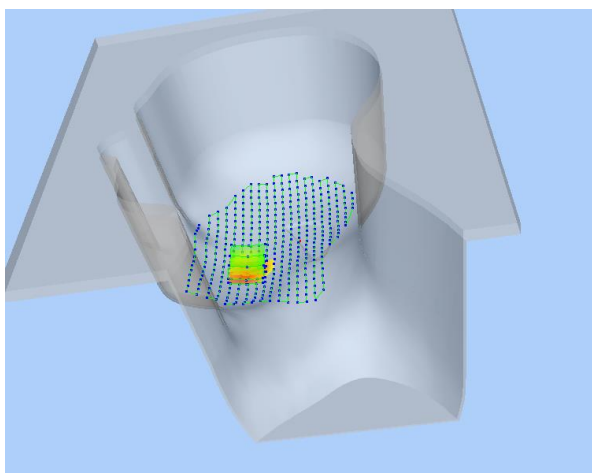
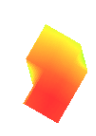


Maximum location: X=-50.00, Y=-40.00

SAR Peak: 0.33 W/kg

SAR 10g (W/Kg)	0.191260
SAR 1g (W/Kg)	0.261374



3D screen shot	Hot spot position
	

MEASUREMENT 25

Type: Phone measurement (Complete)

Date of measurement: 09/24/2019

Measurement duration: 12 minutes 3 seconds

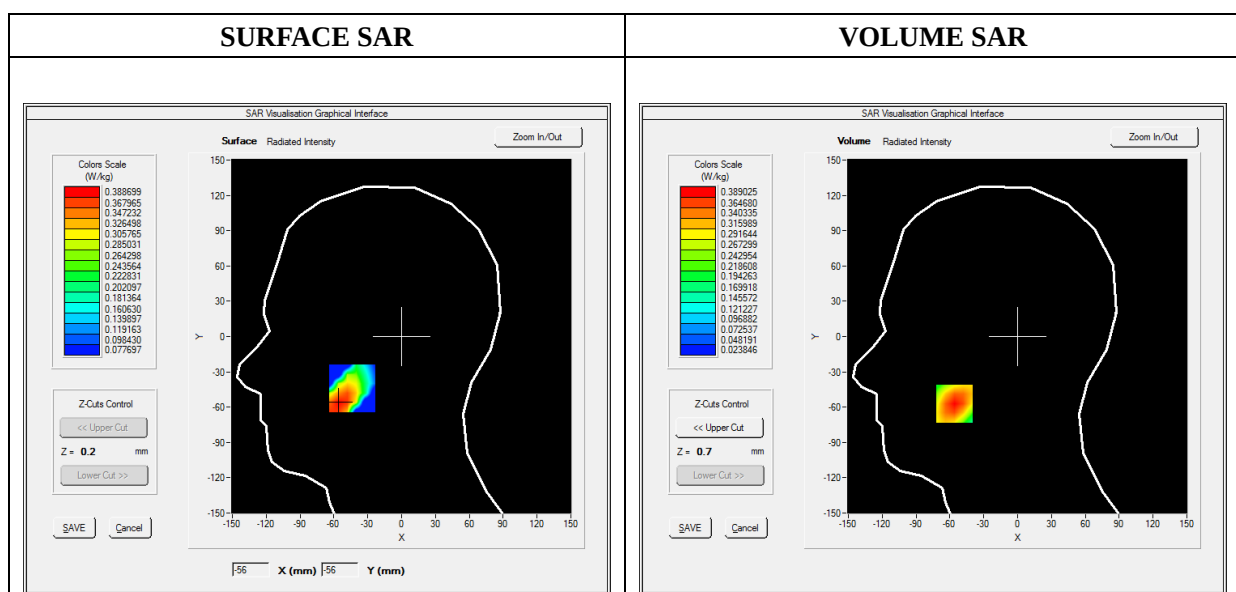
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 5.84; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	WCDMA1700_RMC
Channels	High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

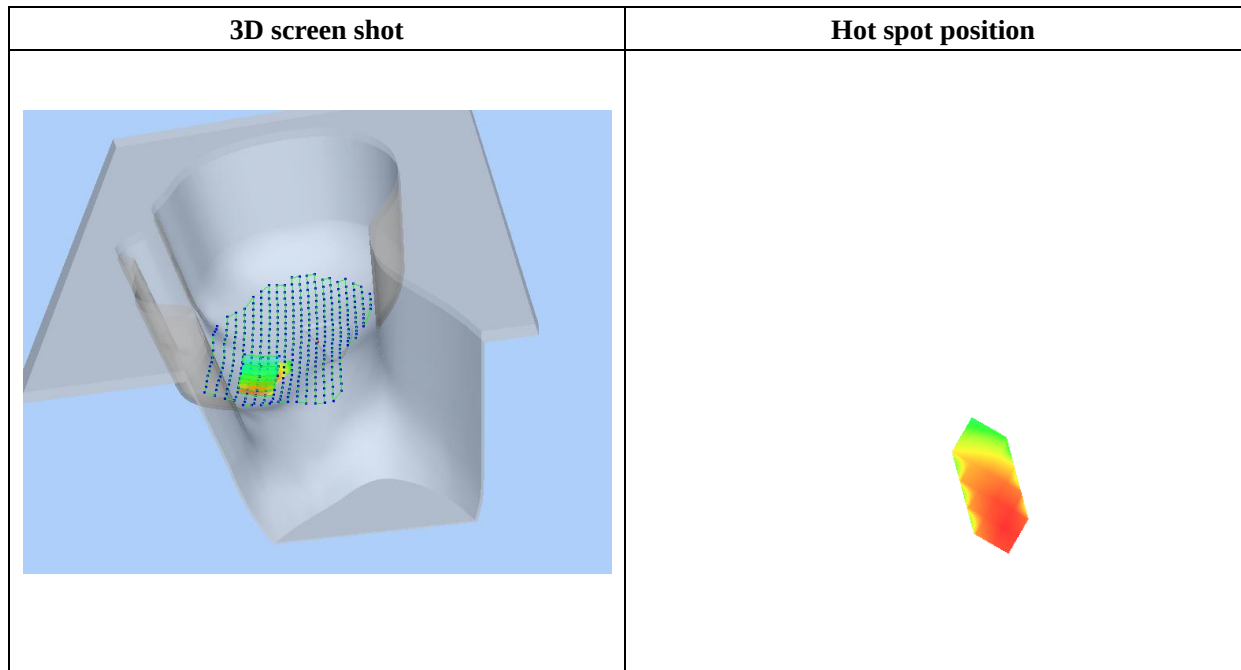
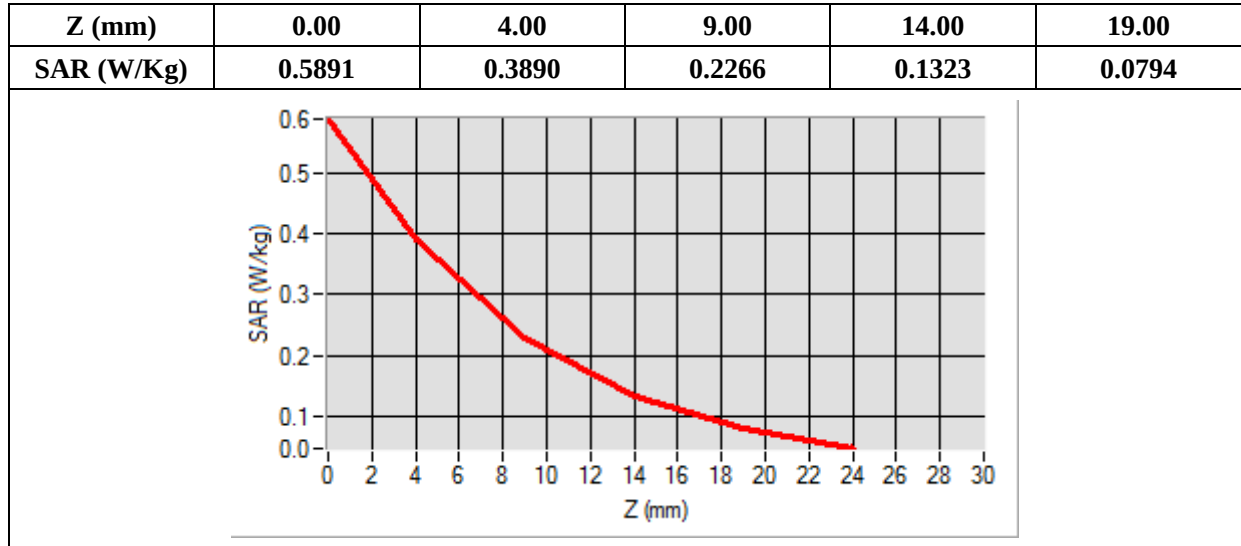
Frequency (MHz)	1752.600000
Relative Permittivity (real part)	39.025421
Conductivity (S/m)	1.370123
Power Variation (%)	1.342427
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-56.00, Y=-57.00

SAR Peak: 0.59 W/kg

SAR 10g (W/Kg)	0.215062
SAR 1g (W/Kg)	0.368460



MEASUREMENT 31

Type: Phone measurement (Complete)

Date of measurement: 09/24/2019

Measurement duration: 12 minutes 3 seconds

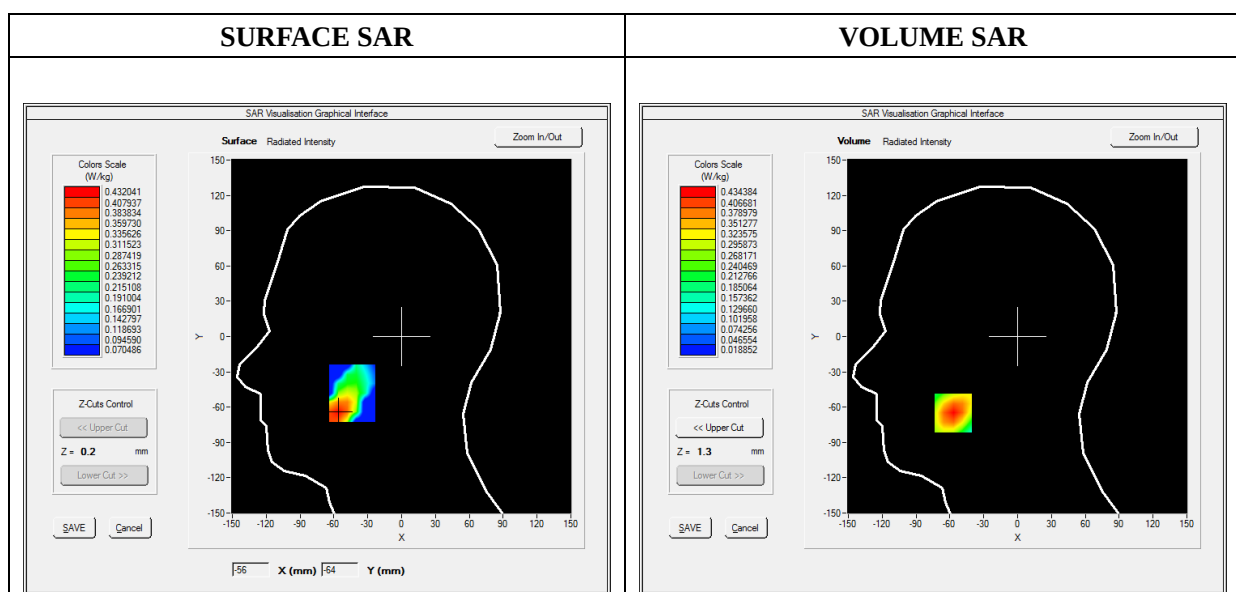
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.35; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	LTE Band 2_RMC
Channels	QPSK, 20MHz, 1RB, Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

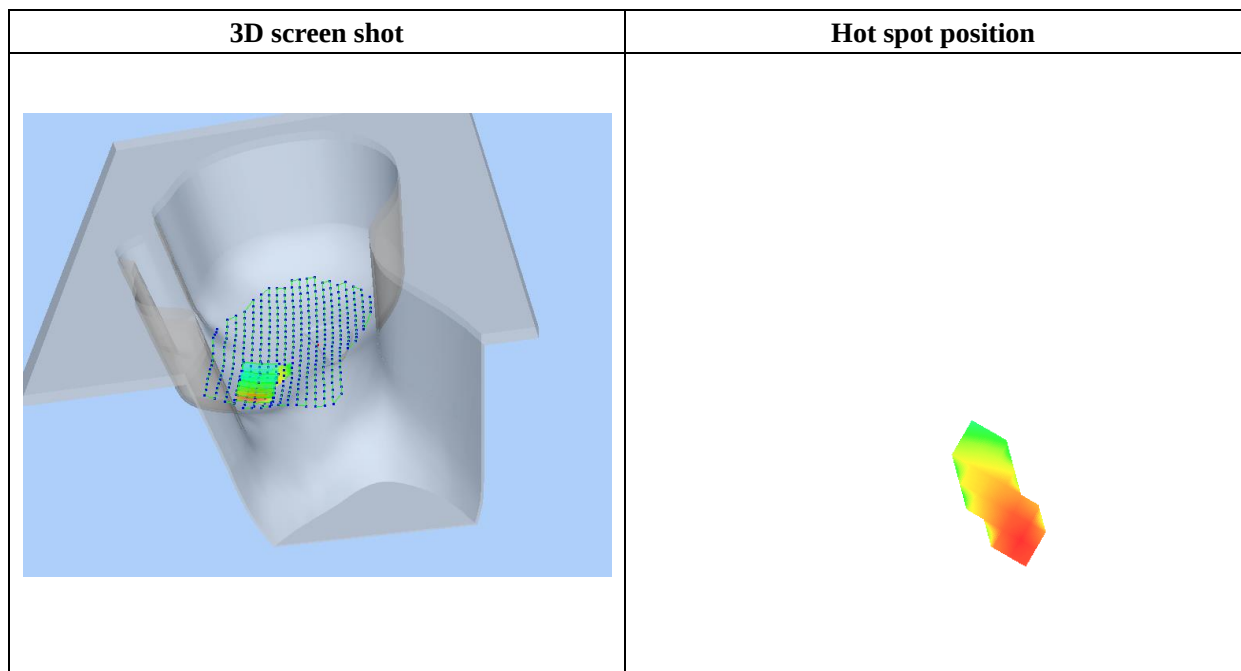
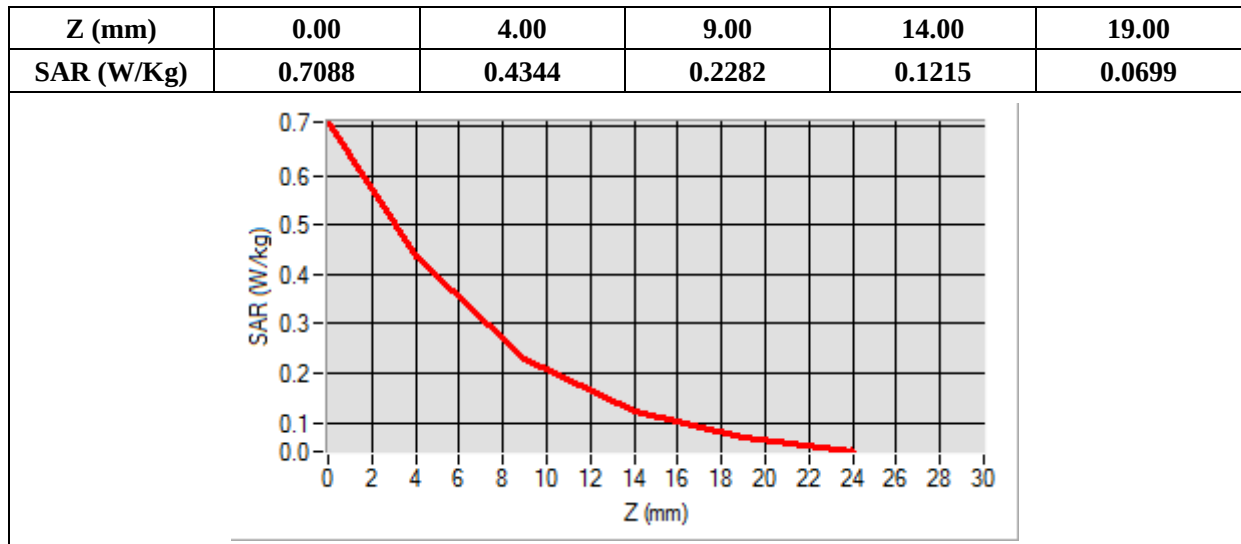
Frequency (MHz)	1860.000000
Relative Permittivity (real part)	38.560124
Conductivity (S/m)	1.380369
Power Variation (%)	1.743564
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-57.00, Y=-65.00

SAR Peak: 0.71 W/kg

SAR 10g (W/Kg)	0.224323
SAR 1g (W/Kg)	0.410709



MEASUREMENT 37

Type: Phone measurement (Complete)

Date of measurement: 09/24/2019

Measurement duration: 12 minutes 3 seconds

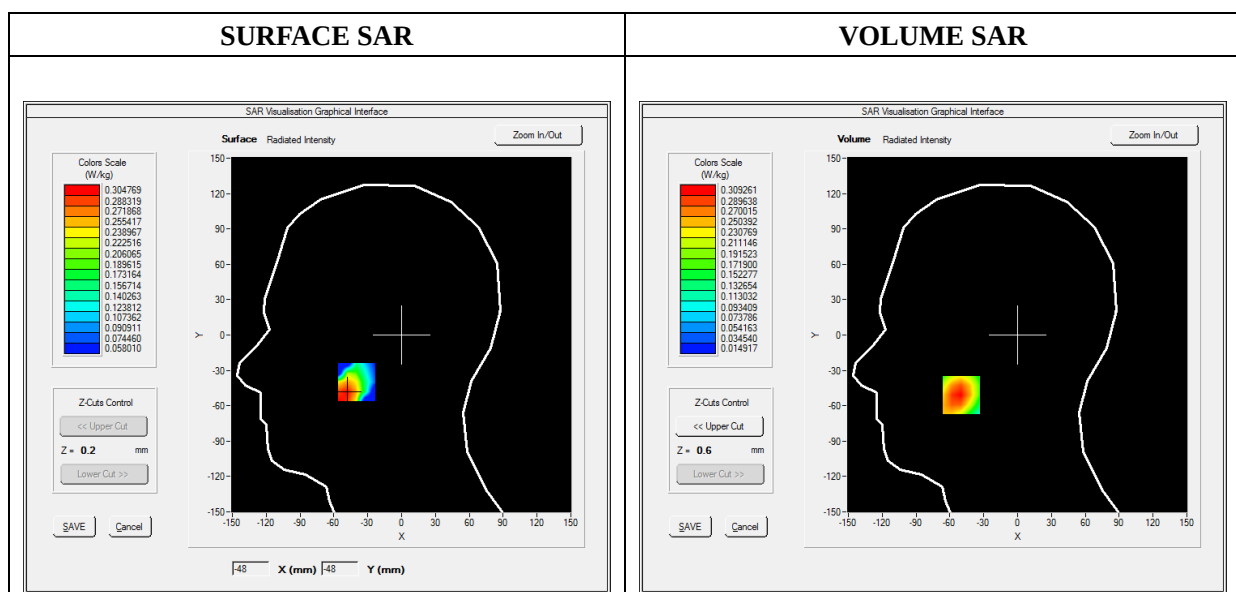
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 5.84; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	LTE Band 4_RMC
Channels	QPSK, 20MHz, 1RB, High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

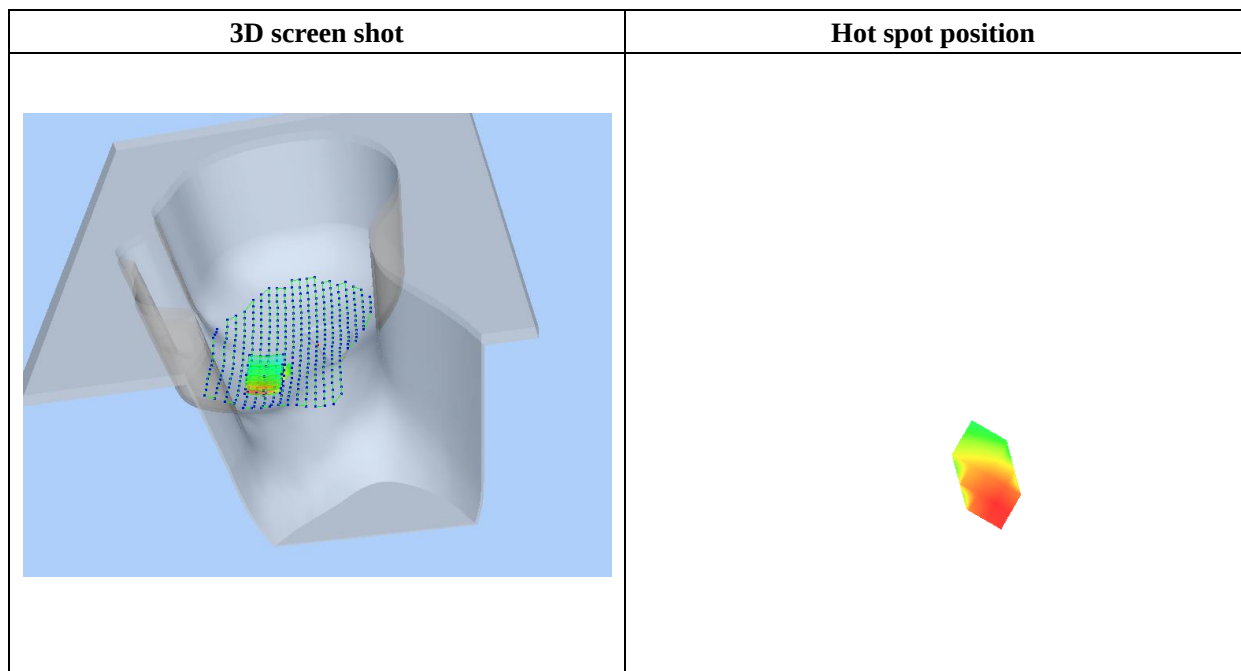
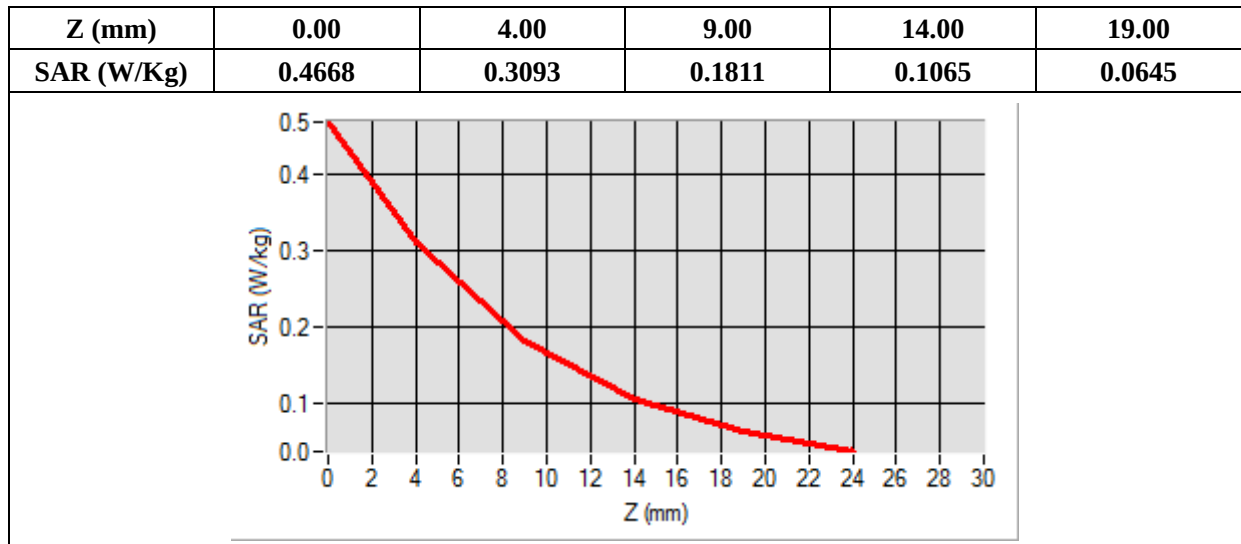
Frequency (MHz)	1745.000000
Relative Permittivity (real part)	39.025421
Conductivity (S/m)	1.370123
Power Variation (%)	1.374628
Ambient Temperature	21.1
Liquid Temperature	21.2



Maximum location: X=-50.00, Y=-51.00

SAR Peak: 0.47 W/kg

SAR 10g (W/Kg)	0.170710
SAR 1g (W/Kg)	0.294235



MEASUREMENT 45

Type: Phone measurement (Complete)

Date of measurement: 09/23/2019

Measurement duration: 12 minutes 3 seconds

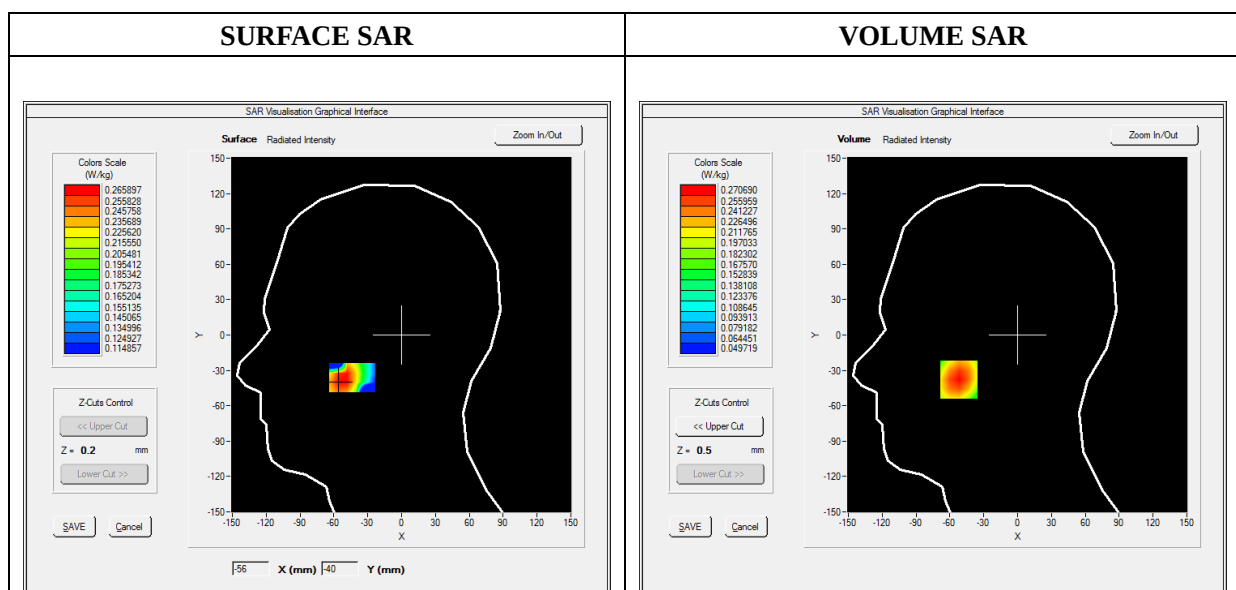
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.93; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	LTE Band 5_RMC
Channels	QPSK, 10MHz, 1RB, High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

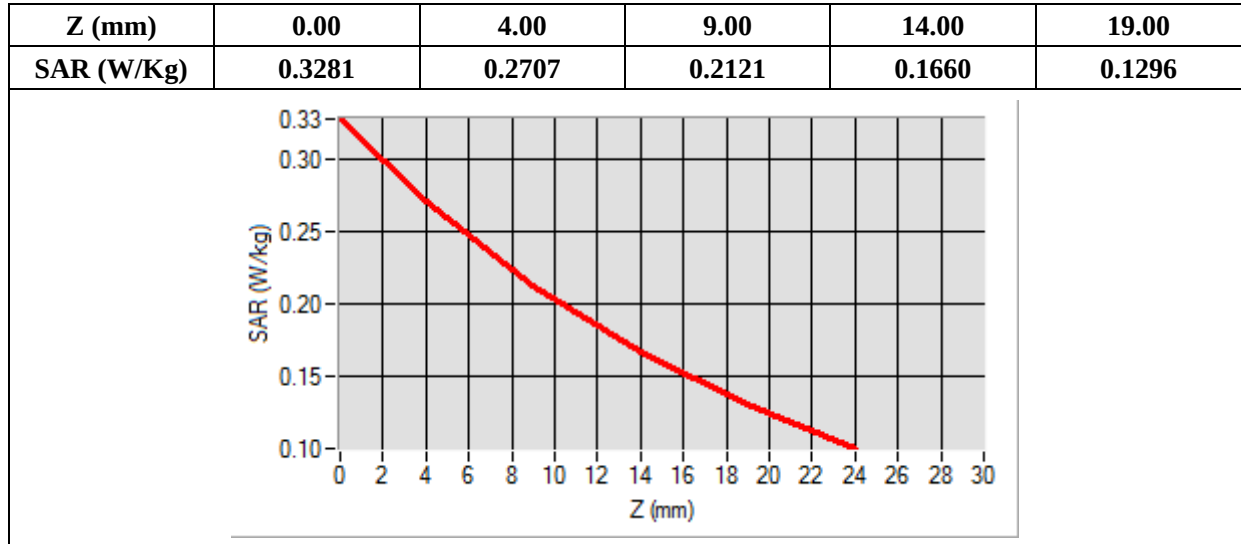
Frequency (MHz)	844.000000
Relative Permittivity (real part)	41.110245
Conductivity (S/m)	0.871245
Power Variation (%)	0.924535
Ambient Temperature	21.1
Liquid Temperature	21.2

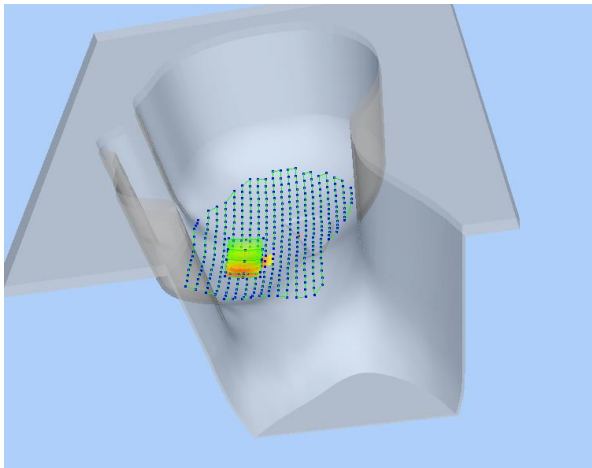


Maximum location: X=-52.00, Y=-38.00

SAR Peak: 0.33 W/kg

SAR 10g (W/Kg)	0.189603
SAR 1g (W/Kg)	0.259810



3D screen shot	Hot spot position
	

MEASUREMENT 53

Type: Phone measurement (Complete)

Date of measurement: 09/25/2019

Measurement duration: 12 minutes 3 seconds

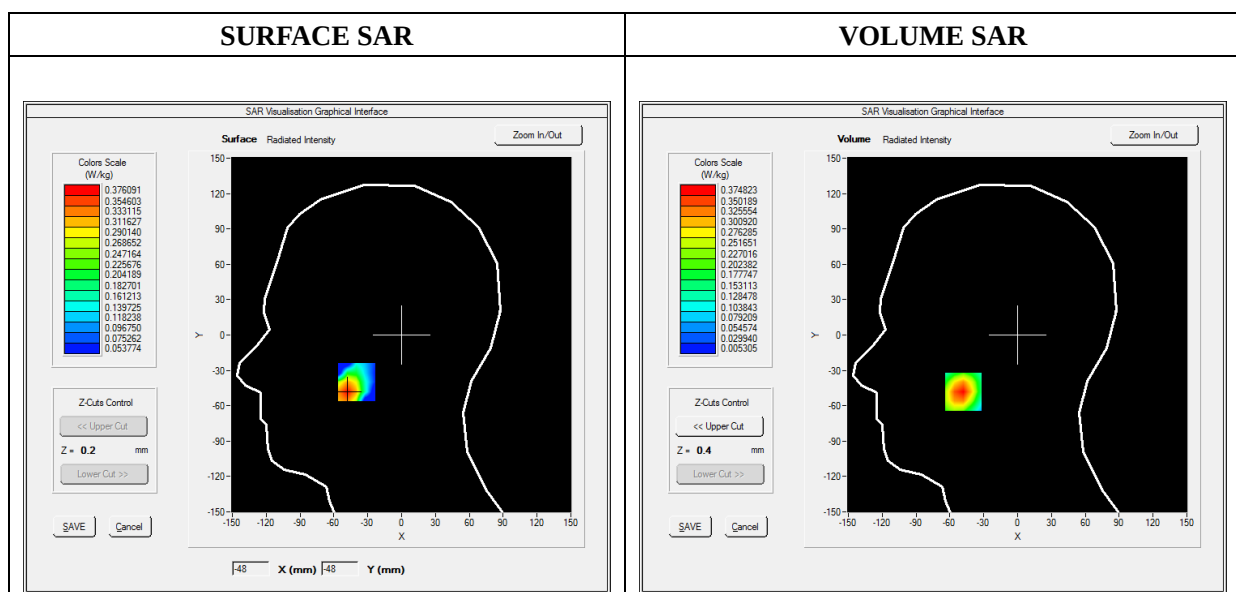
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 5.37; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	LTE Band 7_RMC
Channels	QPSK, 20MHz, 1RB, High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

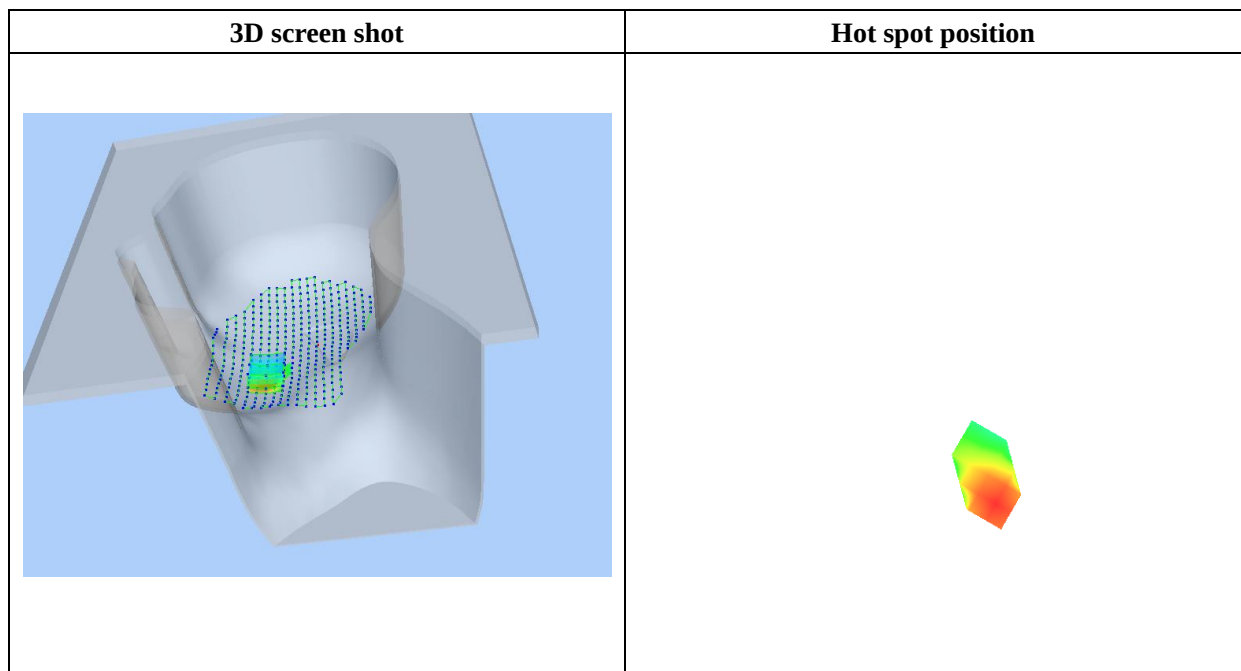
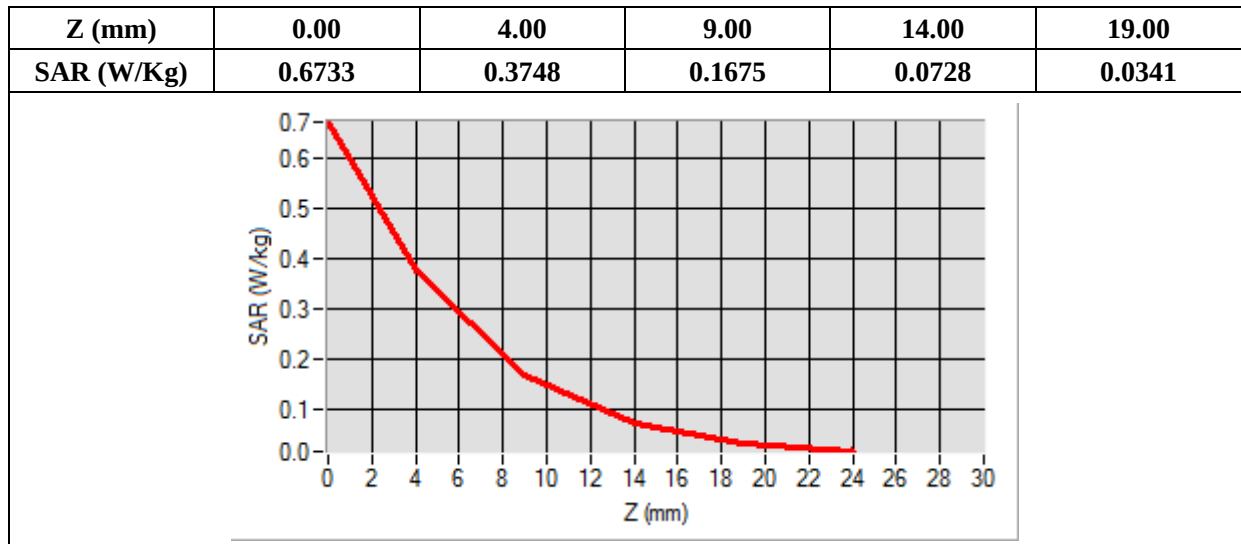
Frequency (MHz)	2560.000000
Relative Permittivity (real part)	38.631092
Conductivity (S/m)	1.930182
Power Variation (%)	0.924535
Ambient Temperature	21.1
Liquid Temperature	21.2



Maximum location: X=-48.00, Y=-48.00

SAR Peak: 0.68 W/kg

SAR 10g (W/Kg)	0.170452
SAR 1g (W/Kg)	0.354672



MEASUREMENT 61

Type: Phone measurement (Complete)

Date of measurement: 09/23/2019

Measurement duration: 12 minutes 3 seconds

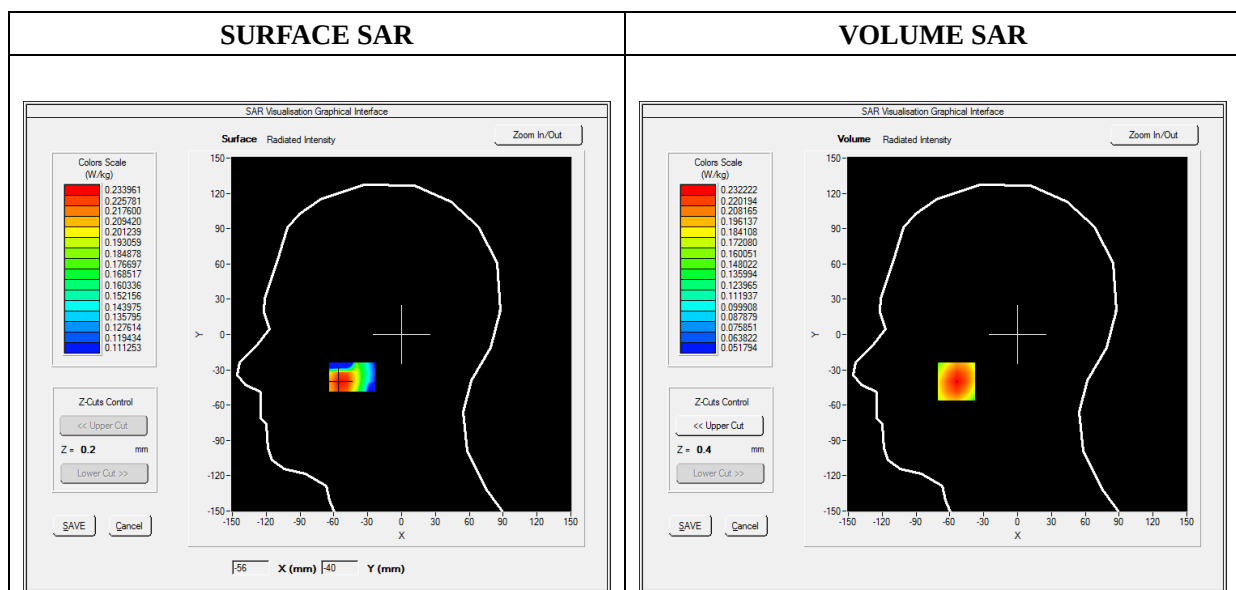
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.99; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	LTE Band 17_RMC
Channels	QPSK, 10MHz, 1RB, Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

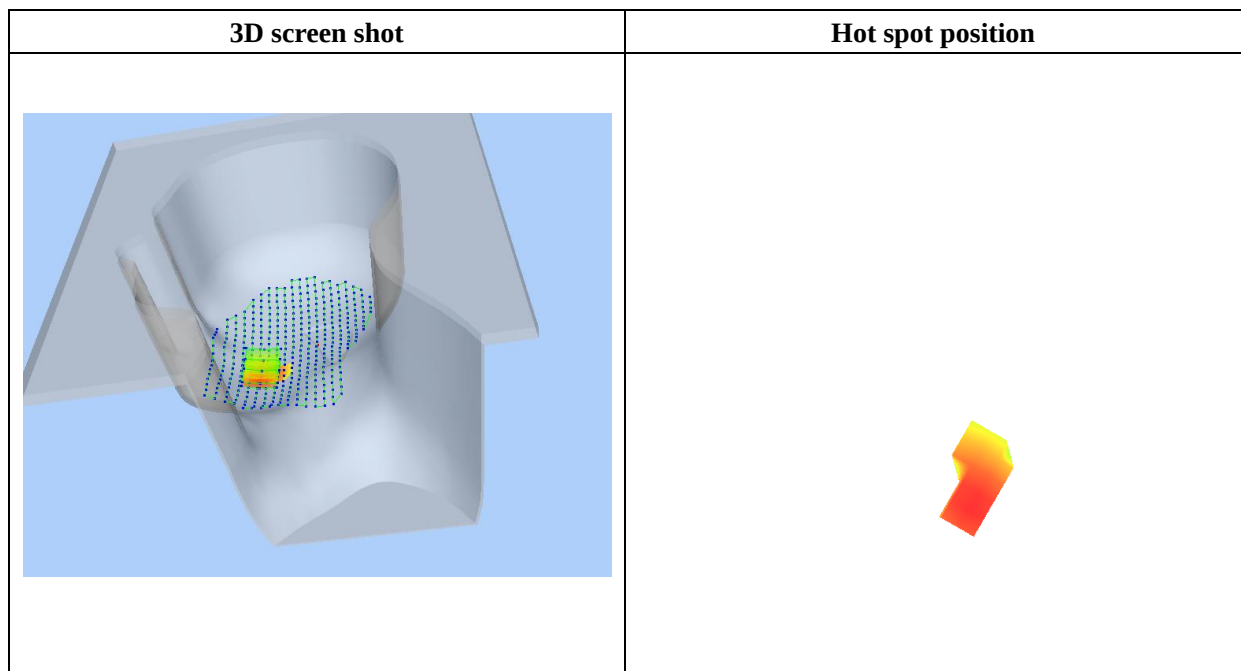
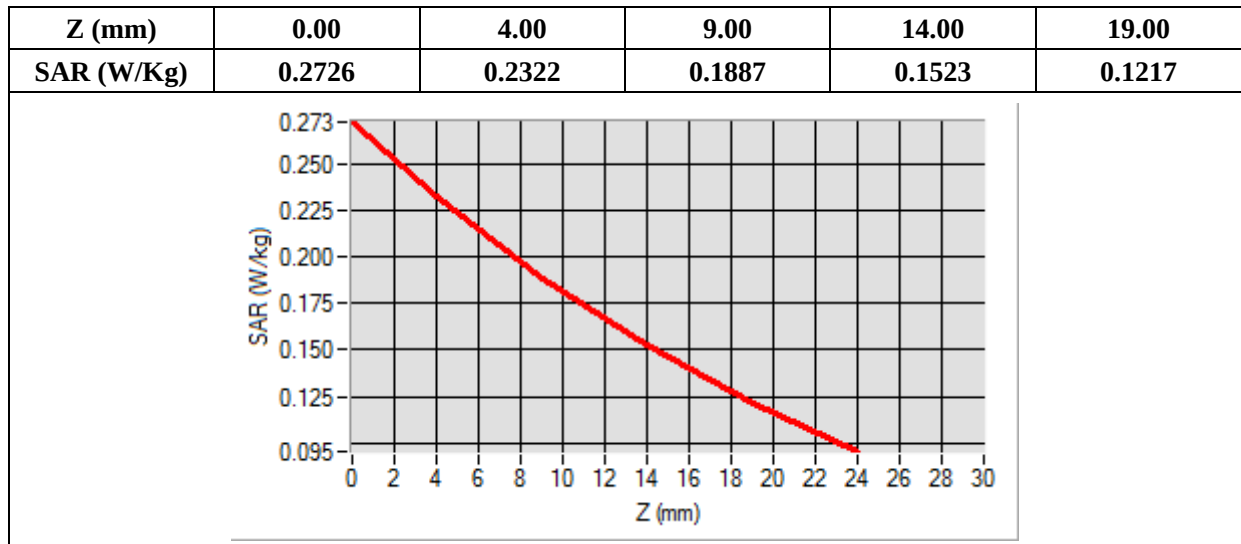
Frequency (MHz)	709.000000
Relative Permittivity (real part)	41.320574
Conductivity (S/m)	0.862373
Power Variation (%)	0.924535
Ambient Temperature	21.1
Liquid Temperature	21.2



Maximum location: X=-54.00, Y=-40.00

SAR Peak: 0.27 W/kg

SAR 10g (W/Kg)	0.171934
SAR 1g (W/Kg)	0.227959



MEASUREMENT 71

Type: Phone measurement (Complete)

Date of measurement: 09/25/2019

Measurement duration: 12 minutes 3 seconds

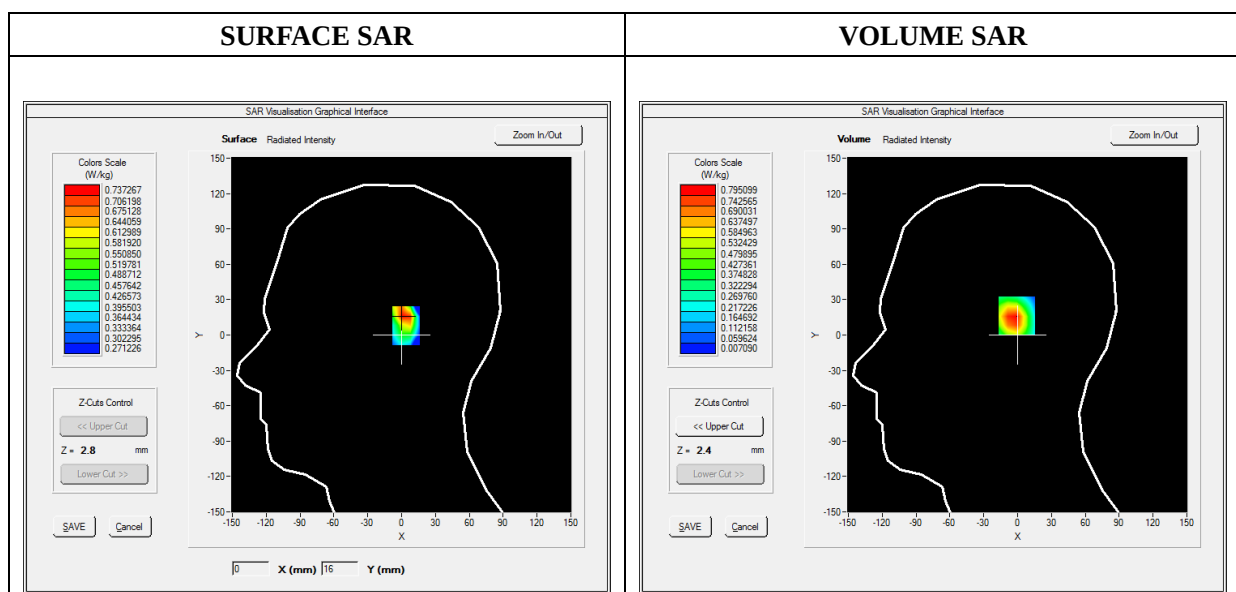
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 5.64; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	WiFi_802.11b
Channels	High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2462.000000
Relative Permittivity (real part)	38.153660
Conductivity (S/m)	1.740236
Power Variation (%)	3.234772
Ambient Temperature	21.1
Liquid Temperature	21.2

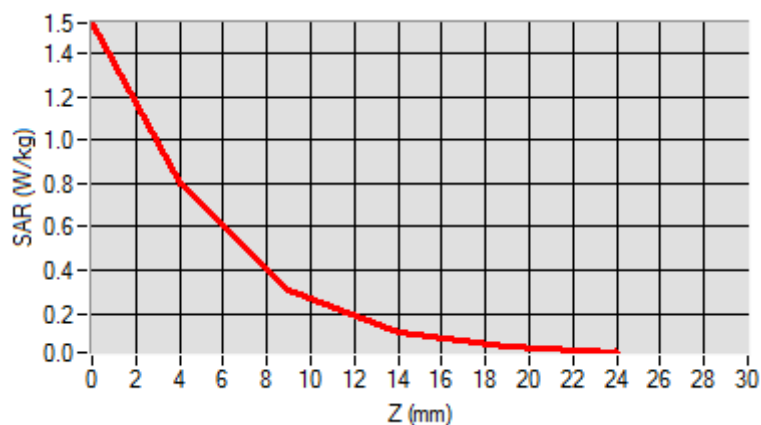


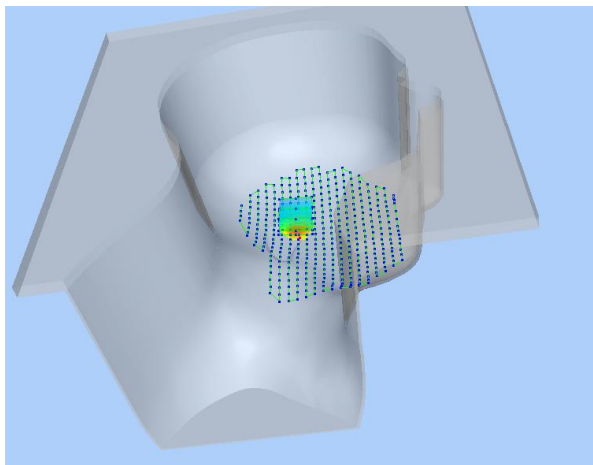
Maximum location: X=3.00, Y=16.00

SAR Peak: 1.61 W/kg

SAR 10g (W/Kg)	0.350368
SAR 1g (W/Kg)	0.777944

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.5389	0.7951	0.3117	0.1151	0.0477



3D screen shot	Hot spot position
	

MEASUREMENT 74

Type: Phone measurement (Complete)

Date of measurement: 09/23/2019

Measurement duration: 12 minutes 3 seconds

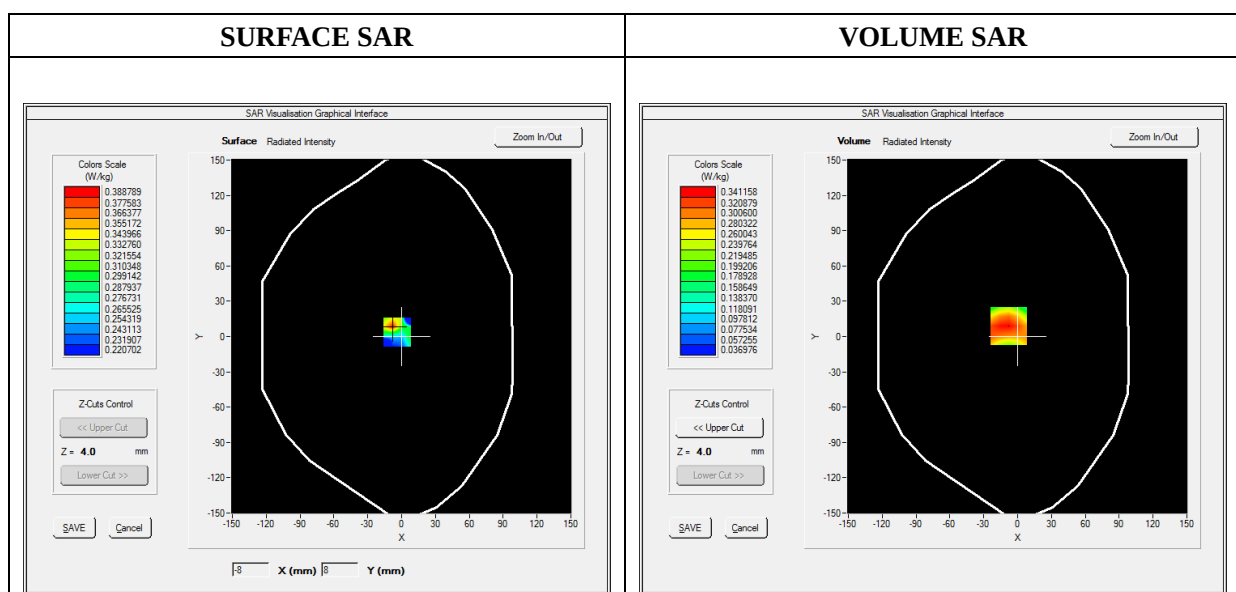
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 7.13; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Flat Plane
Device Position	Front(Body-worn)
Band	GSM850
Channels	High
Signal	TDMA (Crest factor: 8.0)

B. SAR Measurement Results

Frequency (MHz)	848.800000
Relative Permittivity (real part)	54.851214
Conductivity (S/m)	0.951454
Power Variation (%)	0.901472
Ambient Temperature	21.1
Liquid Temperature	21.3

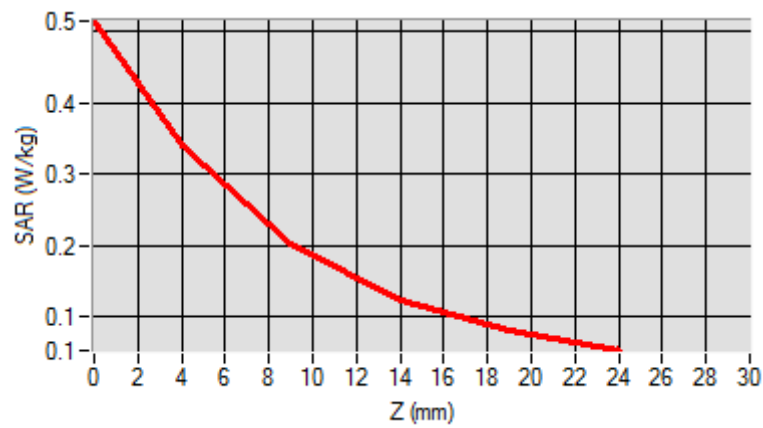


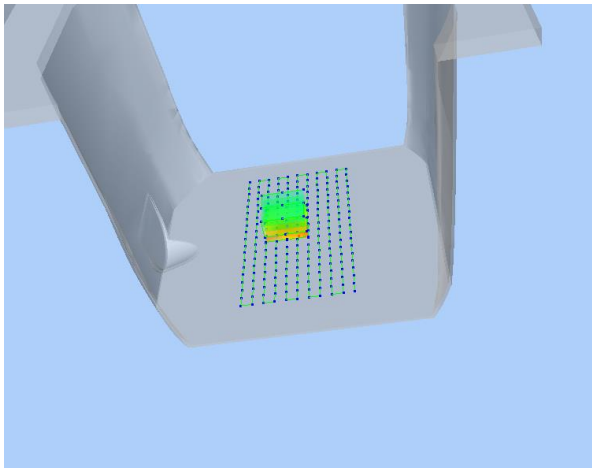
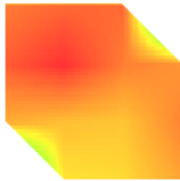
Maximum location: X=-8.00, Y=9.00

SAR Peak: 0.51 W/kg

SAR 10g (W/Kg)	0.197380
SAR 1g (W/Kg)	0.324780

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.5146	0.3412	0.2022	0.1233	0.0803



3D screen shot	Hot spot position
	

MEASUREMENT 76

Type: Phone measurement (Complete)

Date of measurement: 09/24/2019

Measurement duration: 12 minutes 3 seconds

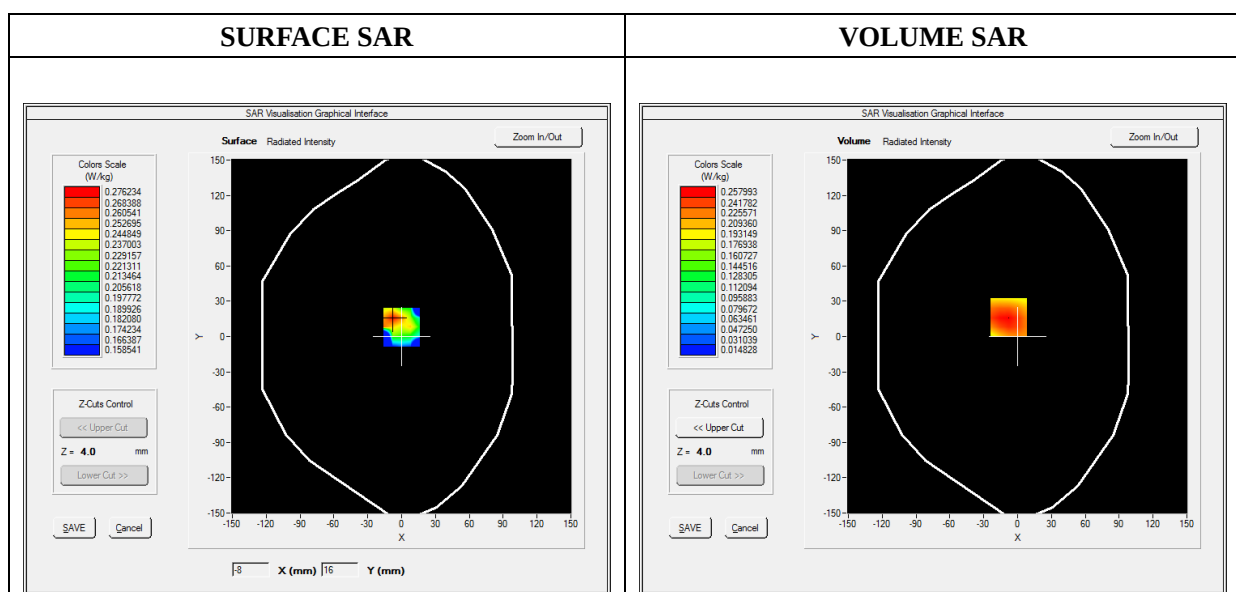
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 6.55; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Flat Plane
Device Position	Front(Body-worn)
Band	GSM1900
Channels	Low
Signal	TDMA (Crest factor: 8.0)

B. SAR Measurement Results

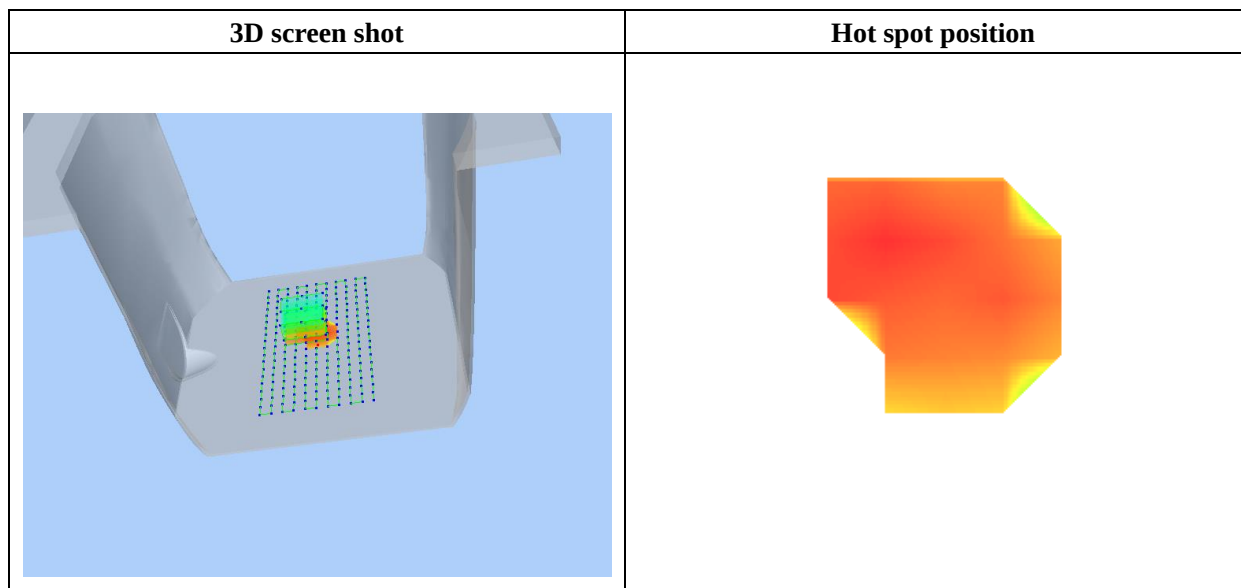
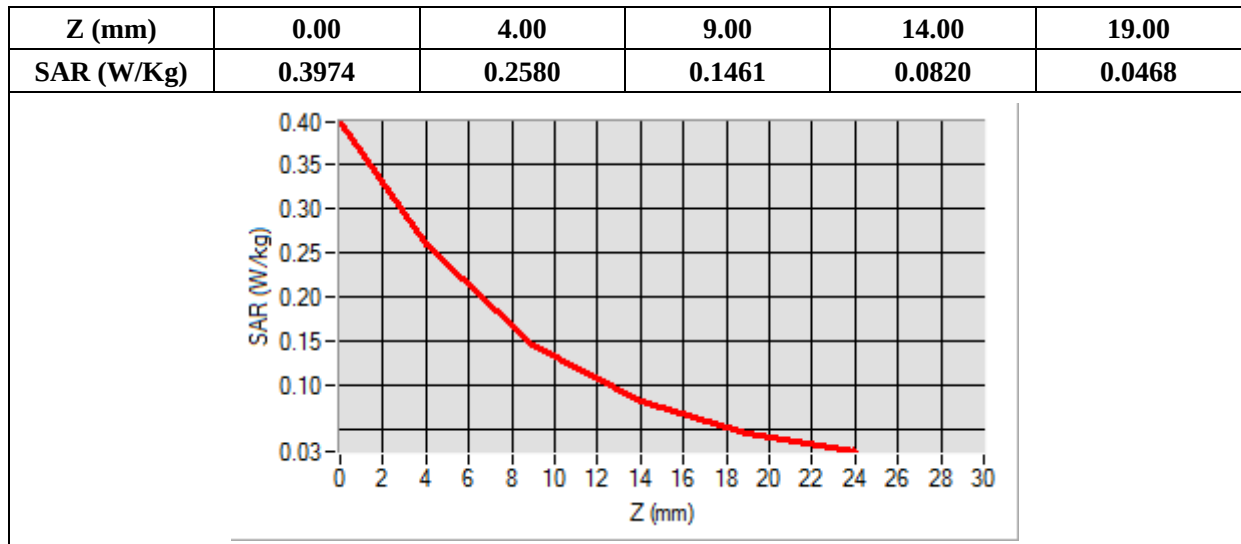
Frequency (MHz)	1850.200000
Relative Permittivity (real part)	52.420415
Conductivity (S/m)	1.501966
Power Variation (%)	1.474622
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-8.00, Y=16.00

SAR Peak: 0.40 W/kg

SAR 10g (W/Kg)	0.145347
SAR 1g (W/Kg)	0.247392



MEASUREMENT 78

Type: Phone measurement (Complete)

Date of measurement: 09/23/2019

Measurement duration: 12 minutes 3 seconds

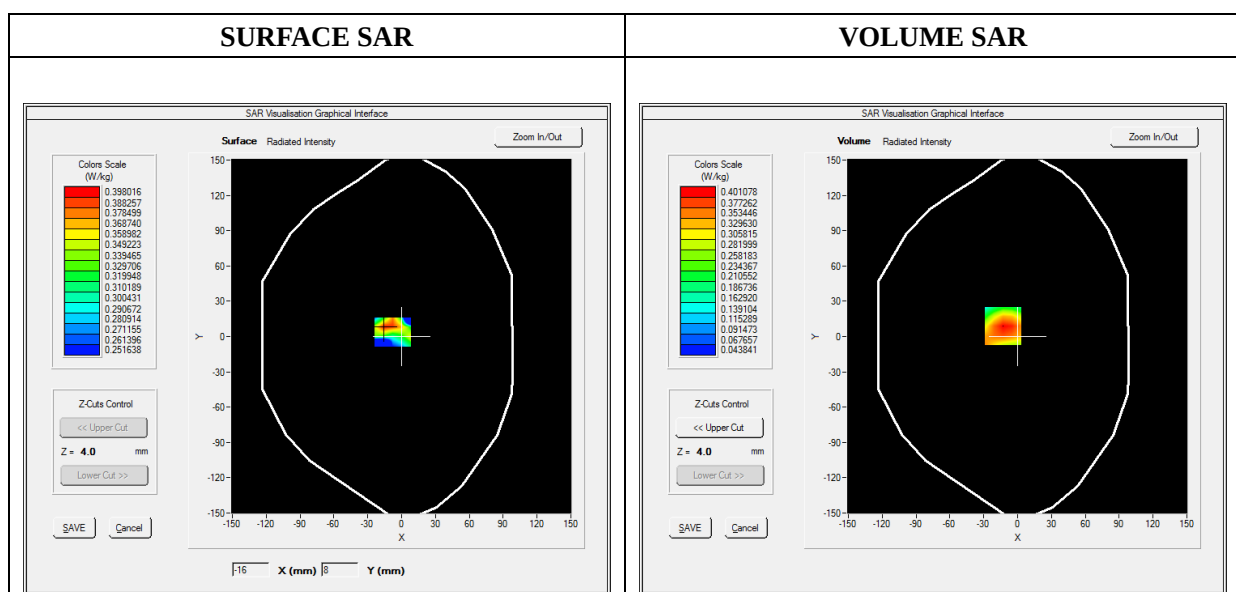
E-field Probe: SSE5 - SN 09/13 EP168; ConvF: 7.13; Calibrated: 05/22/2019

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Flat plane
Device Position	Front
Band	GPRS850_2TX
Channels	Middle
Signal	Duty Cycle: 1:4

B. SAR Measurement Results

Frequency (MHz)	836.600000
Relative Permittivity (real part)	54.851214
Conductivity (S/m)	0.951454
Power Variation (%)	0.901472
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-13.00, Y=9.00

SAR Peak: 0.64 W/kg

SAR 10g (W/Kg)	0.226931
SAR 1g (W/Kg)	0.381436

