

FCC SAR Test Report

Plot No.	Band	Mode	Test Position	Ch.	Camera	Tx Antenna	Duty Cycle	Crest Factor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
40	WLAN2.4G	802.11b	Front Face	11	-	Ant 0	100.00	1.00	18.5	18.33	1.04	0.02	0.108	0.11
	WLAN2.4G	802.11b	Rear Face	11	-	Ant 0	100.00	1.00	18.5	18.33	1.04	-0.03	0.132	0.14
	WLAN2.4G	802.11b	Right Side	11	-	Ant 0	100.00	1.00	18.5	18.33	1.04	0.00	<0.001	0.00
	WLAN2.4G	802.11b	Top Side	11	-	Ant 0	100.00	1.00	18.5	18.33	1.04	-0.05	0.228	0.24
	WLAN2.4G	802.11b	Front Face	11	-	Ant 1	99.68	1.00	18.5	18.18	1.08	-0.03	0.081	0.09
	WLAN2.4G	802.11b	Rear Face	11	-	Ant 1	99.68	1.00	18.5	18.18	1.08	-0.11	0.104	0.11
	WLAN2.4G	802.11b	Right Side	11	-	Ant 1	99.68	1.00	18.5	18.18	1.08	0.01	0.159	0.17
	WLAN2.4G	802.11b	Top Side	11	-	Ant 1	99.68	1.00	18.5	18.18	1.08	0.00	<0.001	0.00
	WLAN2.4G	802.11b	Front Face	12	-	Ant 0+1	99.68	1.00	18.5	18.38	1.03	0.07	0.051	0.05
	WLAN2.4G	802.11b	Rear Face	12	-	Ant 0+1	99.68	1.00	18.5	18.38	1.03	-0.08	0.056	0.06
	WLAN2.4G	802.11b	Right Side	12	-	Ant 0+1	99.68	1.00	18.5	18.38	1.03	0.11	0.114	0.12
	WLAN2.4G	802.11b	Top Side	12	-	Ant 0+1	99.68	1.00	18.5	18.38	1.03	-0.02	0.036	0.04
41	WLAN2.4G	802.11b	Top Side	1	-	Ant 0	100.00	1.00	18.5	18.28	1.05	-0.01	0.203	0.21
	WLAN2.4G	802.11b	Top Side	6	-	Ant 0	100.00	1.00	18.5	18.18	1.08	-0.18	0.086	0.09
	WLAN2.4G	802.11b	Top Side	12	-	Ant 0	100.00	1.00	18.5	18.20	1.07	0.05	0.209	0.22
	WLAN2.4G	802.11b	Top Side	13	-	Ant 0	100.00	1.00	18.5	18.03	1.11	-0.01	0.153	0.17
	WLAN2.4G	802.11b	Top Side	11	Flip-out	Ant 0	100.00	1.00	18.5	18.33	1.04	0.02	0.221	0.23
	WLAN5.2G	802.11a	Front Face	48	-	Ant 0	98.71	1.01	18.5	18.06	1.11	0.00	<0.001	0.00
	WLAN5.2G	802.11a	Rear Face	48	-	Ant 0	98.71	1.01	18.5	18.06	1.11	0.00	<0.001	0.00
	WLAN5.2G	802.11a	Right Side	48	-	Ant 0	98.71	1.01	18.5	18.06	1.11	0.00	<0.001	0.00
	WLAN5.2G	802.11a	Top Side	48	-	Ant 0	98.71	1.01	18.5	18.06	1.11	0.00	<0.001	0.00
	WLAN5.2G	802.11a	Front Face	48	-	Ant 1	98.71	1.01	18.5	18.11	1.09	0.00	<0.001	0.00
	WLAN5.2G	802.11a	Rear Face	48	-	Ant 1	98.71	1.01	18.5	18.11	1.09	-0.18	0.337	0.37
	WLAN5.2G	802.11a	Right Side	48	-	Ant 1	98.71	1.01	18.5	18.11	1.09	-0.01	0.200	0.22
31	WLAN5.2G	802.11a	Top Side	48	-	Ant 1	98.71	1.01	18.5	18.11	1.09	0.00	<0.001	0.00
	WLAN5.2G	802.11a	Front Face	36	-	Ant 0+1	98.71	1.01	18.5	18.17	1.08	0.00	<0.001	0.00
	WLAN5.2G	802.11a	Rear Face	36	-	Ant 0+1	98.71	1.01	18.5	18.17	1.08	0.08	0.111	0.12
	WLAN5.2G	802.11a	Right Side	36	-	Ant 0+1	98.71	1.01	18.5	18.17	1.08	0.16	0.100	0.11
	WLAN5.2G	802.11a	Top Side	36	-	Ant 0+1	98.71	1.01	18.5	18.17	1.08	0.00	<0.001	0.00
	WLAN5.2G	802.11a	Rear Face	36	-	Ant 1	98.71	1.01	18.5	18.05	1.11	0.08	0.261	0.29
	WLAN5.2G	802.11a	Rear Face	40	-	Ant 1	98.71	1.01	18.5	18.01	1.12	0.01	0.286	0.32
	WLAN5.2G	802.11a	Rear Face	44	-	Ant 1	98.71	1.01	18.5	18.00	1.12	0.15	0.243	0.27
	WLAN5.2G	802.11a	Rear Face	48	Flip-out	Ant 1	98.71	1.01	18.5	18.11	1.09	0.05	0.331	0.36
	WLAN5.8G	802.11a	Front Face	157	-	Ant 0	98.71	1.01	18.5	18.19	1.07	0.00	0.022	0.02
	WLAN5.8G	802.11a	Rear Face	157	-	Ant 0	98.71	1.01	18.5	18.19	1.07	-0.08	0.051	0.06
	WLAN5.8G	802.11a	Right Side	157	-	Ant 0	98.71	1.01	18.5	18.19	1.07	-0.02	0.00867	0.01
31	WLAN5.8G	802.11a	Top Side	157	-	Ant 0	98.71	1.01	18.5	18.19	1.07	0.00	0.016	0.02
	WLAN5.8G	802.11a	Front Face	157	-	Ant 1	98.71	1.01	18.5	18.23	1.06	0.00	<0.001	0.00
	WLAN5.8G	802.11a	Rear Face	157	-	Ant 1	98.71	1.01	18.5	18.23	1.06	0.08	0.283	0.30
	WLAN5.8G	802.11a	Right Side	157	-	Ant 1	98.71	1.01	18.5	18.23	1.06	0.02	0.121	0.13
	WLAN5.8G	802.11a	Top Side	157	-	Ant 1	98.71	1.01	18.5	18.23	1.06	0.00	<0.001	0.00
	WLAN5.8G	802.11a	Front Face	157	-	Ant 0+1	98.71	1.01	18.5	18.34	1.04	0.00	<0.001	0.00
	WLAN5.8G	802.11a	Rear Face	157	-	Ant 0+1	98.71	1.01	18.5	18.34	1.04	-0.12	0.093	0.10
	WLAN5.8G	802.11a	Right Side	157	-	Ant 0+1	98.71	1.01	18.5	18.34	1.04	-0.05	0.072	0.08
	WLAN5.8G	802.11a	Top Side	157	-	Ant 0+1	98.71	1.01	18.5	18.34	1.04	0.00	<0.001	0.00
	WLAN5.8G	802.11a	Rear Face	149	-	Ant 1	98.71	1.01	18.5	18.15	1.08	0.13	0.371	0.40
	WLAN5.8G	802.11a	Rear Face	153	-	Ant 1	98.71	1.01	18.5	18.07	1.10	0.05	0.298	0.33
	WLAN5.8G	802.11a	Rear Face	161	-	Ant 1	98.71	1.01	18.5	18.14	1.09	-0.11	0.259	0.29
	WLAN5.8G	802.11a	Rear Face	165	-	Ant 1	98.71	1.01	18.5	18.08	1.10	0.15	0.237	0.26
31	WLAN5.8G	802.11a	Rear Face	149	Flip-out	Ant 1	98.71	1.01	18.5	18.15	1.08	0.16	0.368	0.40

Note: The "< 0.001" means there is no SAR value or the SAR is too low to be measured.

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Plot No.	Band	Mode	Test Position	Ch.	Camera	Tx Antenna	Duty Cycle	Crest Factor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	BT	BDR	Front Face	39	-	Ant 0	78.07	1.28	12.0	11.52	1.12	-0.06	0.011	0.02
	BT	BDR	Rear Face	39	-	Ant 0	78.07	1.28	12.0	11.52	1.12	-0.1	0.013	0.02
	BT	BDR	Right Side	39	-	Ant 0	78.07	1.28	12.0	11.52	1.12	0.00	<0.001	0.00
42	BT	BDR	Top Side	39	-	Ant 0	78.07	1.28	12.0	11.52	1.12	0.07	0.025	0.04
	BT	BDR	Top Side	0	-	Ant 0	78.07	1.28	9.0	8.67	1.08	0.00	<0.001	0.00
	BT	BDR	Top Side	78	-	Ant 0	78.07	1.28	9.5	9.37	1.03	0.00	<0.001	0.00
	BT	BDR	Top Side	39	Flip-out	Ant 0	78.07	1.28	12.0	11.52	1.12	0.00	<0.001	0.00

Note: The "< 0.001" means there is no SAR value or the SAR is too low to be measured.

4.7.5 SAR Results for Product Specific (Phablet) Exposure Condition (Test Separation Distance is 0 mm)

Plot No.	Band	Mode	Test Position	Ch.	Camera	Tx Antenna	Duty Cycle	Crest Factor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-10g (W/kg)	Scaled SAR-10g (W/kg)
	WLAN5.3G	802.11a	Front Face	64	-	Ant 0	98.71	1.01	18.5	18.13	1.09	0.00	0.069	0.08
	WLAN5.3G	802.11a	Rear Face	64	-	Ant 0	98.71	1.01	18.5	18.13	1.09	0.00	0.083	0.09
	WLAN5.3G	802.11a	Right Side	64	-	Ant 0	98.71	1.01	18.5	18.13	1.09	0.00	<0.001	0.00
	WLAN5.3G	802.11a	Top Side	64	-	Ant 0	98.71	1.01	18.5	18.13	1.09	0.00	<0.001	0.00
	WLAN5.3G	802.11a	Front Face	64	-	Ant 1	98.71	1.01	18.5	18.16	1.08	-0.02	0.541	0.59
	WLAN5.3G	802.11a	Rear Face	64	-	Ant 1	98.71	1.01	18.5	18.16	1.08	-0.13	0.661	0.72
43	WLAN5.3G	802.11a	Right Side	64	-	Ant 1	98.71	1.01	18.5	18.16	1.08	-0.15	0.761	0.83
	WLAN5.3G	802.11a	Top Side	64	-	Ant 1	98.71	1.01	18.5	18.16	1.08	-0.02	0.243	0.27
	WLAN5.3G	802.11a	Front Face	60	-	Ant 0+1	98.71	1.01	18.5	18.37	1.03	-0.02	0.287	0.30
	WLAN5.3G	802.11a	Rear Face	60	-	Ant 0+1	98.71	1.01	18.5	18.37	1.03	-0.13	0.353	0.37
	WLAN5.3G	802.11a	Right Side	60	-	Ant 0+1	98.71	1.01	18.5	18.37	1.03	0.05	0.529	0.55
	WLAN5.3G	802.11a	Top Side	60	-	Ant 0+1	98.71	1.01	18.5	18.37	1.03	-0.02	0.147	0.15
	WLAN5.3G	802.11a	Right Side	52	-	Ant 1	98.71	1.01	18.5	18.01	1.12	0.07	0.696	0.79
	WLAN5.3G	802.11a	Right Side	56	-	Ant 1	98.71	1.01	18.5	18.06	1.11	-0.10	0.682	0.76
	WLAN5.3G	802.11a	Right Side	60	-	Ant 1	98.71	1.01	18.5	18.05	1.11	0.03	0.701	0.79
	WLAN5.3G	802.11a	Right Side	64	Flip-out	Ant 1	98.71	1.01	18.5	18.16	1.08	-0.08	0.745	0.81
	WLAN5.6G	802.11a	Front Face	144	-	Ant 0	98.71	1.01	17.5	17.26	1.06	0.03	0.192	0.21
	WLAN5.6G	802.11a	Rear Face	144	-	Ant 0	98.71	1.01	17.5	17.26	1.06	-0.08	0.265	0.28
	WLAN5.6G	802.11a	Right Side	144	-	Ant 0	98.71	1.01	17.5	17.26	1.06	0.13	0.071	0.08
	WLAN5.6G	802.11a	Top Side	144	-	Ant 0	98.71	1.01	17.5	17.26	1.06	-0.05	0.087	0.09
	WLAN5.6G	802.11a	Front Face	144	-	Ant 1	98.71	1.01	17.5	17.34	1.04	0.13	0.453	0.48
	WLAN5.6G	802.11a	Rear Face	144	-	Ant 1	98.71	1.01	17.5	17.34	1.04	0.07	0.588	0.62
	WLAN5.6G	802.11a	Right Side	144	-	Ant 1	98.71	1.01	17.5	17.34	1.04	-0.06	0.692	0.73
	WLAN5.6G	802.11a	Top Side	144	-	Ant 1	98.71	1.01	17.5	17.34	1.04	0.02	0.149	0.16
	WLAN5.6G	802.11a	Front Face	140	-	Ant 0+1	98.71	1.01	17.5	17.49	1.00	0.01	0.286	0.29
	WLAN5.6G	802.11a	Rear Face	140	-	Ant 0+1	98.71	1.01	17.5	17.49	1.00	0.08	0.301	0.30
	WLAN5.6G	802.11a	Right Side	140	-	Ant 0+1	98.71	1.01	17.5	17.49	1.00	0.02	0.457	0.46
	WLAN5.6G	802.11a	Top Side	140	-	Ant 0+1	98.71	1.01	17.5	17.49	1.00	0.05	0.109	0.11
	WLAN5.6G	802.11a	Right Side	100	-	Ant 1	98.71	1.01	17.5	17.31	1.04	-0.15	1.09	1.14
44	WLAN5.6G	802.11a	Right Side	116	-	Ant 1	98.71	1.01	17.5	17.20	1.07	-0.17	1.19	1.29
	WLAN5.6G	802.11a	Right Side	120	-	Ant 1	98.71	1.01	17.5	17.19	1.07	0.02	1.12	1.21
	WLAN5.6G	802.11a	Right Side	124	-	Ant 1	98.71	1.01	17.5	17.16	1.08	0.03	1.03	1.12
	WLAN5.6G	802.11a	Right Side	132	-	Ant 1	98.71	1.01	17.5	17.19	1.07	-0.08	0.976	1.05
	WLAN5.6G	802.11a	Right Side	140	-	Ant 1	98.71	1.01	17.5	17.15	1.08	0.08	0.857	0.93
	WLAN5.6G	802.11a	Right Side	116	Flip-out	Ant 1	98.71	1.01	17.5	17.20	1.07	0.13	1.15	1.24

Note: The "< 0.001" means there is no SAR value or the SAR is too low to be measured.

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4.7.6 SAR Measurement Variability

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

SAR repeated measurement procedure:

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

Band	Mode	Test Position	Ch.	Original Measured SAR-1g (W/kg)	1st Repeated SAR-1g (W/kg)	L/S Ratio	2nd Repeated SAR-1g (W/kg)	L/S Ratio	3rd Repeated SAR-1g (W/kg)	L/S Ratio
WCDMAII	RMC12.2K	Right Cheek	9262	1.12	1.07	1.05	N/A	N/A	N/A	N/A
WCDMAIV	RMC12.2K	Right Cheek	1513	1.09	1.02	1.07	N/A	N/A	N/A	N/A
WLAN5.6G	802.11a	Left Cheek	100	1.02	0.99	1.03	N/A	N/A	N/A	N/A
WLAN5.8G	802.11a	Left Cheek	149	0.889	0.878	1.01	N/A	N/A	N/A	N/A
GSM850	GPRS10	Rear Face	251	0.815	0.811	1.00	N/A	N/A	N/A	N/A
GSM1900	GPRS10	Bottom Side	512	1.01	0.959	1.05	N/A	N/A	N/A	N/A
WCDMAII	RMC12.2K	Bottom Side	9262	0.939	0.911	1.03	N/A	N/A	N/A	N/A
WCDMAIV	RMC12.2K	Bottom Side	1413	1.03	0.968	1.06	N/A	N/A	N/A	N/A
LTE 2	QPSK20M	Bottom Side	18700	0.981	0.952	1.03	N/A	N/A	N/A	N/A
LTE 4	QPSK20M	Bottom Side	20300	1.05	1.01	1.04	N/A	N/A	N/A	N/A

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4.7.7 Simultaneous Multi-band Transmission Evaluation

<Possibilities of Simultaneous Transmission>

The simultaneous transmission possibilities for this device are listed as below.

Simultaneous TX Combination	Capable Transmit Configurations	Head Exposure Condition	Body-worn Exposure Condition	Hotspot Exposure Condition
1	WWAN + WLAN	Yes	Yes	Yes
2	WLAN + BT	Yes	Yes	Yes
3	WWAN + BT	Yes	Yes	Yes
4	WWAN + WLAN + BT	Yes	Yes	Yes

Note :

1. The WLAN 2.4G and WLAN 5G cannot transmit simultaneously.
2. Condition 1, 2, and 3 are covered by condition 4.
3. Both GSM/WCDMA/CDMA and LTE can transmit through either antenna-0 or antenna-1. However, only one technology (GSM/WCDMA or LTE) can transmit from an antenna at a time, and the other technology transmits through the other antenna.

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<SAR Summation Analysis>

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

No.	Conditions (SAR1 + SAR2 + SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
1	GSM850 + WLAN (DTS) + BT (DSS)	Head	Right Cheek	0.66	0.25	0.00	0.91	Σ SAR < 1.6, Not required
			Right Tilted	0.28	0.32	0.00	0.60	Σ SAR < 1.6, Not required
			Left Cheek	0.54	0.39	0.06	0.99	Σ SAR < 1.6, Not required
			Left Tilted	0.24	0.38	0.06	0.68	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.53	0.11	0.02	0.66	Σ SAR < 1.6, Not required
			Rear Face	0.93	0.14	0.02	1.09	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.53	0.11	0.02	0.66	Σ SAR < 1.6, Not required
			Rear Face	0.93	0.14	0.02	1.09	Σ SAR < 1.6, Not required
			Left Side	0.52	0.00	0.00	0.52	Σ SAR < 1.6, Not required
			Right Side	0.12	0.17	0.00	0.29	Σ SAR < 1.6, Not required
			Top Side	0.00	0.24	0.04	0.28	Σ SAR < 1.6, Not required
			Bottom Side	0.59	0.00	0.00	0.59	Σ SAR < 1.6, Not required
2	GSM850 + WLAN (NII) + BT (DSS)	Head	Right Cheek	0.66	0.00	0.00	0.66	Σ SAR < 1.6, Not required
			Right Tilted	0.28	0.00	0.00	0.28	Σ SAR < 1.6, Not required
			Left Cheek	0.54	0.38	0.06	0.98	Σ SAR < 1.6, Not required
			Left Tilted	0.24	0.12	0.06	0.42	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.53	0.13	0.02	0.68	Σ SAR < 1.6, Not required
			Rear Face	0.93	0.61	0.02	1.56	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.53	0.02	0.02	0.57	Σ SAR < 1.6, Not required
			Rear Face	0.93	0.40	0.02	1.35	Σ SAR < 1.6, Not required
			Left Side	0.52	0.00	0.00	0.52	Σ SAR < 1.6, Not required
			Right Side	0.12	0.22	0.00	0.34	Σ SAR < 1.6, Not required
			Top Side	0.00	0.02	0.04	0.06	Σ SAR < 1.6, Not required
			Bottom Side	0.59	0.00	0.00	0.59	Σ SAR < 1.6, Not required

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No.	Conditions (SAR1 + SAR2 + SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
3	GSM1900 + WLAN (DTS) + BT (DSS)	Head	Right Cheek	0.71	0.25	0.00	0.96	Σ SAR < 1.6, Not required
			Right Tilted	0.39	0.32	0.00	0.71	Σ SAR < 1.6, Not required
			Left Cheek	0.33	0.39	0.06	0.78	Σ SAR < 1.6, Not required
			Left Tilted	0.13	0.38	0.06	0.57	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.27	0.11	0.02	0.40	Σ SAR < 1.6, Not required
			Rear Face	0.82	0.14	0.02	0.98	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.27	0.11	0.02	0.40	Σ SAR < 1.6, Not required
			Rear Face	0.68	0.14	0.02	0.84	Σ SAR < 1.6, Not required
			Left Side	0.28	0.00	0.00	0.28	Σ SAR < 1.6, Not required
			Right Side	0.00	0.17	0.00	0.17	Σ SAR < 1.6, Not required
			Top Side	0.11	0.24	0.04	0.39	Σ SAR < 1.6, Not required
			Bottom Side	1.15	0.00	0.00	1.15	Σ SAR < 1.6, Not required
4	GSM1900 + WLAN (NII) + BT (DSS)	Head	Right Cheek	0.71	0.00	0.00	0.71	Σ SAR < 1.6, Not required
			Right Tilted	0.39	0.00	0.00	0.39	Σ SAR < 1.6, Not required
			Left Cheek	0.33	0.38	0.06	0.77	Σ SAR < 1.6, Not required
			Left Tilted	0.13	0.12	0.06	0.31	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.27	0.13	0.02	0.42	Σ SAR < 1.6, Not required
			Rear Face	0.82	0.61	0.02	1.45	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.27	0.02	0.02	0.31	Σ SAR < 1.6, Not required
			Rear Face	0.68	0.40	0.02	1.10	Σ SAR < 1.6, Not required
			Left Side	0.28	0.00	0.00	0.28	Σ SAR < 1.6, Not required
			Right Side	0.00	0.22	0.00	0.22	Σ SAR < 1.6, Not required
			Top Side	0.11	0.02	0.04	0.17	Σ SAR < 1.6, Not required
			Bottom Side	1.15	0.00	0.00	1.15	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1 + SAR2 + SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
5	WCDMA II + WLAN (DTS) + BT (DSS)	Head	Right Cheek	1.14	0.25	0.00	1.39	Σ SAR < 1.6, Not required
			Right Tilted	0.57	0.32	0.00	0.89	Σ SAR < 1.6, Not required
			Left Cheek	0.79	0.39	0.06	1.24	Σ SAR < 1.6, Not required
			Left Tilted	0.18	0.38	0.06	0.62	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.25	0.11	0.02	0.38	Σ SAR < 1.6, Not required
			Rear Face	0.72	0.14	0.02	0.88	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.25	0.11	0.02	0.38	Σ SAR < 1.6, Not required
			Rear Face	0.61	0.14	0.02	0.77	Σ SAR < 1.6, Not required
			Left Side	0.18	0.00	0.00	0.18	Σ SAR < 1.6, Not required
			Right Side	0.04	0.17	0.00	0.21	Σ SAR < 1.6, Not required
			Top Side	0.07	0.24	0.04	0.35	Σ SAR < 1.6, Not required
			Bottom Side	0.96	0.00	0.00	0.96	Σ SAR < 1.6, Not required
6	WCDMA II + WLAN (NII) + BT (DSS)	Head	Right Cheek	1.14	0.00	0.00	1.14	Σ SAR < 1.6, Not required
			Right Tilted	0.57	0.00	0.00	0.57	Σ SAR < 1.6, Not required
			Left Cheek	0.79	0.38	0.06	1.23	Σ SAR < 1.6, Not required
			Left Tilted	0.18	0.12	0.06	0.36	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.25	0.13	0.02	0.40	Σ SAR < 1.6, Not required
			Rear Face	0.72	0.61	0.02	1.35	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.25	0.02	0.02	0.29	Σ SAR < 1.6, Not required
			Rear Face	0.61	0.40	0.02	1.03	Σ SAR < 1.6, Not required
			Left Side	0.18	0.00	0.00	0.18	Σ SAR < 1.6, Not required
			Right Side	0.04	0.22	0.00	0.26	Σ SAR < 1.6, Not required
			Top Side	0.07	0.02	0.04	0.13	Σ SAR < 1.6, Not required
			Bottom Side	0.96	0.00	0.00	0.96	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2+ SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
7	WCDMA IV + WLAN (DTS) + BT (DSS)	Head	Right Cheek	1.18	0.25	0.00	1.43	Σ SAR < 1.6, Not required
			Right Tilted	0.42	0.32	0.00	0.74	Σ SAR < 1.6, Not required
			Left Cheek	0.61	0.39	0.06	1.06	Σ SAR < 1.6, Not required
			Left Tilted	0.19	0.38	0.06	0.63	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.36	0.11	0.02	0.49	Σ SAR < 1.6, Not required
			Rear Face	0.74	0.14	0.02	0.90	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.36	0.11	0.02	0.49	Σ SAR < 1.6, Not required
			Rear Face	0.74	0.14	0.02	0.90	Σ SAR < 1.6, Not required
			Left Side	0.24	0.00	0.00	0.24	Σ SAR < 1.6, Not required
			Right Side	0.07	0.17	0.00	0.24	Σ SAR < 1.6, Not required
			Top Side	0.06	0.24	0.04	0.34	Σ SAR < 1.6, Not required
			Bottom Side	1.09	0.00	0.00	1.09	Σ SAR < 1.6, Not required
8	WCDMA IV + WLAN (NII) + BT (DSS)	Head	Right Cheek	1.18	0.00	0.00	1.18	Σ SAR < 1.6, Not required
			Right Tilted	0.42	0.00	0.00	0.42	Σ SAR < 1.6, Not required
			Left Cheek	0.61	0.38	0.06	1.05	Σ SAR < 1.6, Not required
			Left Tilted	0.19	0.12	0.06	0.37	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.36	0.13	0.02	0.51	Σ SAR < 1.6, Not required
			Rear Face	0.74	0.61	0.02	1.37	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.36	0.02	0.02	0.40	Σ SAR < 1.6, Not required
			Rear Face	0.74	0.40	0.02	1.16	Σ SAR < 1.6, Not required
			Left Side	0.24	0.00	0.00	0.24	Σ SAR < 1.6, Not required
			Right Side	0.07	0.22	0.00	0.29	Σ SAR < 1.6, Not required
			Top Side	0.06	0.02	0.04	0.12	Σ SAR < 1.6, Not required
			Bottom Side	1.09	0.00	0.00	1.09	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2+ SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
9	WCDMA V + WLAN (DTS) + BT (DSS)	Head	Right Cheek	0.27	0.25	0.00	0.52	Σ SAR < 1.6, Not required
			Right Tilted	0.26	0.32	0.00	0.58	Σ SAR < 1.6, Not required
			Left Cheek	0.26	0.39	0.06	0.71	Σ SAR < 1.6, Not required
			Left Tilted	0.23	0.38	0.06	0.67	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.35	0.11	0.02	0.48	Σ SAR < 1.6, Not required
			Rear Face	0.57	0.14	0.02	0.73	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.35	0.11	0.02	0.48	Σ SAR < 1.6, Not required
			Rear Face	0.57	0.14	0.02	0.73	Σ SAR < 1.6, Not required
			Left Side	0.16	0.00	0.00	0.16	Σ SAR < 1.6, Not required
			Right Side	0.27	0.17	0.00	0.44	Σ SAR < 1.6, Not required
			Top Side	0.00	0.24	0.04	0.28	Σ SAR < 1.6, Not required
			Bottom Side	0.34	0.00	0.00	0.34	Σ SAR < 1.6, Not required
10	WCDMA V + WLAN (NII) + BT (DSS)	Head	Right Cheek	0.27	0.00	0.00	0.27	Σ SAR < 1.6, Not required
			Right Tilted	0.26	0.00	0.00	0.26	Σ SAR < 1.6, Not required
			Left Cheek	0.26	0.38	0.06	0.70	Σ SAR < 1.6, Not required
			Left Tilted	0.23	0.12	0.06	0.41	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.35	0.13	0.02	0.50	Σ SAR < 1.6, Not required
			Rear Face	0.57	0.61	0.02	1.20	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.35	0.02	0.02	0.39	Σ SAR < 1.6, Not required
			Rear Face	0.57	0.40	0.02	0.99	Σ SAR < 1.6, Not required
			Left Side	0.16	0.00	0.00	0.16	Σ SAR < 1.6, Not required
			Right Side	0.27	0.22	0.00	0.49	Σ SAR < 1.6, Not required
			Top Side	0.00	0.02	0.04	0.06	Σ SAR < 1.6, Not required
			Bottom Side	0.34	0.00	0.00	0.34	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2+ SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
11	LTE 2 + WLAN (DTS) + BT (DSS)	Head	Right Cheek	0.65	0.25	0.00	0.90	Σ SAR < 1.6, Not required
			Right Tilted	0.29	0.32	0.00	0.61	Σ SAR < 1.6, Not required
			Left Cheek	0.33	0.39	0.06	0.78	Σ SAR < 1.6, Not required
			Left Tilted	0.10	0.38	0.06	0.54	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.35	0.11	0.02	0.48	Σ SAR < 1.6, Not required
			Rear Face	0.78	0.14	0.02	0.94	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.35	0.11	0.02	0.48	Σ SAR < 1.6, Not required
			Rear Face	0.78	0.14	0.02	0.94	Σ SAR < 1.6, Not required
			Left Side	0.60	0.00	0.00	0.60	Σ SAR < 1.6, Not required
			Right Side	0.07	0.17	0.00	0.24	Σ SAR < 1.6, Not required
			Top Side	0.23	0.24	0.04	0.51	Σ SAR < 1.6, Not required
			Bottom Side	1.18	0.00	0.00	1.18	Σ SAR < 1.6, Not required
12	LTE 2 + WLAN (NII) + BT (DSS)	Head	Right Cheek	0.65	0.00	0.00	0.65	Σ SAR < 1.6, Not required
			Right Tilted	0.29	0.00	0.00	0.29	Σ SAR < 1.6, Not required
			Left Cheek	0.33	0.38	0.06	0.77	Σ SAR < 1.6, Not required
			Left Tilted	0.10	0.12	0.06	0.28	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.35	0.13	0.02	0.50	Σ SAR < 1.6, Not required
			Rear Face	0.78	0.61	0.02	1.41	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.35	0.02	0.02	0.39	Σ SAR < 1.6, Not required
			Rear Face	0.78	0.40	0.02	1.20	Σ SAR < 1.6, Not required
			Left Side	0.60	0.00	0.00	0.60	Σ SAR < 1.6, Not required
			Right Side	0.07	0.22	0.00	0.29	Σ SAR < 1.6, Not required
			Top Side	0.23	0.02	0.04	0.29	Σ SAR < 1.6, Not required
			Bottom Side	1.18	0.00	0.00	1.18	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2+ SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
13	LTE 4 + WLAN (DTS) + BT (DSS)	Head	Right Cheek	0.73	0.25	0.00	0.98	Σ SAR < 1.6, Not required
			Right Tilted	0.29	0.32	0.00	0.61	Σ SAR < 1.6, Not required
			Left Cheek	0.31	0.39	0.06	0.76	Σ SAR < 1.6, Not required
			Left Tilted	0.11	0.38	0.06	0.55	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.27	0.11	0.02	0.40	Σ SAR < 1.6, Not required
			Rear Face	0.73	0.14	0.02	0.89	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.27	0.11	0.02	0.40	Σ SAR < 1.6, Not required
			Rear Face	0.54	0.14	0.02	0.70	Σ SAR < 1.6, Not required
			Left Side	0.19	0.00	0.00	0.19	Σ SAR < 1.6, Not required
			Right Side	0.04	0.17	0.00	0.21	Σ SAR < 1.6, Not required
			Top Side	0.05	0.24	0.04	0.33	Σ SAR < 1.6, Not required
			Bottom Side	1.09	0.00	0.00	1.09	Σ SAR < 1.6, Not required
14	LTE 4 + WLAN (NII) + BT (DSS)	Head	Right Cheek	0.73	0.00	0.00	0.73	Σ SAR < 1.6, Not required
			Right Tilted	0.29	0.00	0.00	0.29	Σ SAR < 1.6, Not required
			Left Cheek	0.31	0.38	0.06	0.75	Σ SAR < 1.6, Not required
			Left Tilted	0.11	0.12	0.06	0.29	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.27	0.13	0.02	0.42	Σ SAR < 1.6, Not required
			Rear Face	0.73	0.61	0.02	1.36	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.27	0.02	0.02	0.31	Σ SAR < 1.6, Not required
			Rear Face	0.54	0.40	0.02	0.96	Σ SAR < 1.6, Not required
			Left Side	0.19	0.00	0.00	0.19	Σ SAR < 1.6, Not required
			Right Side	0.04	0.22	0.00	0.26	Σ SAR < 1.6, Not required
			Top Side	0.05	0.02	0.04	0.11	Σ SAR < 1.6, Not required
			Bottom Side	1.09	0.00	0.00	1.09	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2+ SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
15	LTE 5 + WLAN (DTS) + BT (DSS)	Head	Right Cheek	0.18	0.25	0.00	0.43	Σ SAR < 1.6, Not required
			Right Tilted	0.14	0.32	0.00	0.46	Σ SAR < 1.6, Not required
			Left Cheek	0.16	0.39	0.06	0.61	Σ SAR < 1.6, Not required
			Left Tilted	0.13	0.38	0.06	0.57	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.21	0.11	0.02	0.34	Σ SAR < 1.6, Not required
			Rear Face	0.37	0.14	0.02	0.53	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.21	0.11	0.02	0.34	Σ SAR < 1.6, Not required
			Rear Face	0.37	0.14	0.02	0.53	Σ SAR < 1.6, Not required
			Left Side	0.09	0.00	0.00	0.09	Σ SAR < 1.6, Not required
			Right Side	0.19	0.17	0.00	0.36	Σ SAR < 1.6, Not required
			Top Side	0.00	0.24	0.04	0.28	Σ SAR < 1.6, Not required
			Bottom Side	0.20	0.00	0.00	0.20	Σ SAR < 1.6, Not required
16	LTE 5 + WLAN (NII) + BT (DSS)	Head	Right Cheek	0.18	0.00	0.00	0.18	Σ SAR < 1.6, Not required
			Right Tilted	0.14	0.00	0.00	0.14	Σ SAR < 1.6, Not required
			Left Cheek	0.16	0.38	0.06	0.60	Σ SAR < 1.6, Not required
			Left Tilted	0.13	0.12	0.06	0.31	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.21	0.13	0.02	0.36	Σ SAR < 1.6, Not required
			Rear Face	0.37	0.61	0.02	1.00	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.21	0.02	0.02	0.25	Σ SAR < 1.6, Not required
			Rear Face	0.37	0.40	0.02	0.79	Σ SAR < 1.6, Not required
			Left Side	0.09	0.00	0.00	0.09	Σ SAR < 1.6, Not required
			Right Side	0.19	0.22	0.00	0.41	Σ SAR < 1.6, Not required
			Top Side	0.00	0.02	0.04	0.06	Σ SAR < 1.6, Not required
			Bottom Side	0.20	0.00	0.00	0.20	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2+ SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
17	LTE 7 + WLAN (DTS) + BT (DSS)	Head	Right Cheek	0.62	0.25	0.00	0.87	Σ SAR < 1.6, Not required
			Right Tilted	0.24	0.32	0.00	0.56	Σ SAR < 1.6, Not required
			Left Cheek	0.17	0.39	0.06	0.62	Σ SAR < 1.6, Not required
			Left Tilted	0.08	0.38	0.06	0.52	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.07	0.11	0.02	0.20	Σ SAR < 1.6, Not required
			Rear Face	0.14	0.14	0.02	0.30	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.07	0.11	0.02	0.20	Σ SAR < 1.6, Not required
			Rear Face	0.14	0.14	0.02	0.30	Σ SAR < 1.6, Not required
			Left Side	0.08	0.00	0.00	0.08	Σ SAR < 1.6, Not required
			Right Side	0.00	0.17	0.00	0.17	Σ SAR < 1.6, Not required
			Top Side	0.04	0.24	0.04	0.32	Σ SAR < 1.6, Not required
			Bottom Side	0.01	0.00	0.00	0.01	Σ SAR < 1.6, Not required
18	LTE 7 + WLAN (NII) + BT (DSS)	Head	Right Cheek	0.62	0.00	0.00	0.62	Σ SAR < 1.6, Not required
			Right Tilted	0.24	0.00	0.00	0.24	Σ SAR < 1.6, Not required
			Left Cheek	0.17	0.38	0.06	0.61	Σ SAR < 1.6, Not required
			Left Tilted	0.08	0.12	0.06	0.26	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.07	0.13	0.02	0.22	Σ SAR < 1.6, Not required
			Rear Face	0.14	0.61	0.02	0.77	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.07	0.02	0.02	0.11	Σ SAR < 1.6, Not required
			Rear Face	0.14	0.40	0.02	0.56	Σ SAR < 1.6, Not required
			Left Side	0.08	0.00	0.00	0.08	Σ SAR < 1.6, Not required
			Right Side	0.00	0.22	0.00	0.22	Σ SAR < 1.6, Not required
			Top Side	0.04	0.02	0.04	0.10	Σ SAR < 1.6, Not required
			Bottom Side	0.01	0.00	0.00	0.01	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2+ SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
19	LTE 26 + WLAN (DTS) + BT (DSS)	Head	Right Cheek	0.18	0.25	0.00	0.43	Σ SAR < 1.6, Not required
			Right Tilted	0.13	0.32	0.00	0.45	Σ SAR < 1.6, Not required
			Left Cheek	0.14	0.39	0.06	0.59	Σ SAR < 1.6, Not required
			Left Tilted	0.12	0.38	0.06	0.56	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.21	0.11	0.02	0.34	Σ SAR < 1.6, Not required
			Rear Face	0.35	0.14	0.02	0.51	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.21	0.11	0.02	0.34	Σ SAR < 1.6, Not required
			Rear Face	0.35	0.14	0.02	0.51	Σ SAR < 1.6, Not required
			Left Side	0.10	0.00	0.00	0.10	Σ SAR < 1.6, Not required
			Right Side	0.11	0.17	0.00	0.28	Σ SAR < 1.6, Not required
			Top Side	0.00	0.24	0.04	0.28	Σ SAR < 1.6, Not required
			Bottom Side	0.17	0.00	0.00	0.17	Σ SAR < 1.6, Not required
20	LTE 26 + WLAN (NII) + BT (DSS)	Head	Right Cheek	0.18	0.00	0.00	0.18	Σ SAR < 1.6, Not required
			Right Tilted	0.13	0.00	0.00	0.13	Σ SAR < 1.6, Not required
			Left Cheek	0.14	0.38	0.06	0.58	Σ SAR < 1.6, Not required
			Left Tilted	0.12	0.12	0.06	0.30	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.21	0.13	0.02	0.36	Σ SAR < 1.6, Not required
			Rear Face	0.35	0.61	0.02	0.98	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.21	0.02	0.02	0.25	Σ SAR < 1.6, Not required
			Rear Face	0.35	0.40	0.02	0.77	Σ SAR < 1.6, Not required
			Left Side	0.10	0.00	0.00	0.10	Σ SAR < 1.6, Not required
			Right Side	0.11	0.22	0.00	0.33	Σ SAR < 1.6, Not required
			Top Side	0.00	0.02	0.04	0.06	Σ SAR < 1.6, Not required
			Bottom Side	0.17	0.00	0.00	0.17	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2+ SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
21	LTE 41 + WLAN (DTS) + BT (DSS)	Head	Right Cheek	0.79	0.25	0.00	1.04	Σ SAR < 1.6, Not required
			Right Tilted	0.33	0.32	0.00	0.65	Σ SAR < 1.6, Not required
			Left Cheek	0.21	0.39	0.06	0.66	Σ SAR < 1.6, Not required
			Left Tilted	0.14	0.38	0.06	0.58	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.07	0.11	0.02	0.20	Σ SAR < 1.6, Not required
			Rear Face	0.18	0.14	0.02	0.34	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.07	0.11	0.02	0.20	Σ SAR < 1.6, Not required
			Rear Face	0.18	0.14	0.02	0.34	Σ SAR < 1.6, Not required
			Left Side	0.19	0.00	0.00	0.19	Σ SAR < 1.6, Not required
			Right Side	0.00	0.17	0.00	0.17	Σ SAR < 1.6, Not required
			Top Side	0.05	0.24	0.04	0.33	Σ SAR < 1.6, Not required
			Bottom Side	0.03	0.00	0.00	0.03	Σ SAR < 1.6, Not required
22	LTE 41 + WLAN (NII) + BT (DSS)	Head	Right Cheek	0.79	0.00	0.00	0.79	Σ SAR < 1.6, Not required
			Right Tilted	0.33	0.00	0.00	0.33	Σ SAR < 1.6, Not required
			Left Cheek	0.21	0.38	0.06	0.65	Σ SAR < 1.6, Not required
			Left Tilted	0.14	0.12	0.06	0.32	Σ SAR < 1.6, Not required
		Body-Worn	Front Face	0.07	0.13	0.02	0.22	Σ SAR < 1.6, Not required
			Rear Face	0.18	0.61	0.02	0.81	Σ SAR < 1.6, Not required
		Hotspot	Front Face	0.07	0.02	0.02	0.11	Σ SAR < 1.6, Not required
			Rear Face	0.18	0.40	0.02	0.60	Σ SAR < 1.6, Not required
			Left Side	0.19	0.00	0.00	0.19	Σ SAR < 1.6, Not required
			Right Side	0.00	0.22	0.00	0.22	Σ SAR < 1.6, Not required
			Top Side	0.05	0.02	0.04	0.11	Σ SAR < 1.6, Not required
			Bottom Side	0.03	0.00	0.00	0.03	Σ SAR < 1.6, Not required

Test Engineer : Eric Wu, and Gary Chao

5. Calibration of Test Equipment

Equipment	Manufacturer	Model	SN	Cal. Date	Cal. Interval
System Validation Dipole	SPEAG	D835V2	4d121	Aug. 23, 2018	1 Year
System Validation Dipole	SPEAG	D1750V2	1055	Aug. 27, 2018	1 Year
System Validation Dipole	SPEAG	D1900V2	5d018	Jun. 21, 2018	1 Year
System Validation Dipole	SPEAG	D2450V2	737	Aug. 24, 2018	1 Year
System Validation Dipole	SPEAG	D2600V2	1020	Aug. 24, 2018	1 Year
System Validation Dipole	SPEAG	D5GHzV2	1019	Mar. 22, 2018	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	3650	Jul. 27, 2018	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	3898	Jun. 26, 2018	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	3971	Mar. 26, 2018	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	7472	Aug. 29, 2018	1 Year
Data Acquisition Electronics	SPEAG	DAE3	579	Aug. 27, 2018	1 Year
Data Acquisition Electronics	SPEAG	DAE4	861	May. 30, 2018	1 Year
Data Acquisition Electronics	SPEAG	DAE4	1431	Mar. 16, 2018	1 Year
Data Acquisition Electronics	SPEAG	DAE4	905	Jun. 26, 2018	1 Year
Radio Communication Analyzer	Anritsu	MT8820C	6201381727	May. 09, 2018	1 Year
Spectrum Analyzer	R&S	FSL6	102006	Mar. 23, 2018	1 Year
ENA Series Network Analyzer	Agilent	E5071C	MY46214281	Jun. 08, 2018	1 Year
MXG Analog Signal Generator	Agilent	N5181A	MY50143868	Jul. 03, 2018	1 Year
Vector Signal Generator	Anritsu	MG3710A	6201599977	Mar. 16, 2018	1 Year
Power Meter	Anritsu	ML2495A	1218009	Jul. 03, 2018	1 Year
Power Sensor	Anritsu	MA2411B	1207252	Jul. 03, 2018	1 Year
Thermometer	YFE	YF-160A	130504591	Mar. 23, 2018	1 Year

6. Measurement Uncertainty

According to KDB 865664 D01, SAR measurement uncertainty analysis is required in SAR reports only when the highest measured SAR in a frequency band is ≥ 1.5 W/kg for 1-g SAR, and ≥ 3.75 W/kg for 10-g SAR. The procedures described in IEEE Std 1528-2013 should be applied. The expanded SAR measurement uncertainty must be $\leq 30\%$, for a confidence interval of $k = 2$. When the highest measured SAR within a frequency band is < 1.5 W/kg for 1-g and < 3.75 W/kg for 10-g, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. Hence, the measurement uncertainty analysis is not required in this SAR report because the test result met the condition.

FCC SAR Test Report

7. Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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

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

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Appendix A. SAR Plots of System Verification

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

System Check_H835_190127

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121

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

Medium: H07T10N3_0127 Medium parameters used: $f = 835$ MHz; $\sigma = 0.901$ S/m; $\epsilon_r = 42.932$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(10.07, 10.07, 10.07); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1496; Type: QD000P40CB;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.07 W/kg

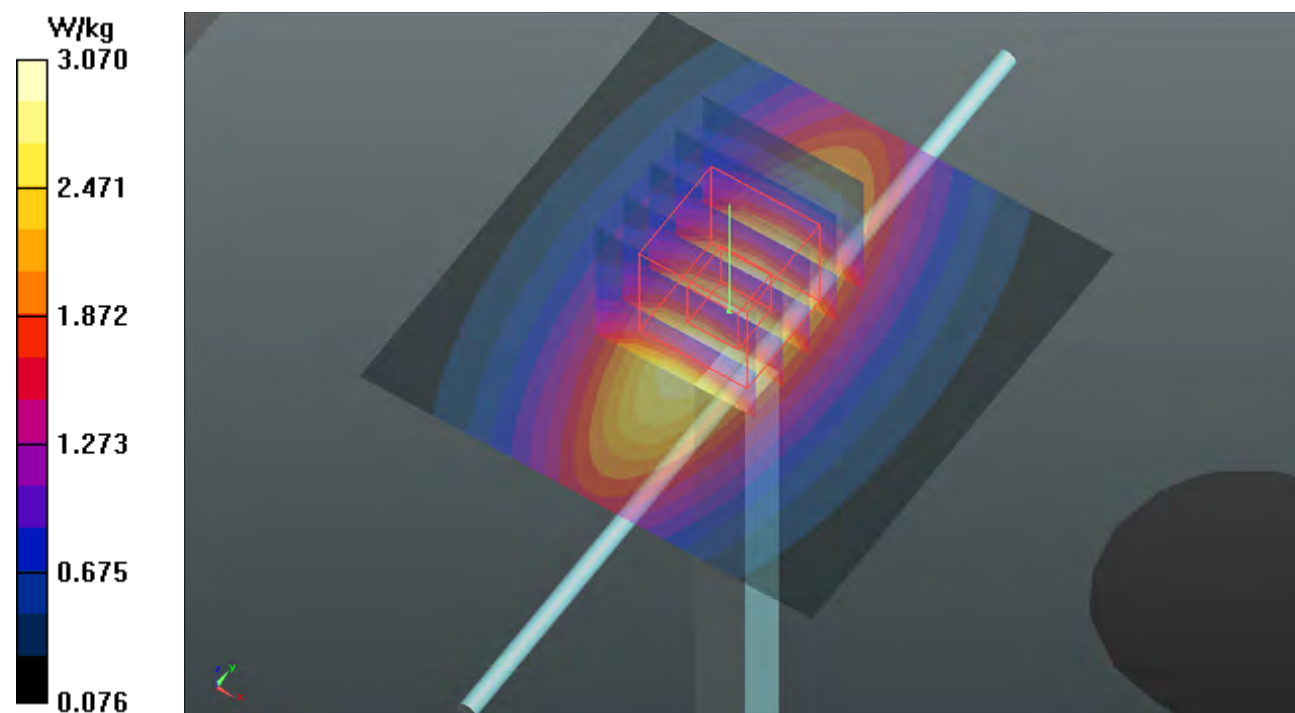
- Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.90 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 3.47 W/kg

SAR(1 g) = 2.31 W/kg; SAR(10 g) = 1.53 W/kg

Maximum value of SAR (measured) = 3.08 W/kg



System Check_H1750_190201**DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1055**

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: H16T20N1_0201 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.333$ S/m; $\epsilon_r = 39.585$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.79, 8.79, 8.79); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1654; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 13.7 W/kg

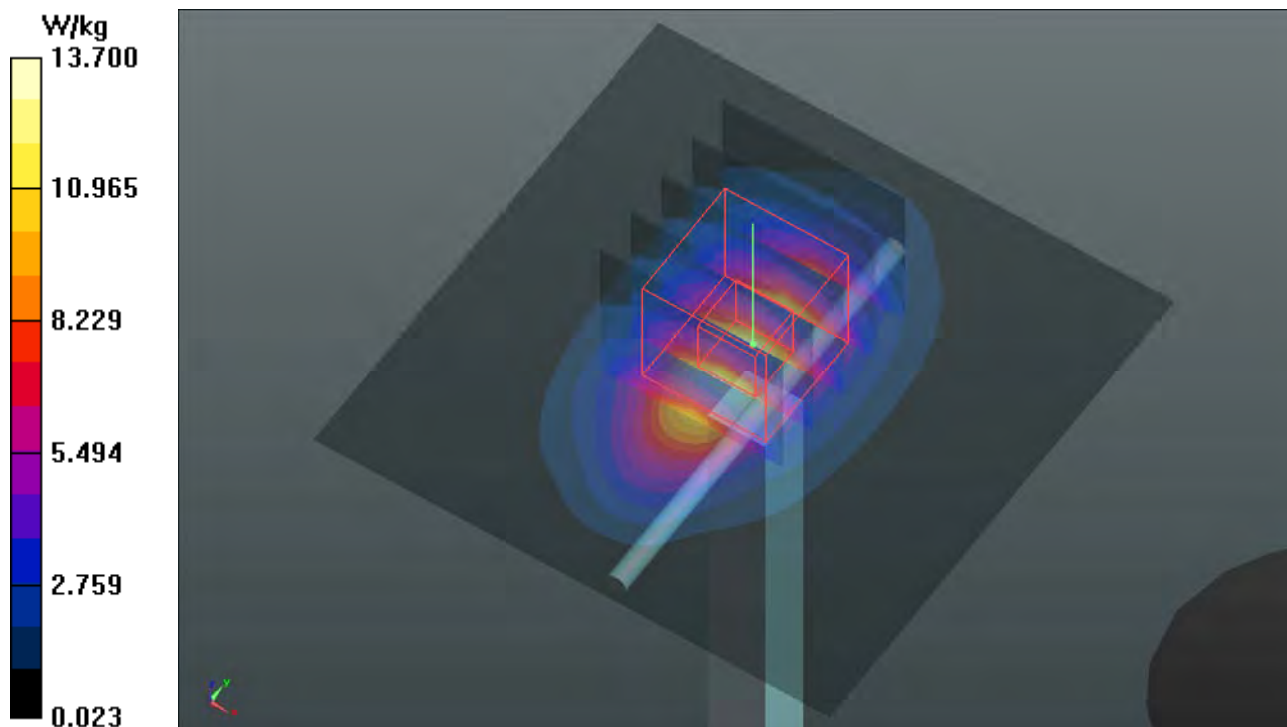
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 102.6 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 16.2 W/kg

SAR(1 g) = 8.81 W/kg; SAR(10 g) = 4.68 W/kg

Maximum value of SAR (measured) = 13.6 W/kg



System Check_H1900_190127

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d018

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

Medium: H16T20N1_0127 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.458$ S/m; $\epsilon_r = 39.592$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(8.35, 8.35, 8.35); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1496; Type: QD000P40CB;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

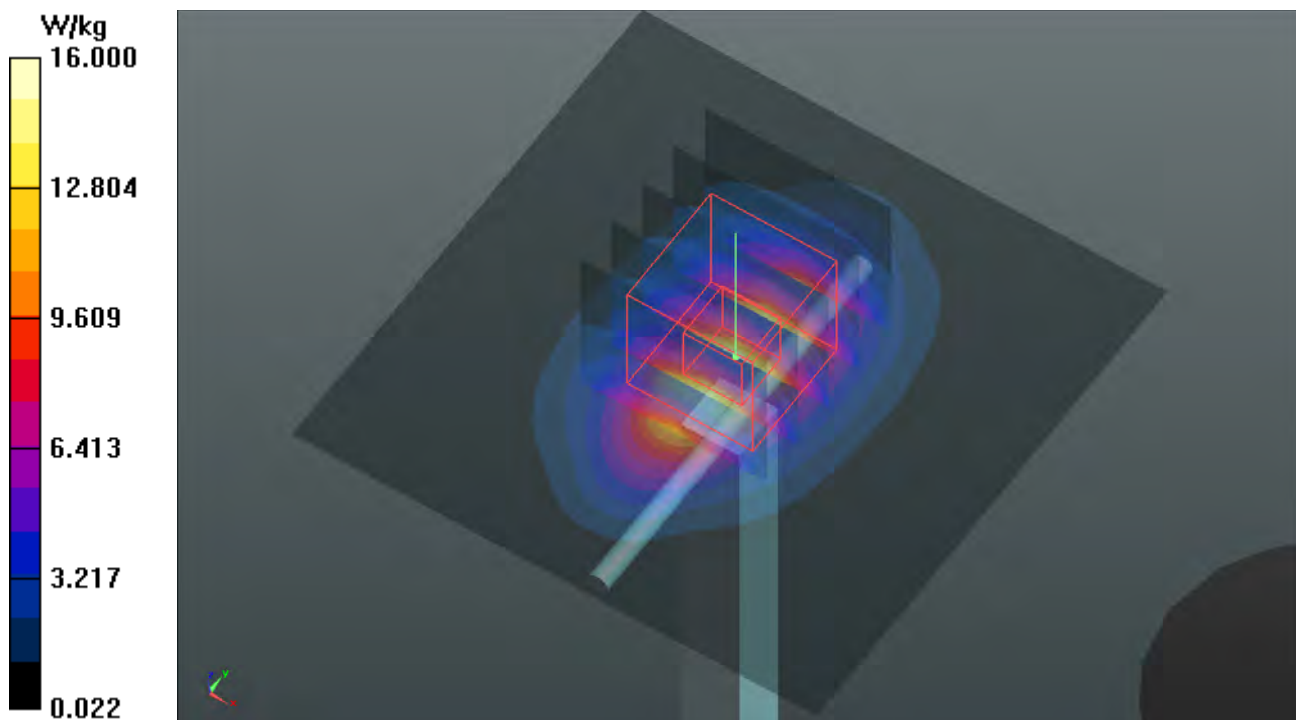
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 108.3 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 19.2 W/kg

SAR(1 g) = 10.2 W/kg; SAR(10 g) = 5.26 W/kg

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



System Check_H2450_190211**DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737**

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

Medium: H19T27N1_0211 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.883$ S/m; $\epsilon_r = 38.339$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(7.71, 7.71, 7.71); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1654; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

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

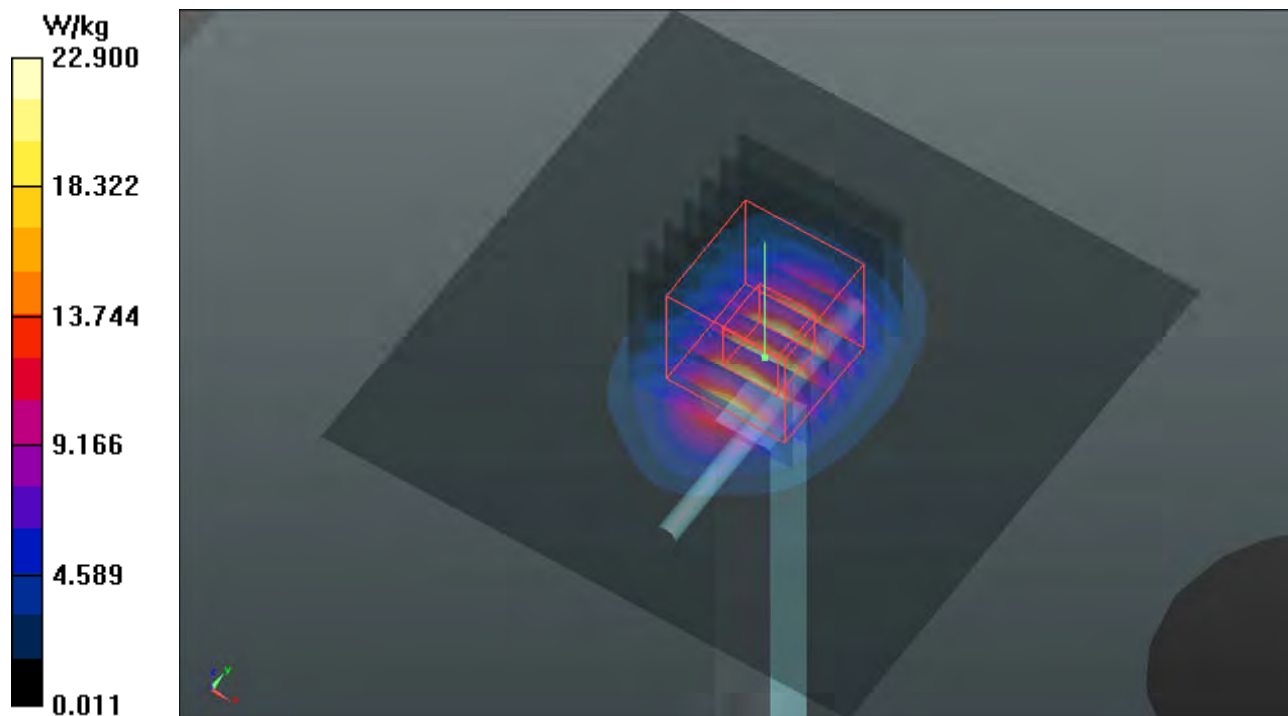
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 106.0 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 28.3 W/kg

SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.24 W/kg

Maximum value of SAR (measured) = 22.8 W/kg



System Check_H2600_190127

DUT: Dipole 2600 MHz; Type: D2600V2; SN: 1020

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

Medium: H19T27N3_0127 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.035$ S/m; $\epsilon_r = 38.572$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(7.37, 7.37, 7.37); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1496; Type: QD000P40CB;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

Maximum value of SAR (interpolated) = 26.7 W/kg

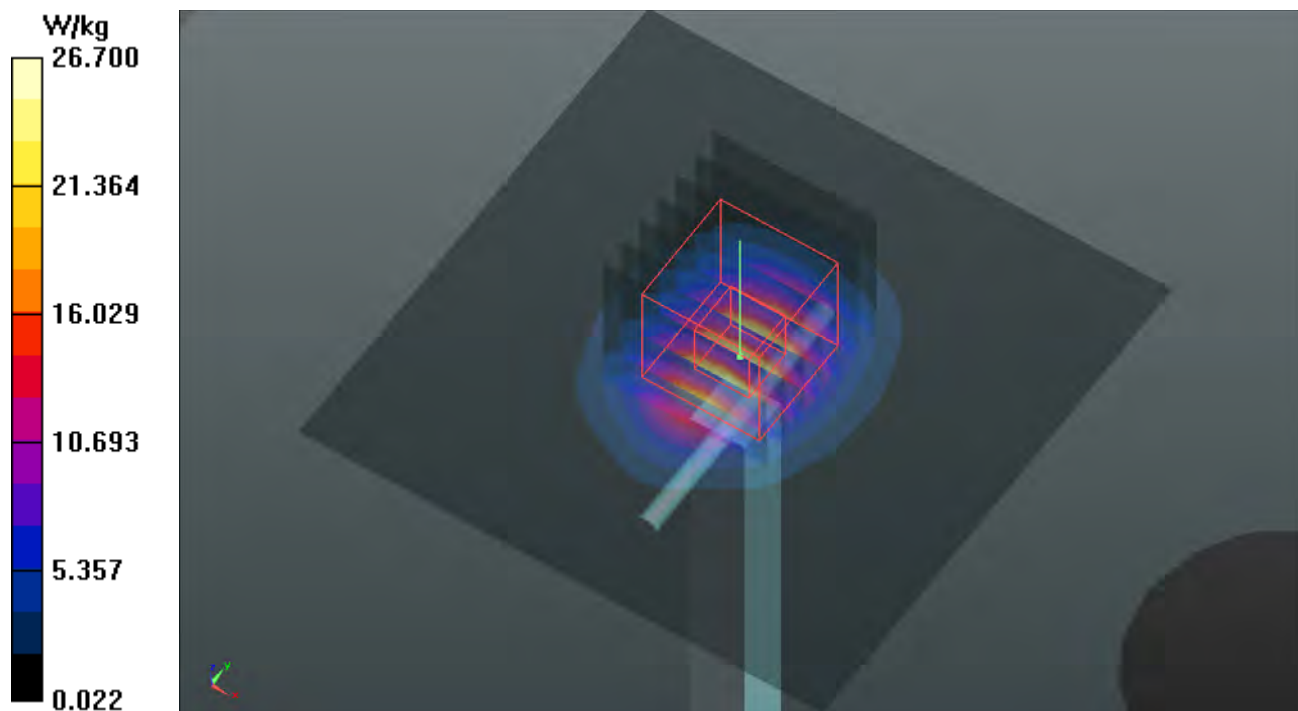
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 119.5 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 33.3 W/kg

SAR(1 g) = 15 W/kg; SAR(10 g) = 6.67 W/kg

Maximum value of SAR (measured) = 26.3 W/kg



System Check_H5250_190224**DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019**

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

Medium: H34T60N2_0224 Medium parameters used: $f = 5250$ MHz; $\sigma = 4.56$ S/m; $\epsilon_r = 36.018$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(5.46, 5.46, 5.46); Calibrated: 2018/07/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2018/08/27
- Phantom: Twin SAM Phantom_1653; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

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

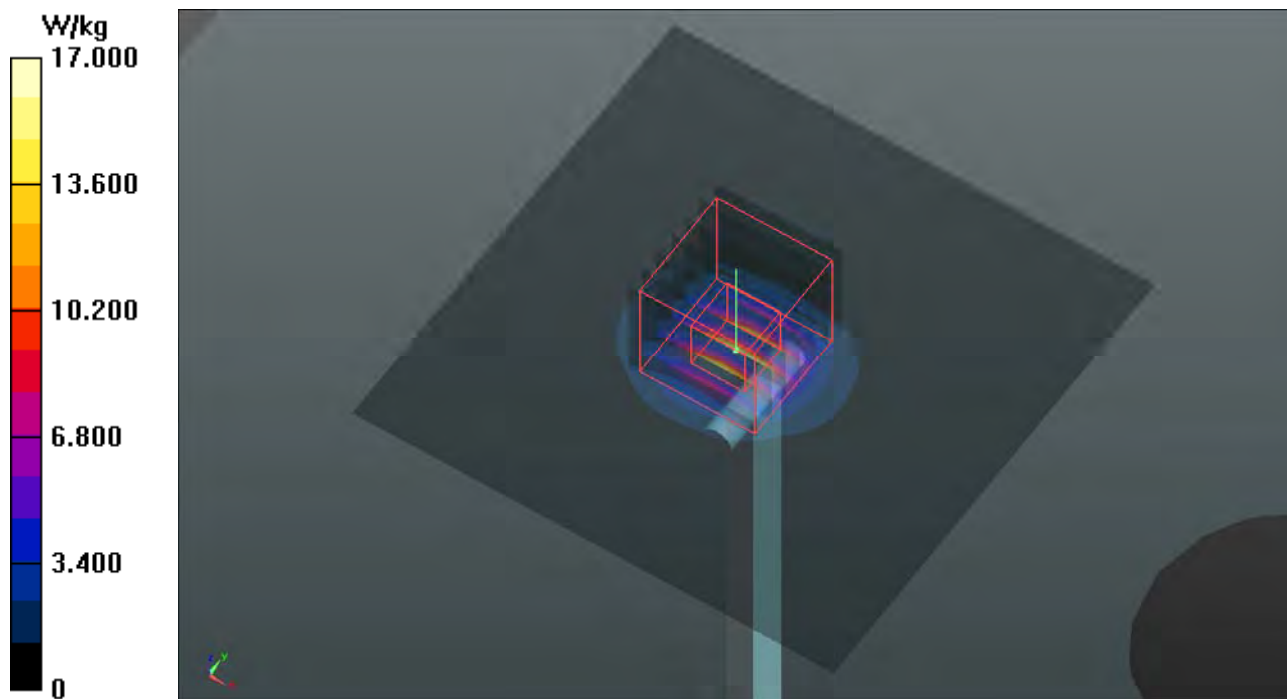
Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 66.39 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 29.9 W/kg

SAR(1 g) = 7.4 W/kg; SAR(10 g) = 2.13 W/kg

Maximum value of SAR (measured) = 18.6 W/kg



System Check_H5600_190219

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

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

Medium: H34T60N1_0219 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.089$ S/m; $\epsilon_r = 36.492$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.9 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(4.88, 4.88, 4.88); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1823; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

Maximum value of SAR (interpolated) = 19.8 W/kg

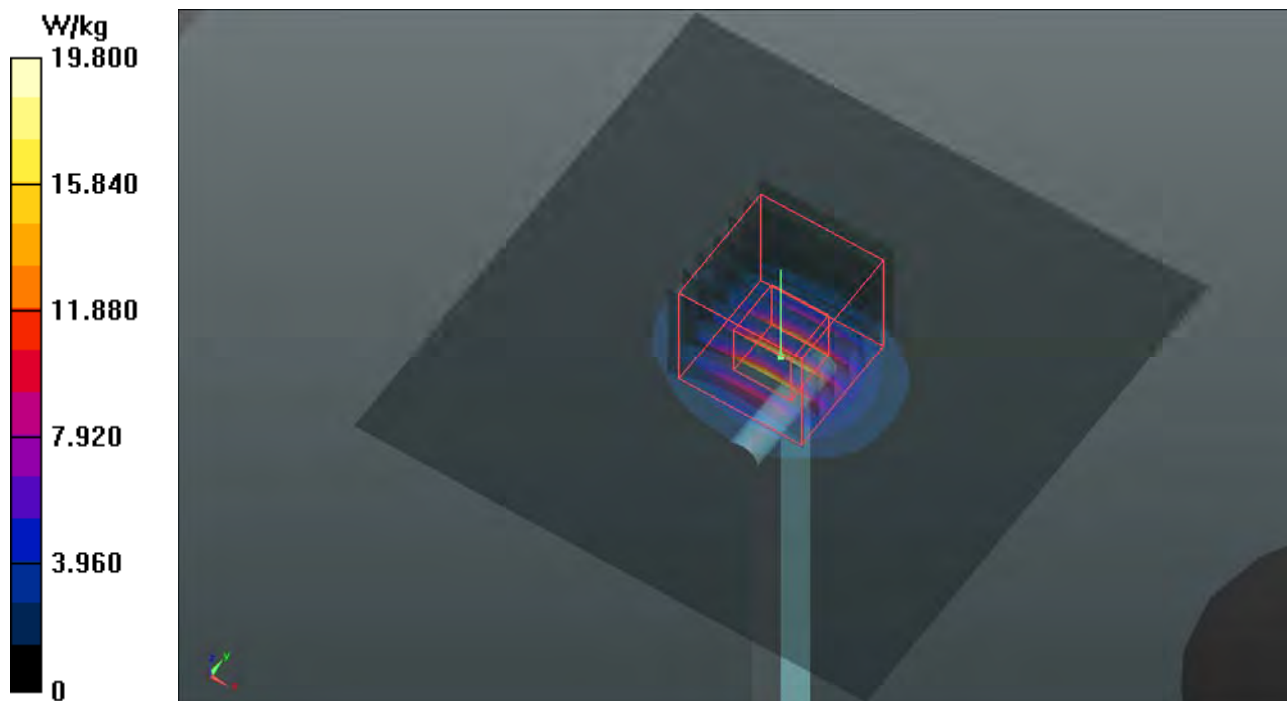
Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 71.41 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 34.6 W/kg

SAR(1 g) = 8.16 W/kg; SAR(10 g) = 2.34 W/kg

Maximum value of SAR (measured) = 21.0 W/kg



System Check_H5750_190301**DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019**

Communication System: CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: H34T60N2_0301 Medium parameters used: $f = 5750$ MHz; $\sigma = 5.37$ S/m; $\epsilon_r = 35.688$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(5.32, 5.32, 5.32); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1654; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

Maximum value of SAR (interpolated) = 18.7 W/kg

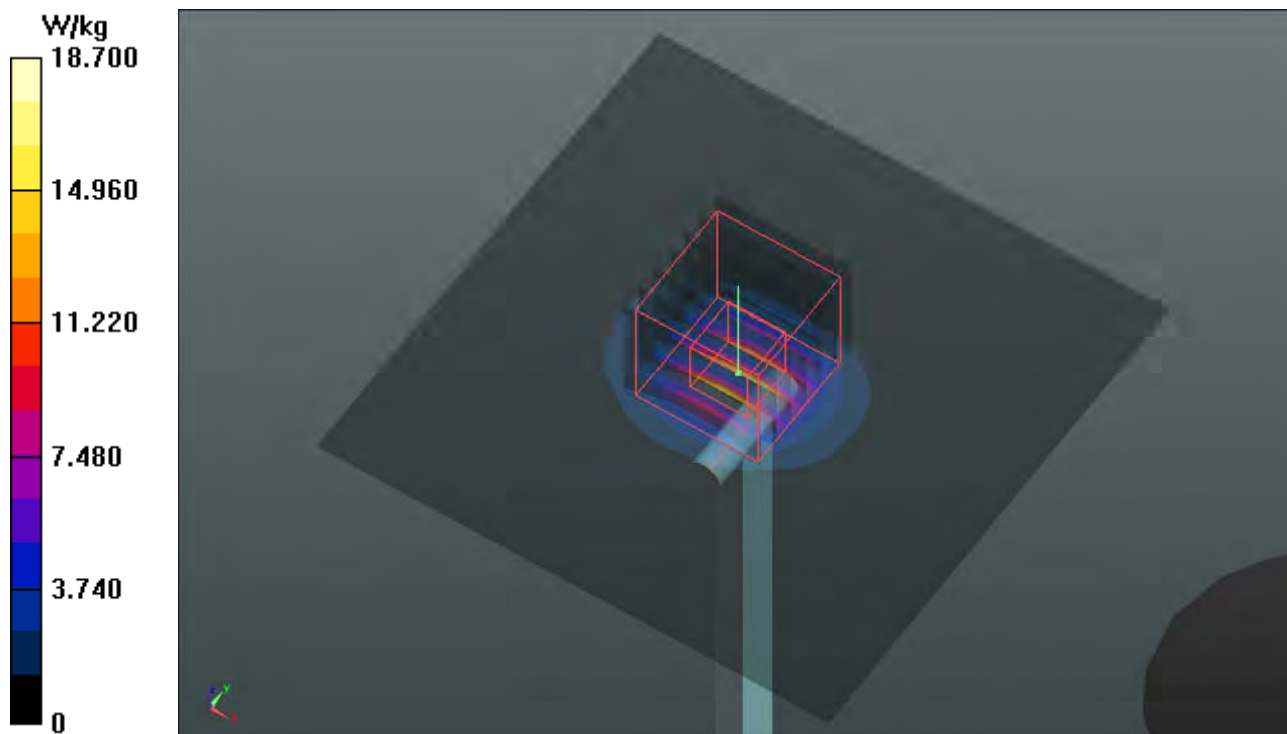
Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 67.68 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 34.3 W/kg

SAR(1 g) = 7.66 W/kg; SAR(10 g) = 2.19 W/kg

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



System Check_B835_190125

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121

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

Medium: B07T10N1_0125 Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1.012 \text{ S/m}$; $\epsilon_r = 56.703$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : 23.7°C ; Liquid Temperature : 23.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(10.35, 10.35, 10.35); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 3.09 W/kg

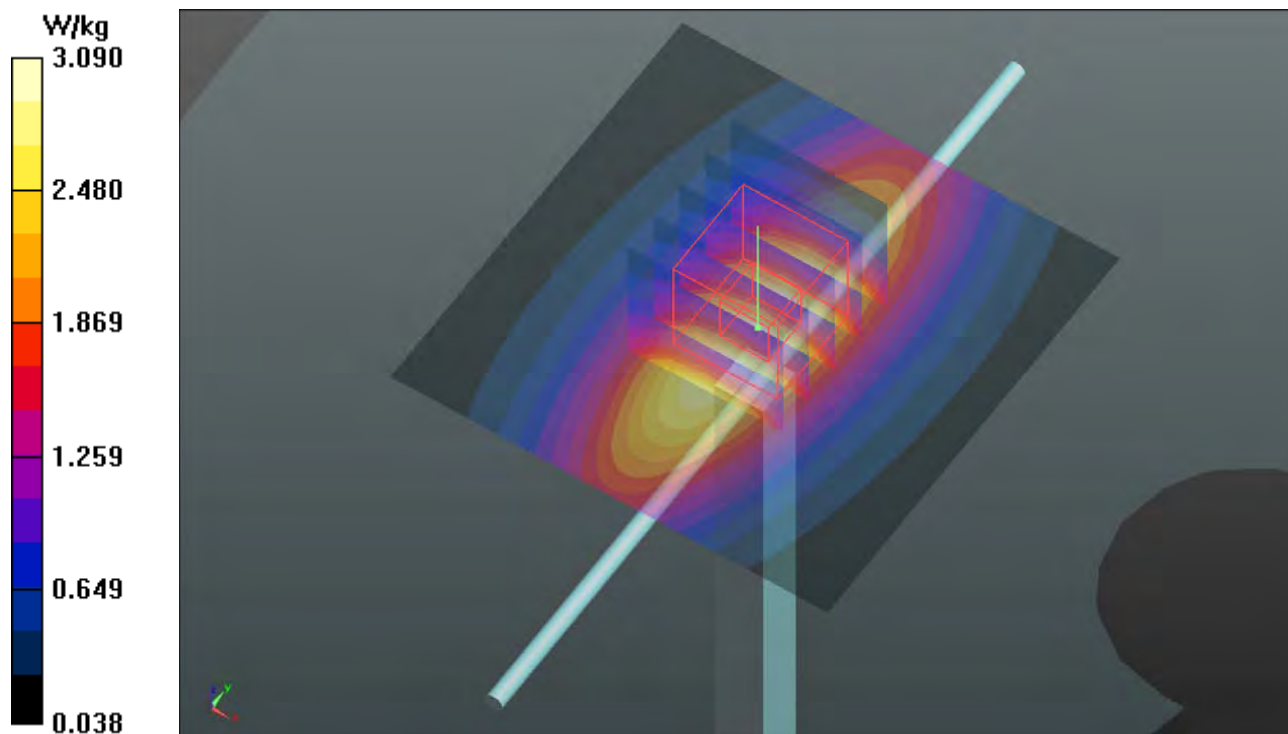
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 51.59 V/m ; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 3.50 W/kg

SAR(1 g) = 2.32 W/kg ; SAR(10 g) = 1.52 W/kg

Maximum value of SAR (measured) = 3.10 W/kg



System Check_B1750_190125**DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1055**

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: B16T20N1_0125 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.441$ S/m; $\epsilon_r = 51.722$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.42, 8.42, 8.42); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

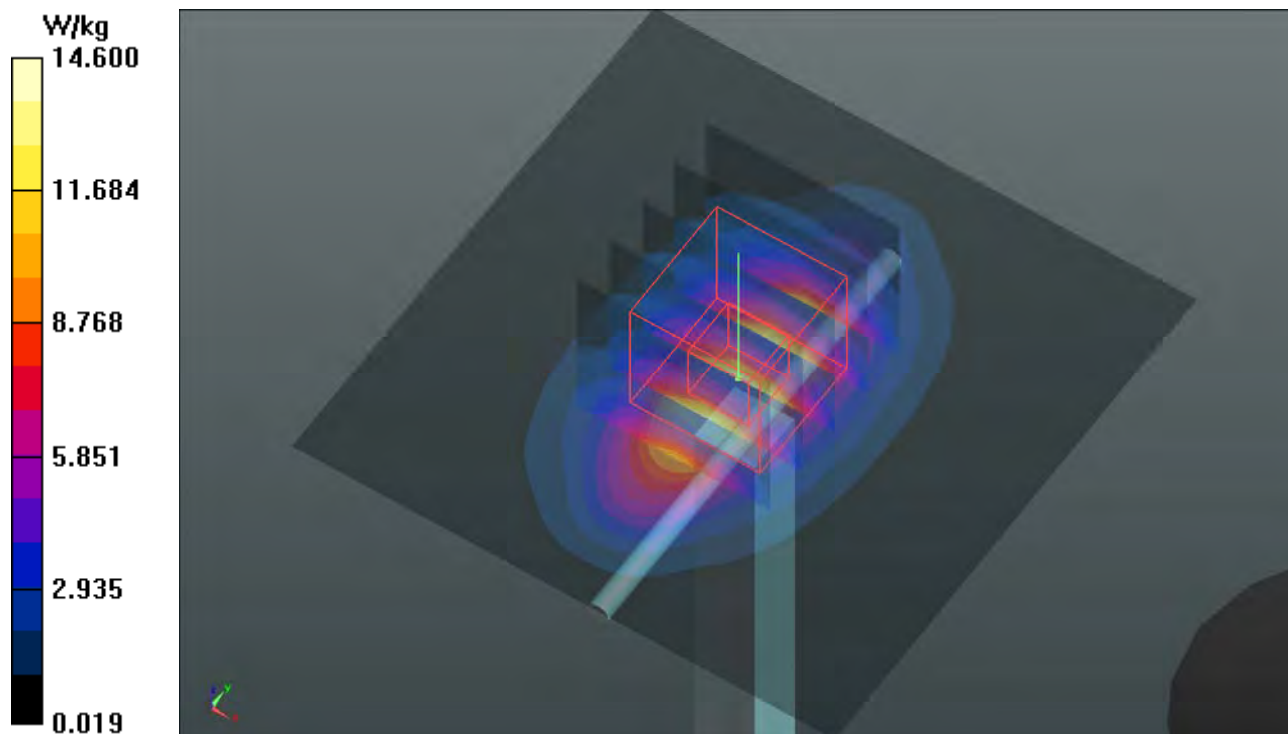
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 97.73 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 17.6 W/kg

SAR(1 g) = 9.45 W/kg; SAR(10 g) = 4.92 W/kg

Maximum value of SAR (measured) = 14.8 W/kg



System Check_B1900_190131**DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d018**

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

Medium: B16T20N1_0131 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.583$ S/m; $\epsilon_r = 52.166$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.07, 8.07, 8.07); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 15.8 W/kg

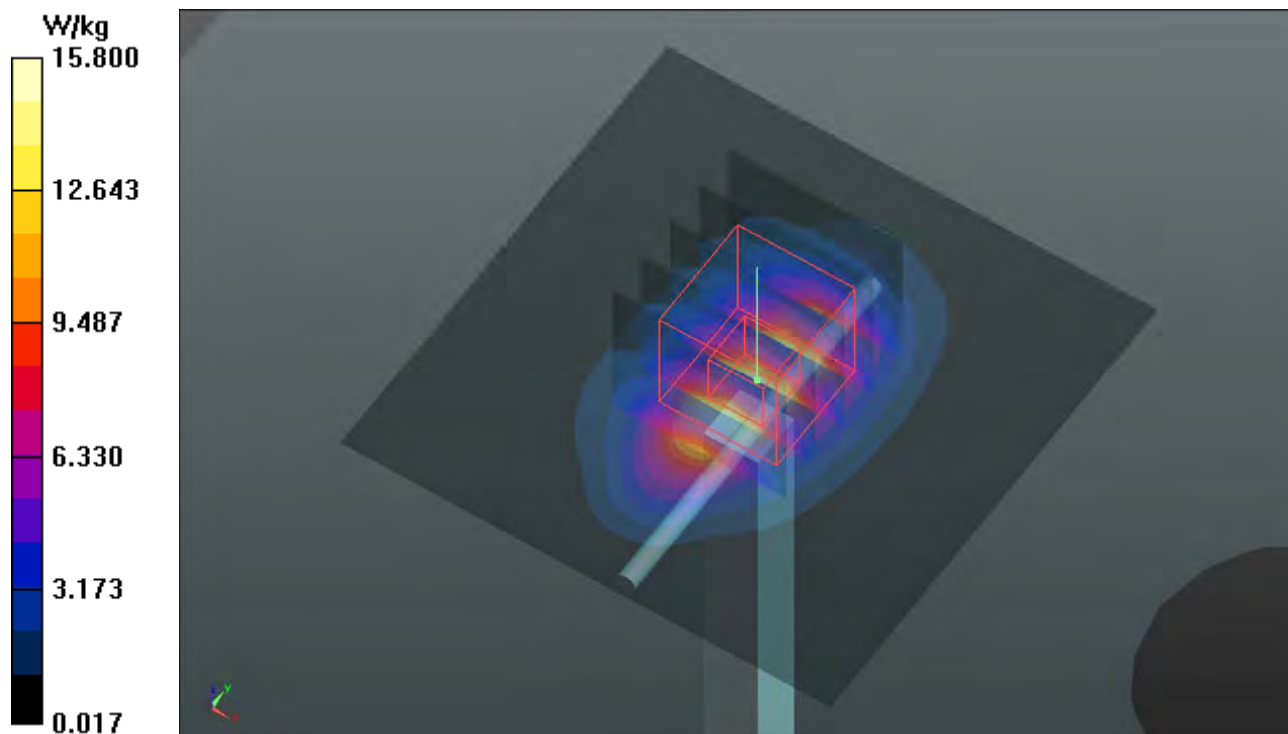
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 103.3 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 18.6 W/kg

SAR(1 g) = 10.4 W/kg; SAR(10 g) = 5.42 W/kg

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



System Check_B2450_190224**DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737**

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

Medium: B19T27N1_0224 Medium parameters used: $f = 2450$ MHz; $\sigma = 2.013$ S/m; $\epsilon_r = 51.24$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(7.61, 7.61, 7.61); Calibrated: 2018/07/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2018/08/27
- Phantom: Twin SAM Phantom_1652; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

Maximum value of SAR (interpolated) = 19.8 W/kg

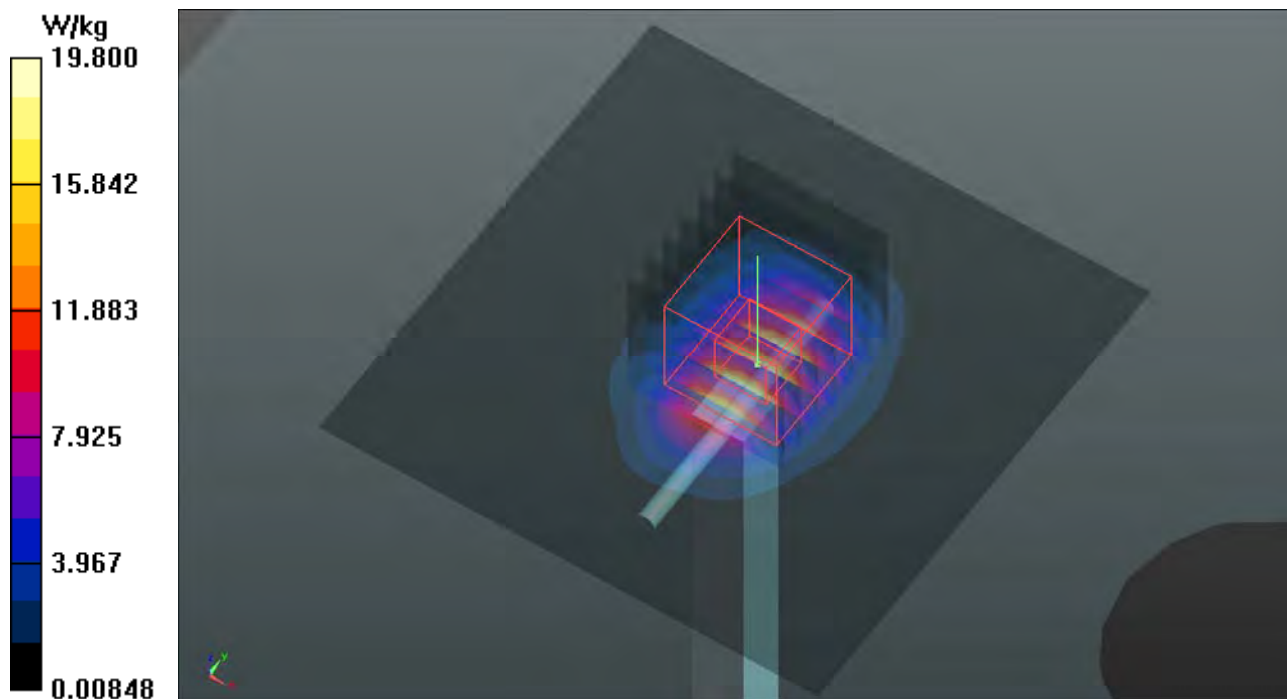
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 93.36 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 24.4 W/kg

SAR(1 g) = 12 W/kg; SAR(10 g) = 5.58 W/kg

Maximum value of SAR (measured) = 20.0 W/kg



System Check_B2600_190126**DUT: Dipole 2600 MHz; Type: D2600V2; SN: 1020**

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

Medium: B19T27N2_0126 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.157$ S/m; $\epsilon_r = 50.909$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(7.7, 7.7, 7.7); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

Maximum value of SAR (interpolated) = 22.5 W/kg

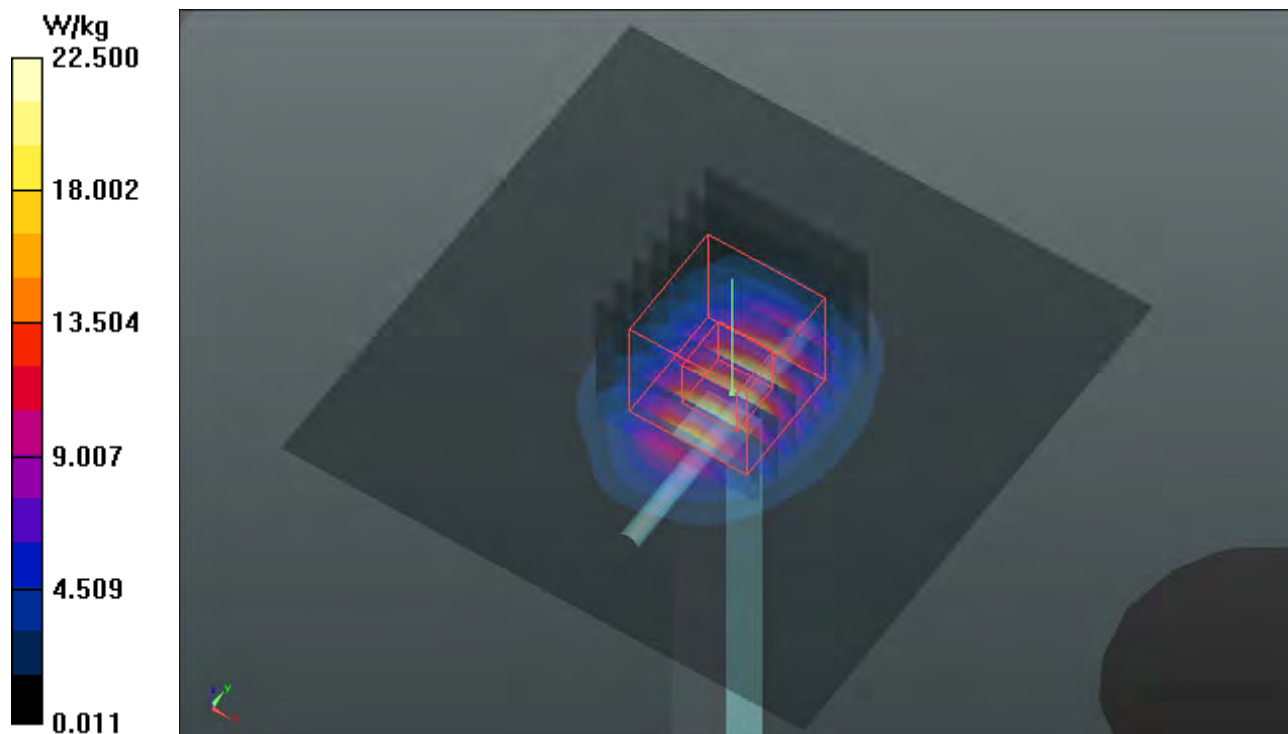
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 101.4 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 29.1 W/kg

SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.06 W/kg

Maximum value of SAR (measured) = 23.2 W/kg



System Check_B5250_190301**DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019**

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

Medium: B34T60N1_0301 Medium parameters used: $f = 5250$ MHz; $\sigma = 5.49$ S/m; $\epsilon_r = 47.955$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(4.9, 4.9, 4.9); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

Maximum value of SAR (interpolated) = 18.3 W/kg

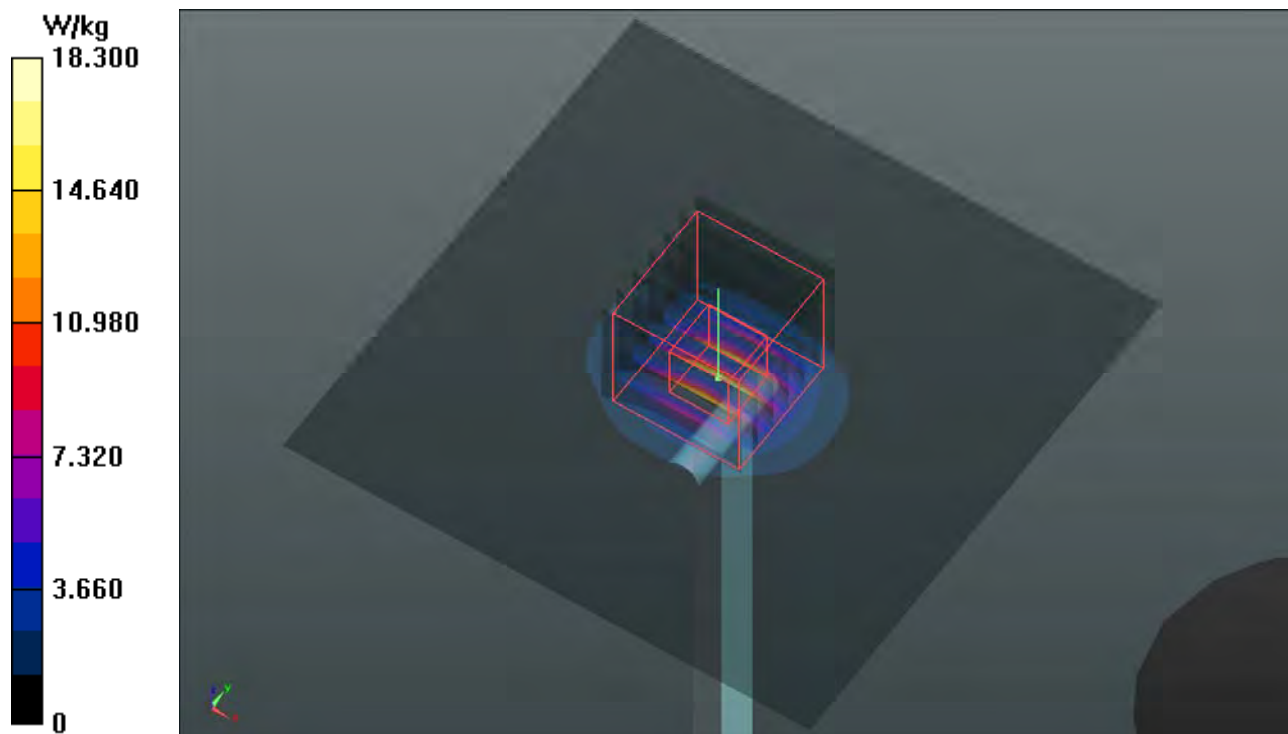
Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 66.60 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 35.0 W/kg

SAR(1 g) = 7.84 W/kg; SAR(10 g) = 2.21 W/kg

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



System Check_B5600_190224**DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019**

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

Medium: B34T60N1_0224 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.822$ S/m; $\epsilon_r = 46.671$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4.32, 4.32, 4.32); Calibrated: 2018/07/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2018/08/27
- Phantom: Twin SAM Phantom_1652; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

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

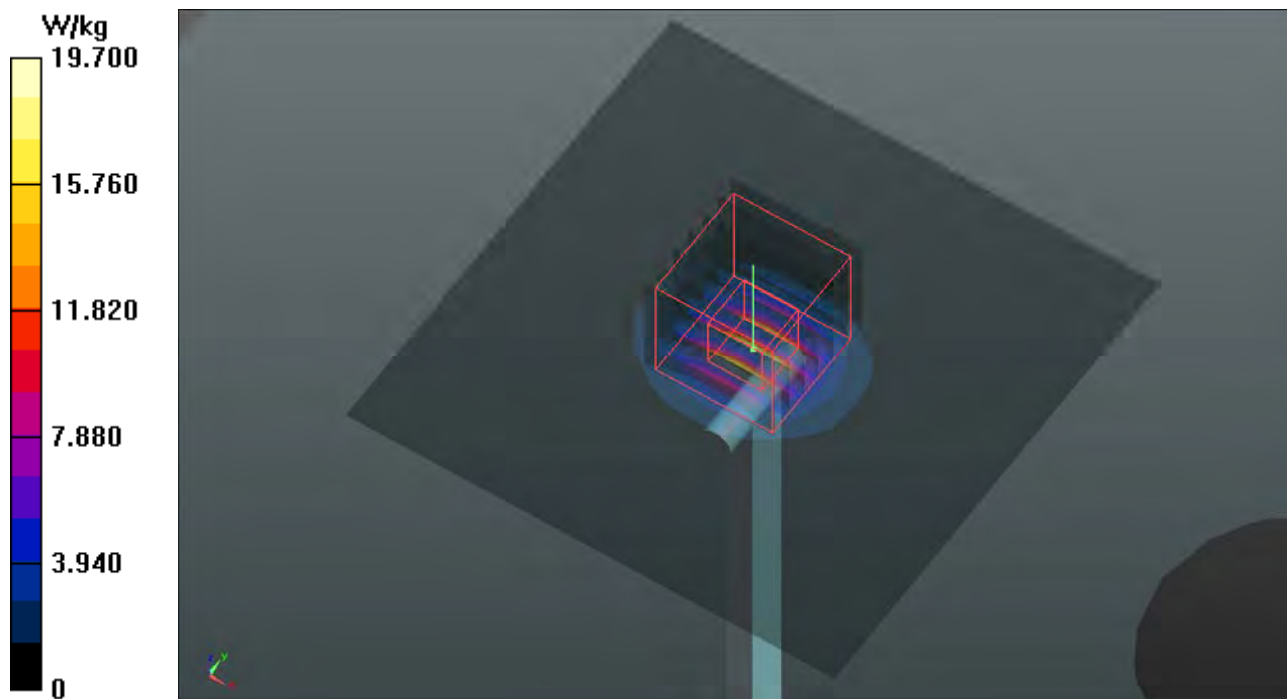
Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 69.21 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 35.6 W/kg

SAR(1 g) = 8.08 W/kg; SAR(10 g) = 2.26 W/kg

Maximum value of SAR (measured) = 21.2 W/kg



System Check_B5750_190228**DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019**

Communication System: CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: B34T60N1_0228 Medium parameters used: $f = 5750$ MHz; $\sigma = 6.135$ S/m; $\epsilon_r = 47.344$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(4.56, 4.56, 4.56); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

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

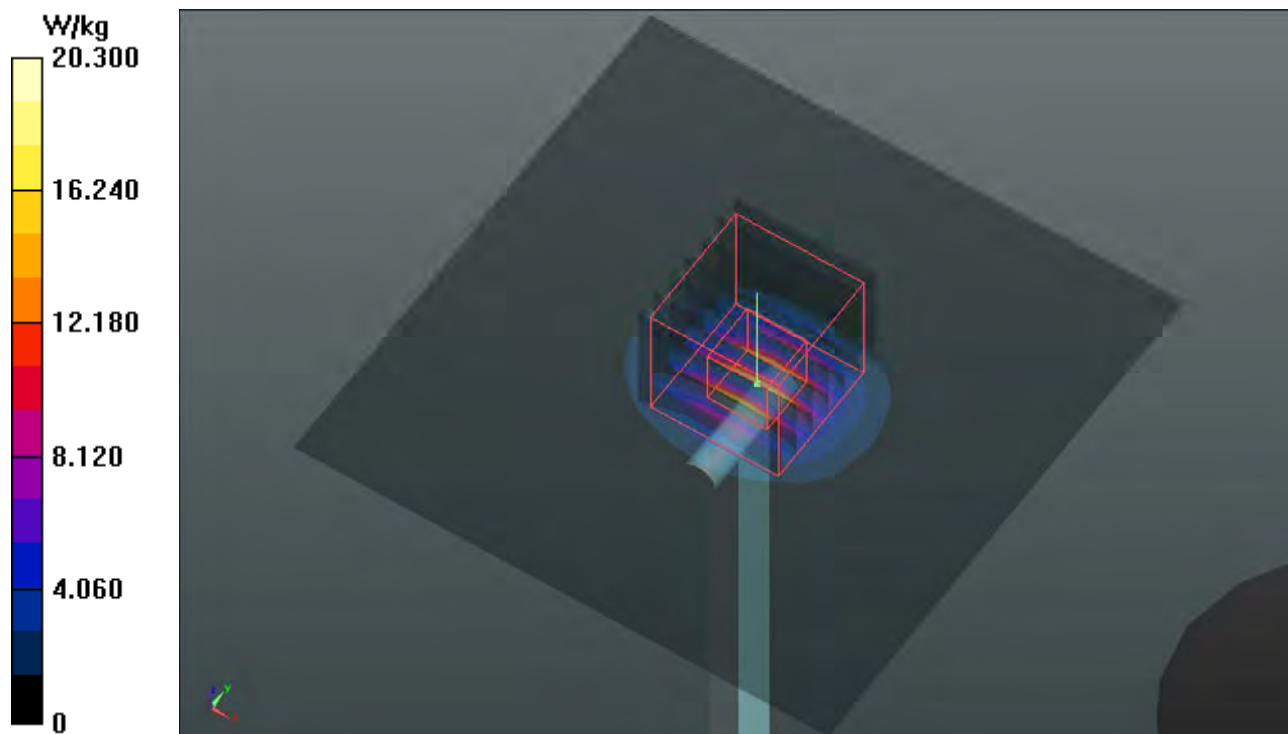
Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 63.50 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 36.3 W/kg

SAR(1 g) = 7.14 W/kg; SAR(10 g) = 2.01 W/kg

Maximum value of SAR (measured) = 21.0 W/kg



System Check_B5250_190308**DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019**

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

Medium: B34T60N2_0308 Medium parameters used: $f = 5250$ MHz; $\sigma = 5.458$ S/m; $\epsilon_r = 47.106$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(4.59, 4.59, 4.59); Calibrated: 2018/3/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2018/5/30
- Phantom: Twin SAM Phantom_1823; Type: QD 000 P40 CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

Maximum value of SAR (interpolated) = 18.2 W/kg

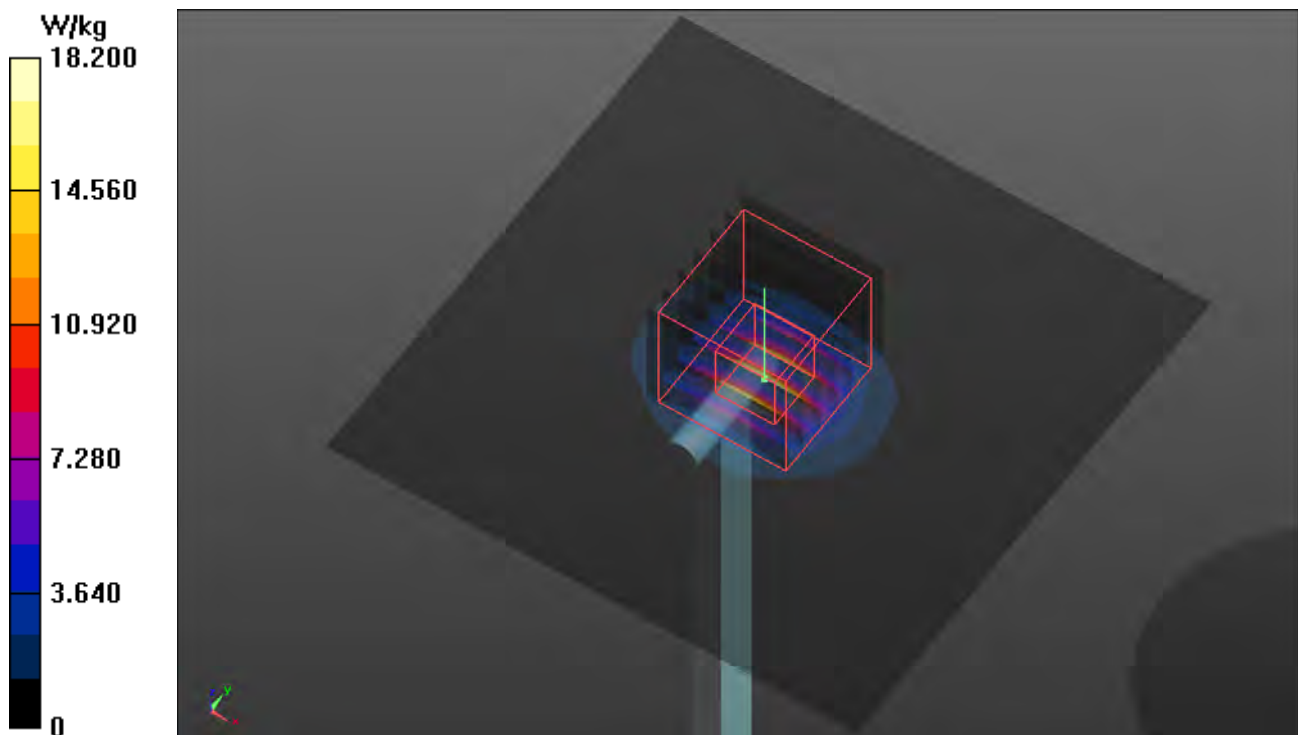
Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 66.69 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 35.0 W/kg

SAR(1 g) = 7.81 W/kg; SAR(10 g) = 2.2 W/kg

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



System Check_B5600_190308**DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019**

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

Medium: B34T60N2_0308 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.918$ S/m; $\epsilon_r = 46.532$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(4.08, 4.08, 4.08); Calibrated: 2018/3/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2018/5/30
- Phantom: Twin SAM Phantom_1823; Type: QD 000 P40 CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

Maximum value of SAR (interpolated) = 20.9 W/kg

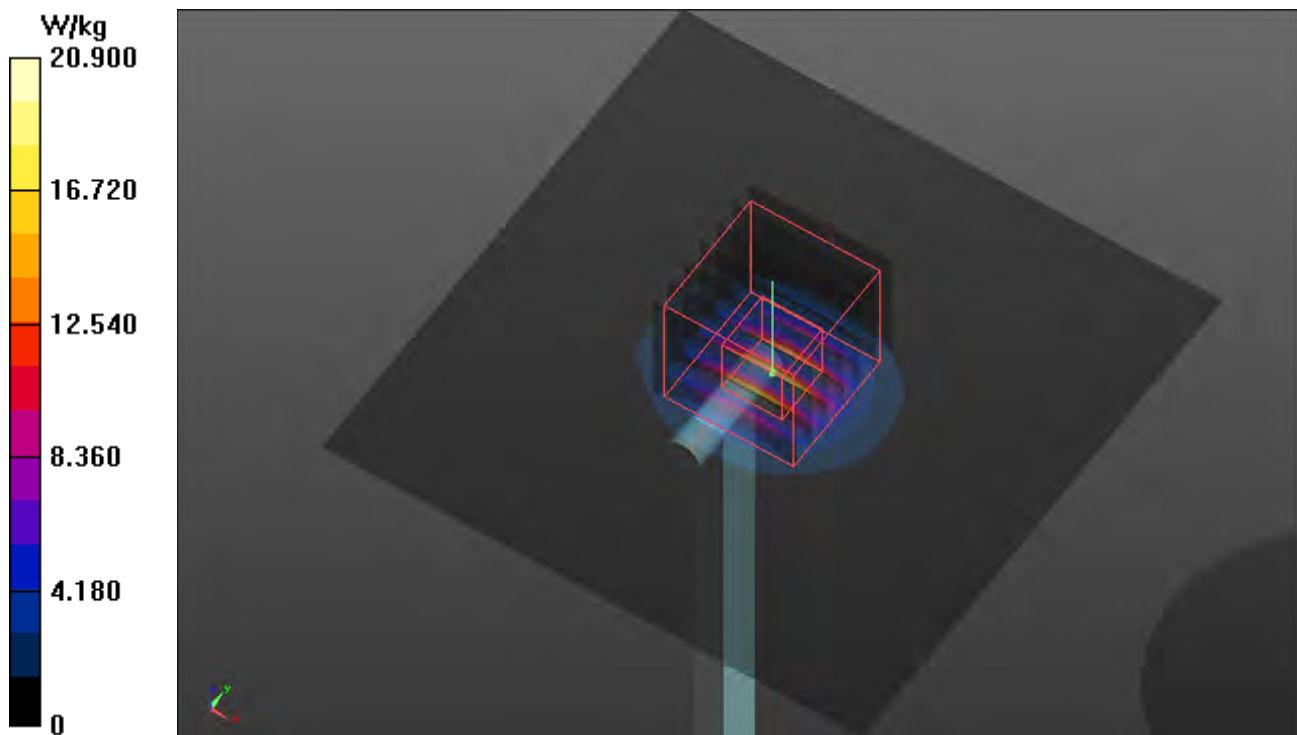
Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 70.64 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 37.9 W/kg

SAR(1 g) = 8.54 W/kg; SAR(10 g) = 2.39 W/kg

Maximum value of SAR (measured) = 22.6 W/kg



Appendix B. SAR Plots of SAR Measurement

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

P01 GSM850_GPRS10_Right Check_Ch251_Ant1**DUT: 190114C07**

Communication System: GPRS10; Frequency: 848.8 MHz; Duty Cycle: 1:4

Medium: H07T10N3_0127 Medium parameters used: $f = 849$ MHz; $\sigma = 0.914$ S/m; $\epsilon_r = 42.782$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(10.07, 10.07, 10.07); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1496; Type: QD000P40CB;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.983 W/kg

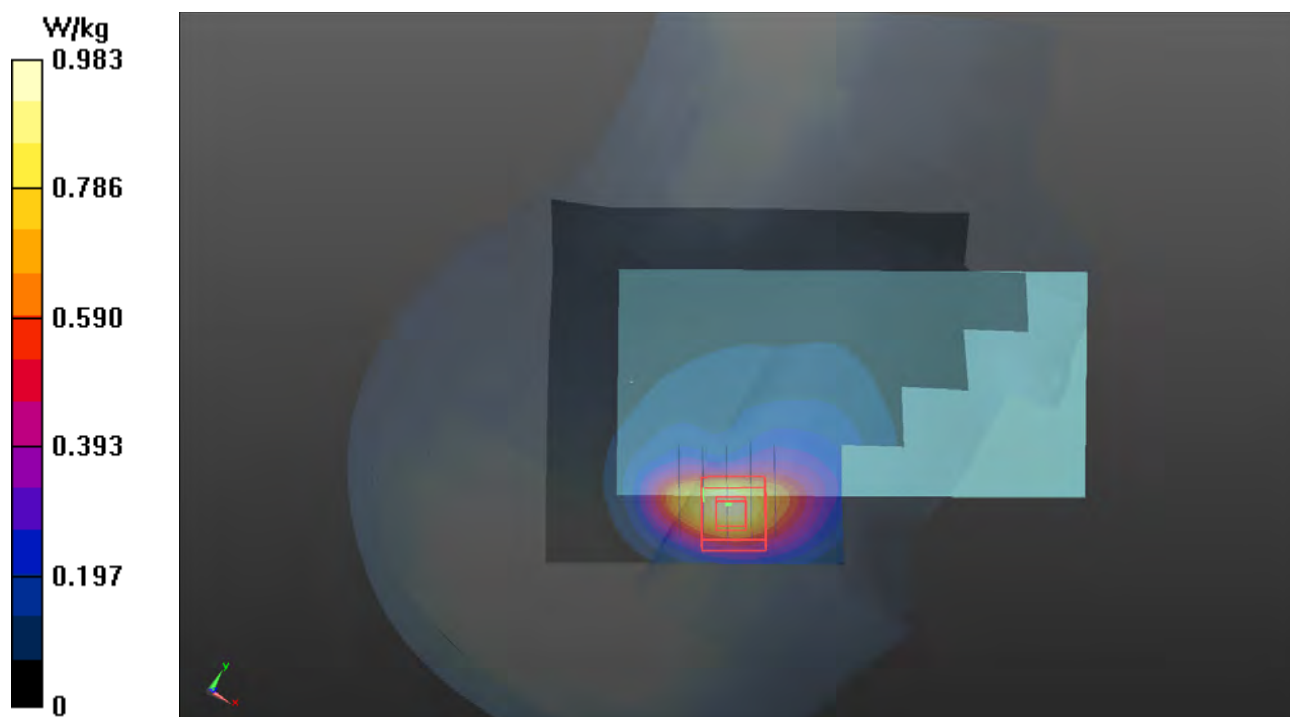
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 31.82 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.27 W/kg

SAR(1 g) = 0.582 W/kg; SAR(10 g) = 0.308 W/kg

Maximum value of SAR (measured) = 0.947 W/kg



P02 GSM1900_GPRS10_Right Check_Ch512_Ant1**DUT: 190114C07**

Communication System: GPRS10; Frequency: 1850.2 MHz; Duty Cycle: 1:4

Medium: H16T20N1_0127 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.416$ S/m; $\epsilon_r = 39.752$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(8.35, 8.35, 8.35); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1496; Type: QD000P40CB;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.65 W/kg

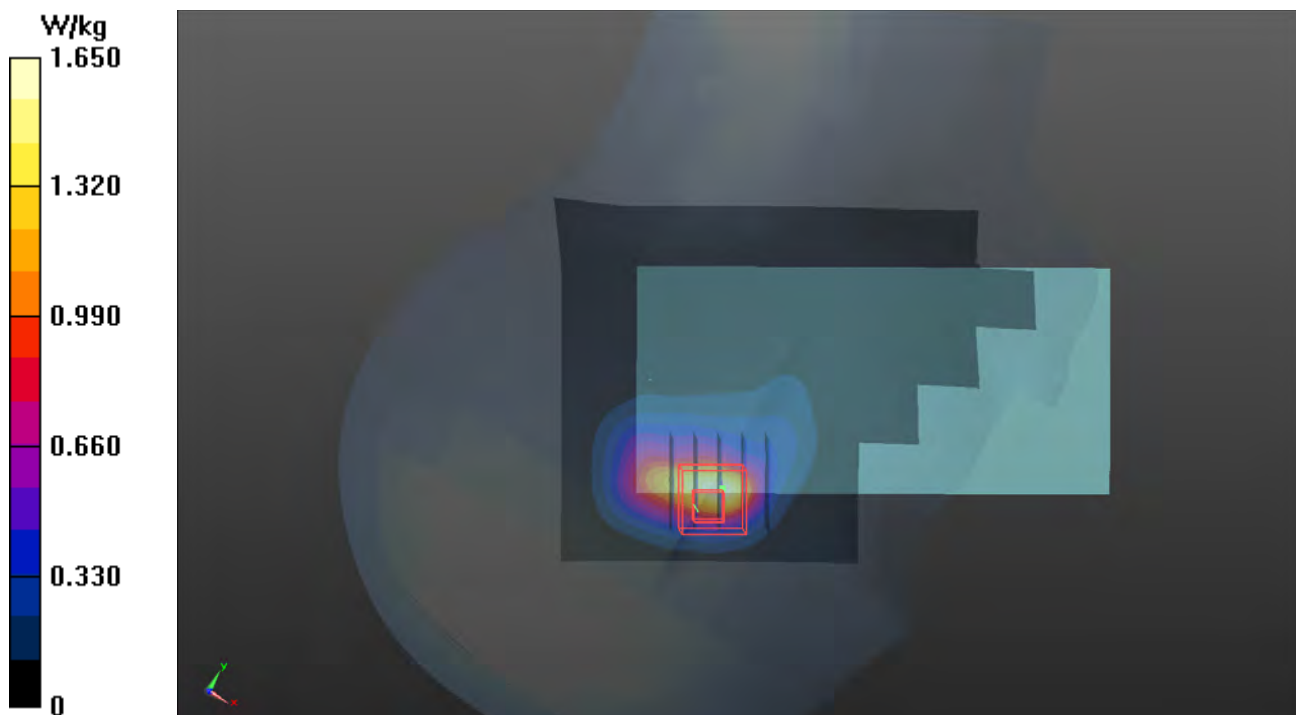
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.35 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.622 W/kg; SAR(10 g) = 0.308 W/kg

Maximum value of SAR (measured) = 0.943 W/kg



P03 WCDMA II_RMC12.2K_Right Check_Ch9262_Ant1**DUT: 190114C07**

Communication System: WCDMA; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: H16T20N1_0201 Medium parameters used: $f = 1852.4$ MHz; $\sigma = 1.424$ S/m; $\epsilon_r = 39.224$; ρ $= 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.44, 8.44, 8.44); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1654; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.71 W/kg

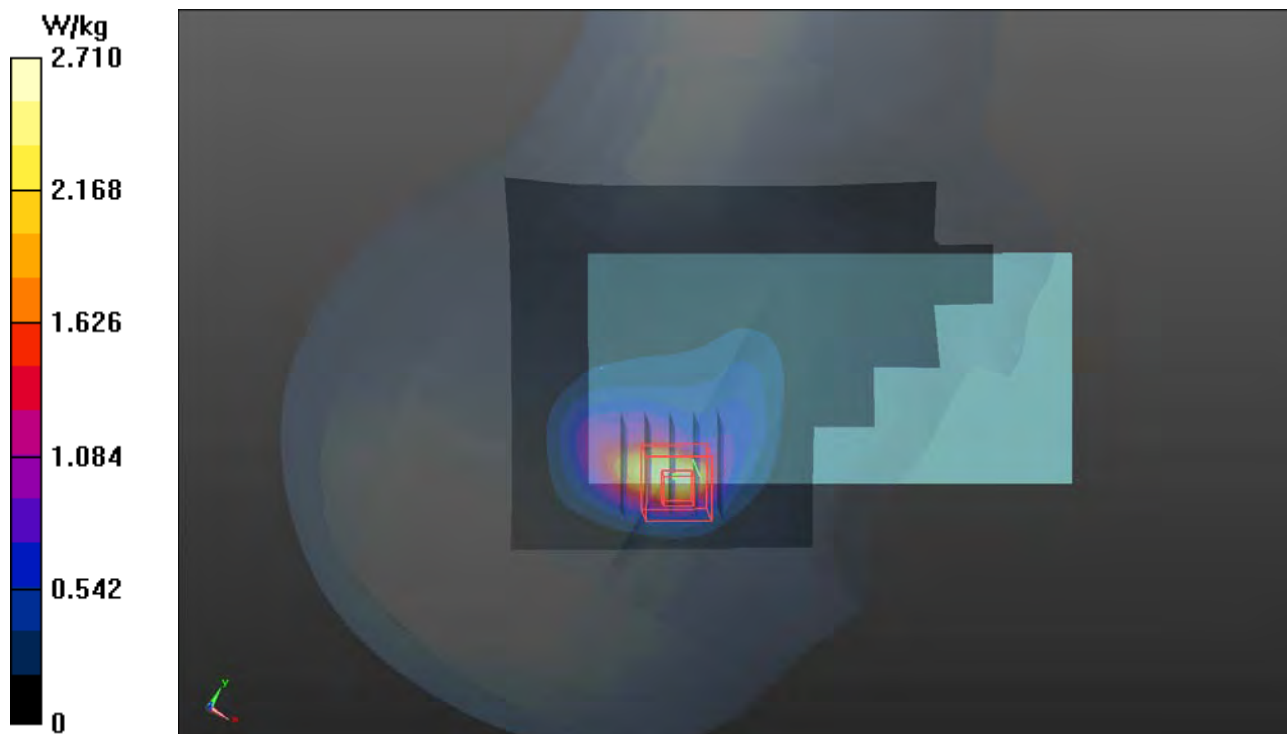
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 37.42 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 2.36 W/kg

SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.612 W/kg

Maximum value of SAR (measured) = 1.72 W/kg



P04 WCDMA IV_RMC12.2K_Right Check_Ch1513_Ant1**DUT: 190114C07**

Communication System: WCDMA; Frequency: 1752.6 MHz; Duty Cycle: 1:1

Medium: H16T20N1_0201 Medium parameters used: $f = 1753$ MHz; $\sigma = 1.335$ S/m; $\epsilon_r = 39.575$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.79, 8.79, 8.79); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1654; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.34 W/kg

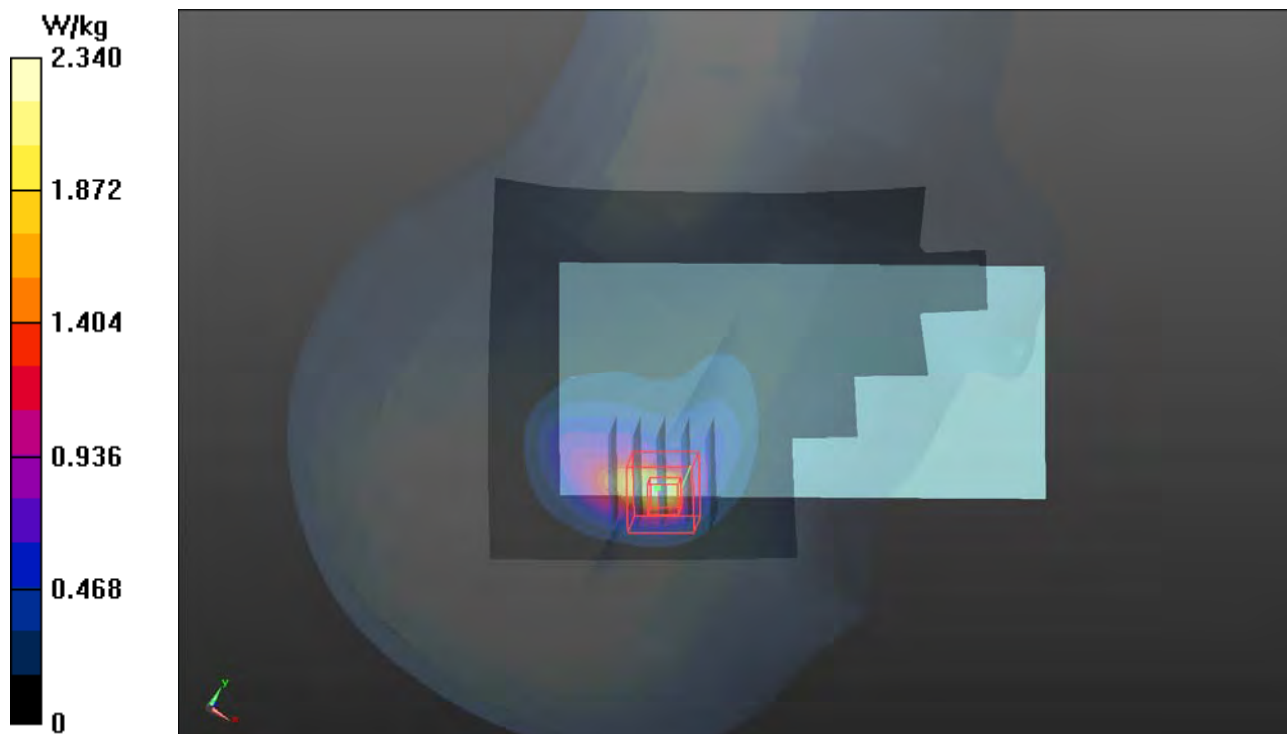
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 37.35 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 2.27 W/kg

SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.529 W/kg

Maximum value of SAR (measured) = 1.61 W/kg



P05 WCDMA V_RMC12.2K_Right Check_Ch4182_Ant0**DUT: 190114C07**

Communication System: WCDMA; Frequency: 836.4 MHz; Duty Cycle: 1:1

Medium: H07T10N3_0127 Medium parameters used: $f = 836.4$ MHz; $\sigma = 0.903$ S/m; $\epsilon_r = 42.919$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(10.07, 10.07, 10.07); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1496; Type: QD000P40CB;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.327 W/kg

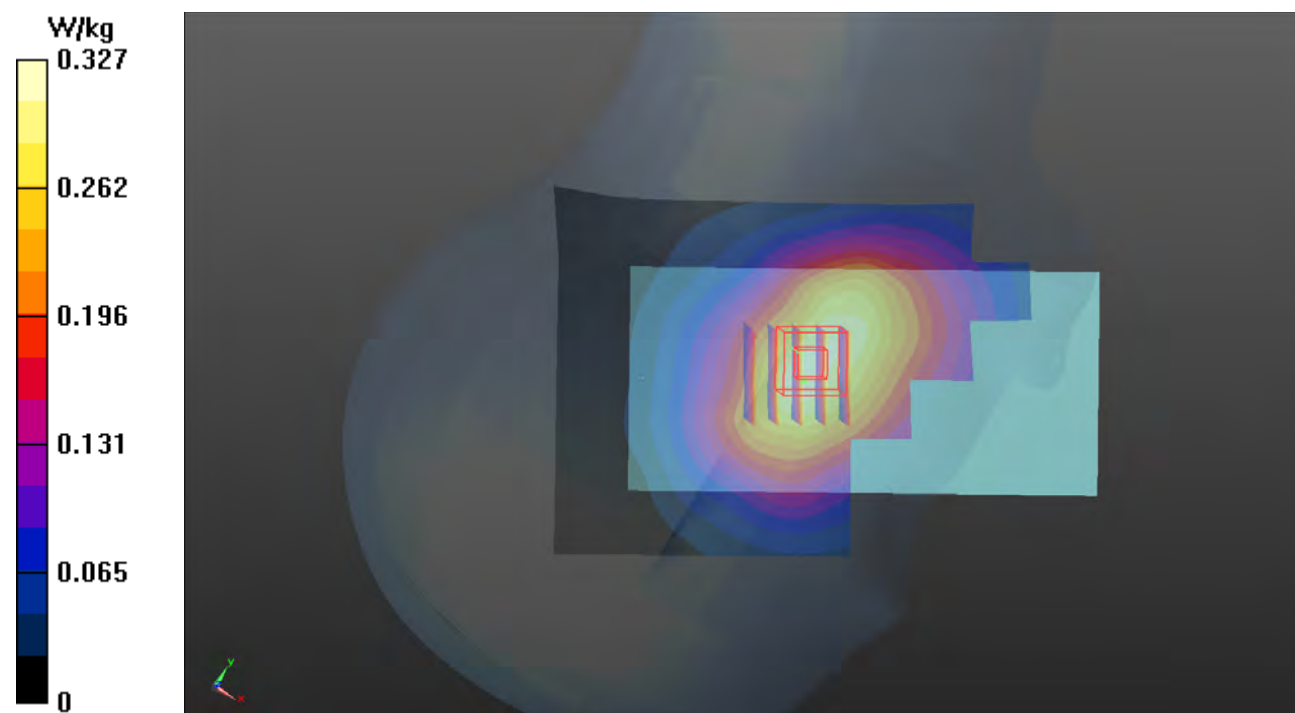
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.93 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.350 W/kg

SAR(1 g) = 0.271 W/kg; SAR(10 g) = 0.210 W/kg

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



P06 LTE 2_QPSK20M_Right Check_Ch18900_1RB_OS0_Ant1**DUT: 190114C07**

Communication System: LTE; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: H16T20N1_0127 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.441$ S/m; $\epsilon_r = 39.646$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(8.35, 8.35, 8.35); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1496; Type: QD000P40CB;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.17 W/kg

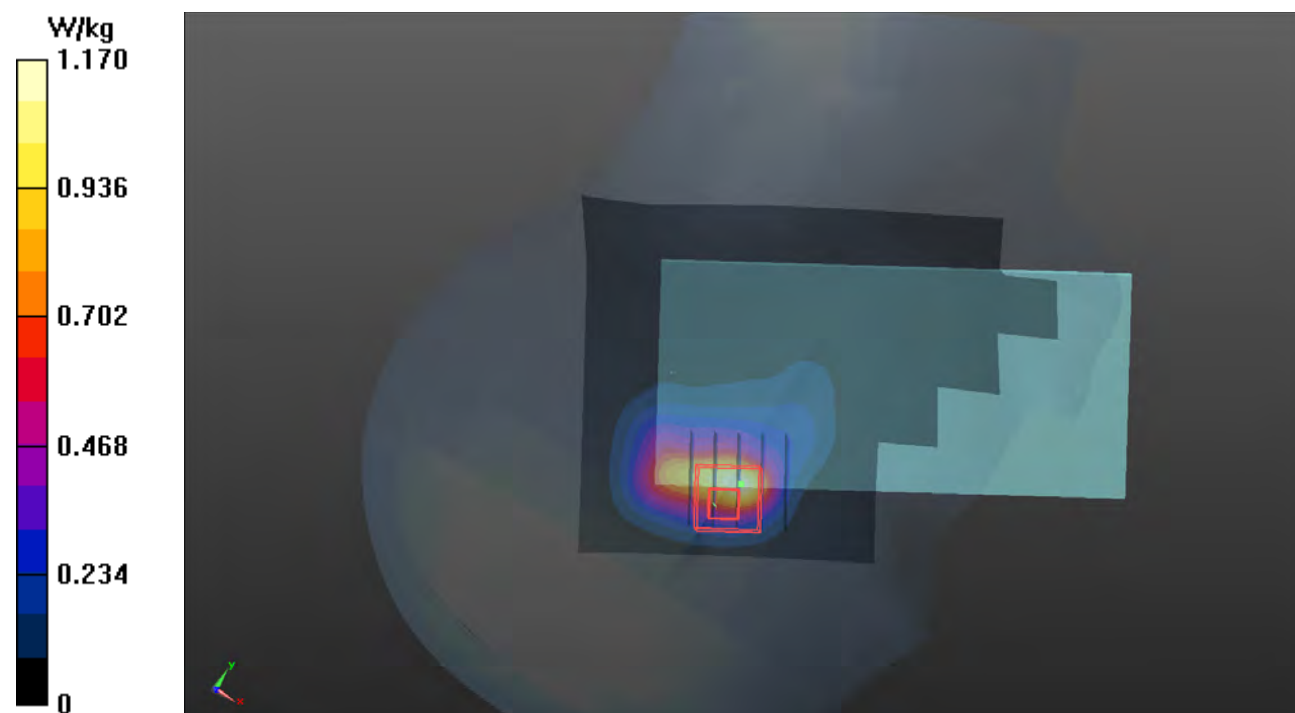
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.19 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.539 W/kg; SAR(10 g) = 0.269 W/kg

Maximum value of SAR (measured) = 0.877 W/kg



P07 LTE 4_QPSK20M_Right Check_Ch20175_1RB_OS0_Ant1**DUT: 190114C07**

Communication System: LTE; Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium: H16T20N1_0201 Medium parameters used: $f = 1733$ MHz; $\sigma = 1.318$ S/m; $\epsilon_r = 39.632$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.79, 8.79, 8.79); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1654; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.61 W/kg

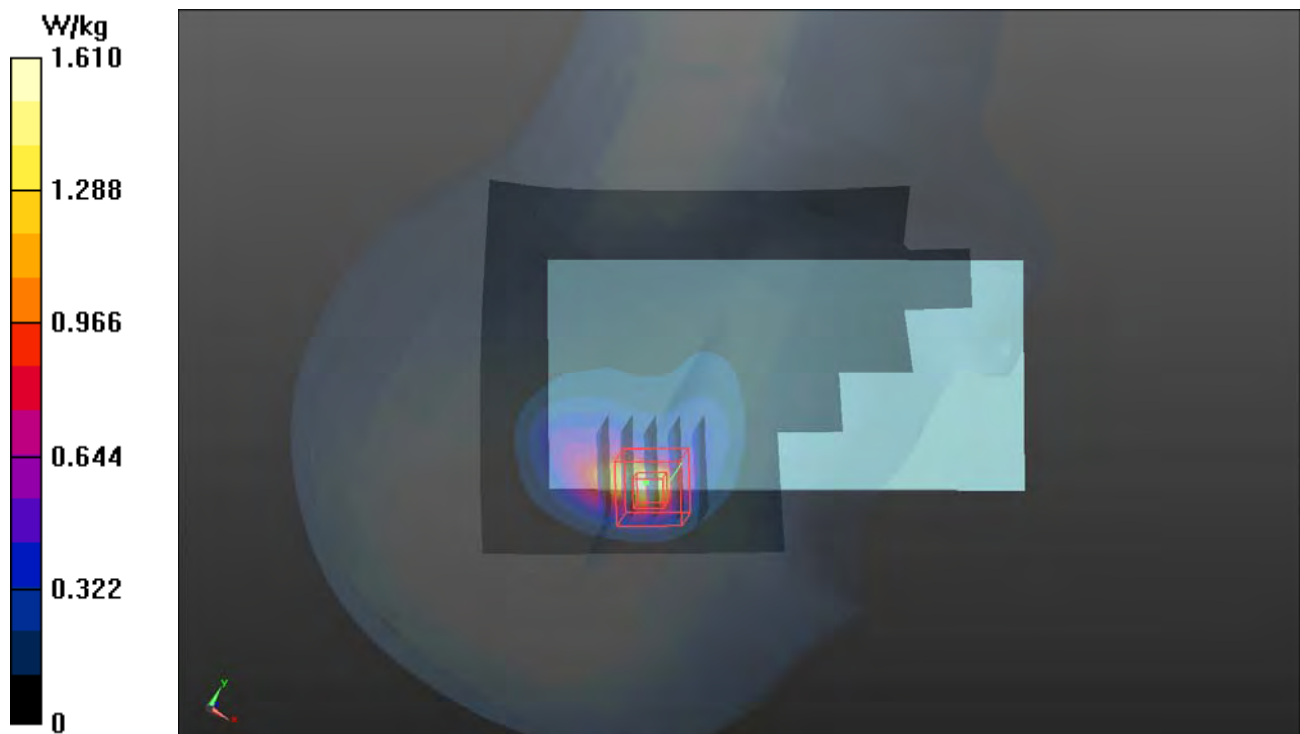
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.23 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.45 W/kg

SAR(1 g) = 0.705 W/kg; SAR(10 g) = 0.335 W/kg

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



P08 LTE 5_QPSK10M_Right Check_Ch20525_1RB_OS0_Ant0**DUT: 190114C07**

Communication System LTE; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: H07T10N3_0127 Medium parameters used: $f = 836.5$ MHz; $\sigma = 0.903$ S/m; $\epsilon_r = 42.918$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(10.07, 10.07, 10.07); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1496; Type: QD000P40CB;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

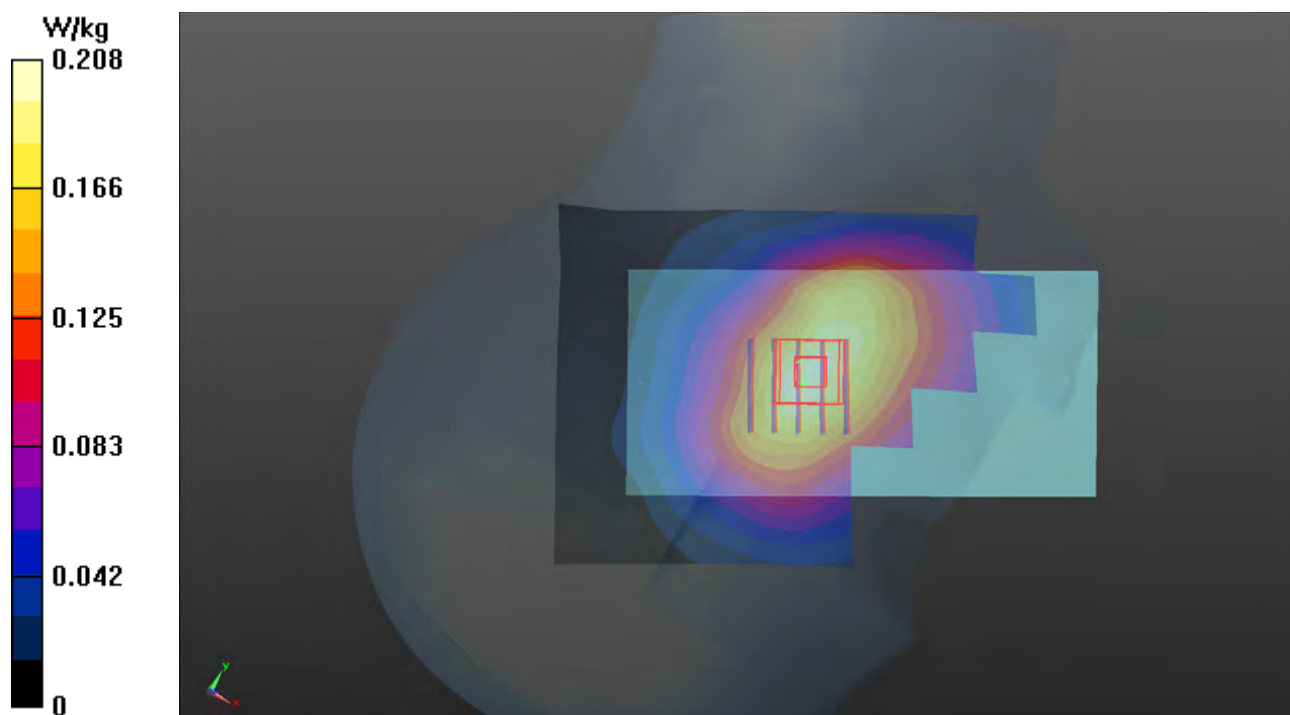
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.92 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.223 W/kg

SAR(1 g) = 0.174 W/kg; SAR(10 g) = 0.135 W/kg

Maximum value of SAR (measured) = 0.204 W/kg



P09 LTE 7_QPSK20M_Right Check_Ch21100_1RB_OS0_Ant1**DUT: 190114C07**

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

Medium: H19T27N3_0127 Medium parameters used: $f = 2535$ MHz; $\sigma = 1.961$ S/m; $\epsilon_r = 38.777$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(7.37, 7.37, 7.37); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1496; Type: QD000P40CB;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (101x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.911 W/kg

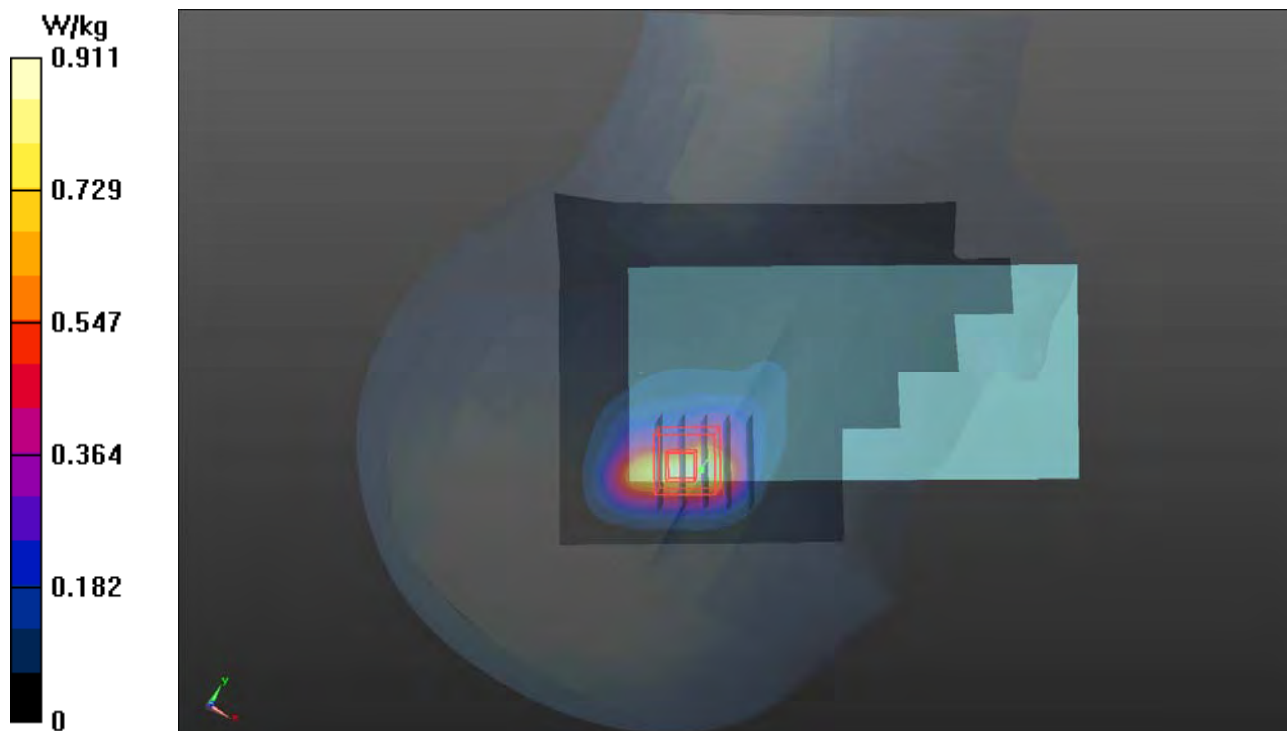
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.99 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.556 W/kg; SAR(10 g) = 0.252 W/kg

Maximum value of SAR (measured) = 0.993 W/kg



P10 LTE 26_QPSK15M_Right Check_Ch26965_1RB_OS0_Ant0**DUT: 190114C07**

Communication System: LTE; Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium: H07T10N3_0127 Medium parameters used: $f = 841.5$ MHz; $\sigma = 0.907$ S/m; $\epsilon_r = 42.86$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(10.07, 10.07, 10.07); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1496; Type: QD000P40CB;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.219 W/kg

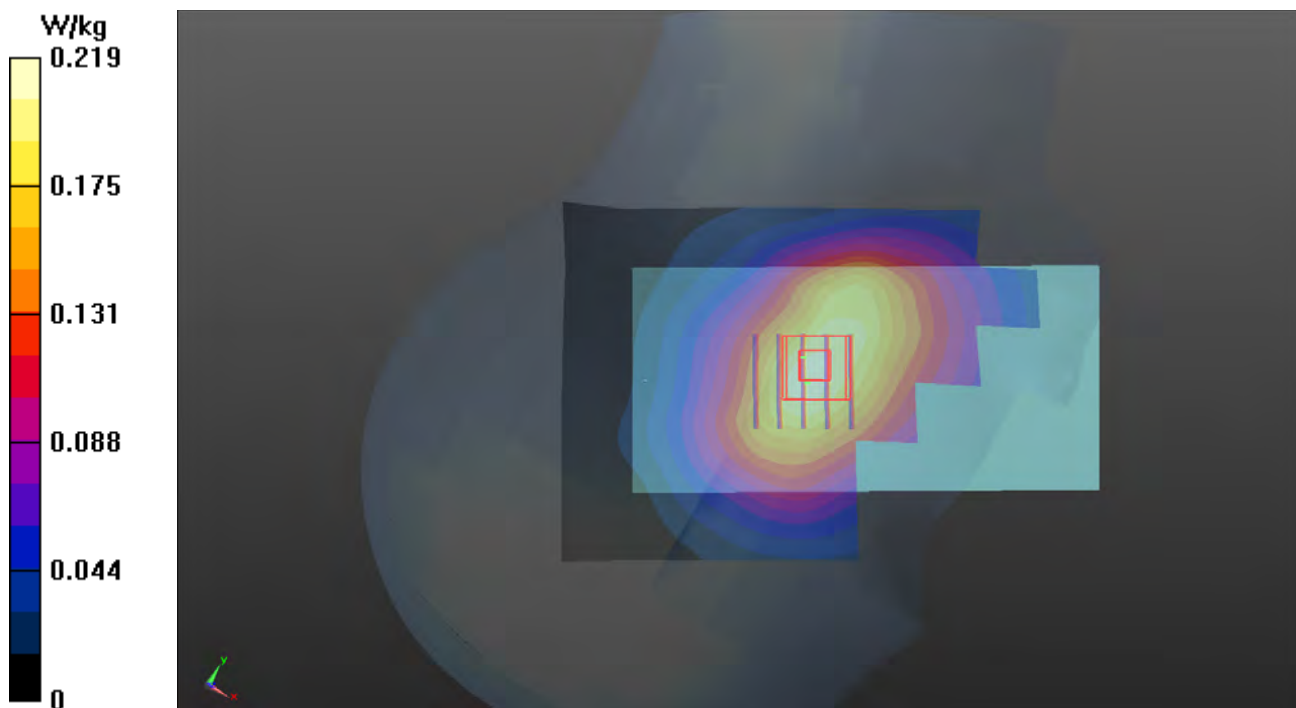
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.29 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.232 W/kg

SAR(1 g) = 0.180 W/kg; SAR(10 g) = 0.140 W/kg

Maximum value of SAR (measured) = 0.212 W/kg



P11 LTE 41_QPSK20M_Right Check_Ch40140_1RB_OS0_Ant1**DUT: 190114C07**

Communication System: LTE TDD CF0; Frequency: 2545 MHz; Duty Cycle: 1:1.58

Medium: H19T27N3_0127 Medium parameters used: $f = 2545$ MHz; $\sigma = 1.97$ S/m; $\epsilon_r = 38.727$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(7.37, 7.37, 7.37); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1496; Type: QD000P40CB;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (101x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.49 W/kg

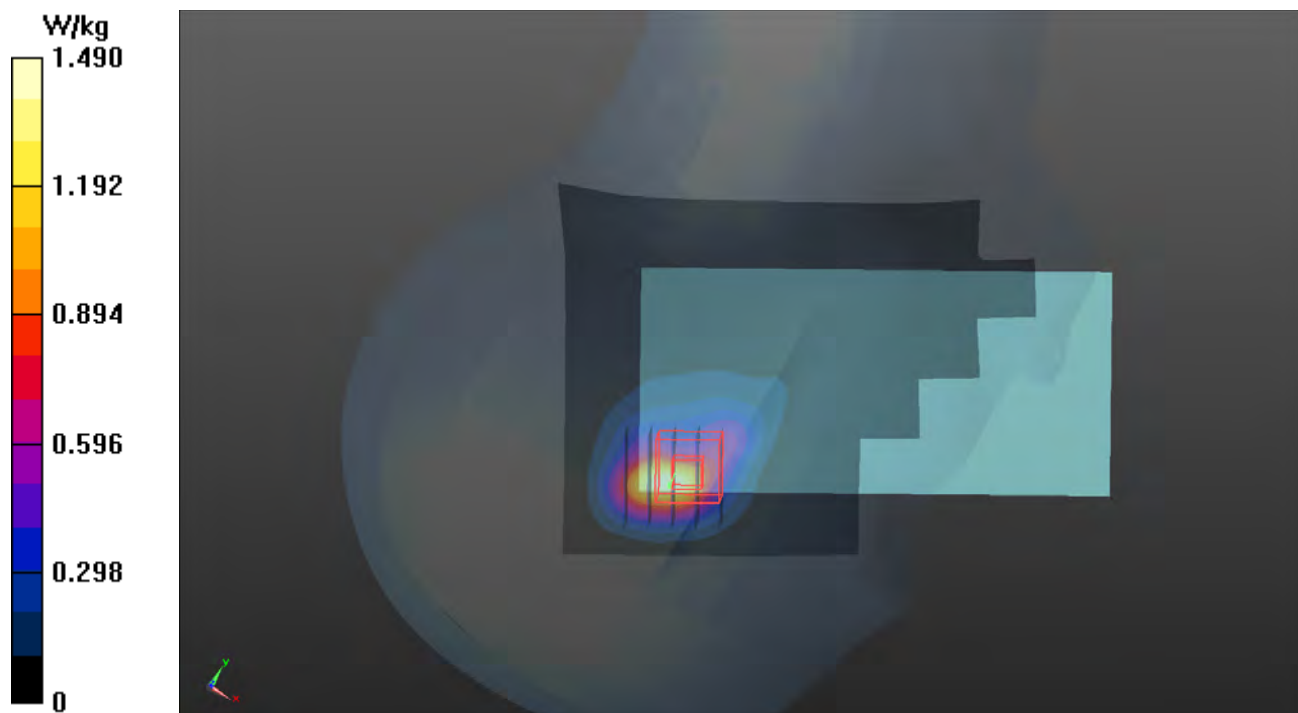
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.50 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.57 W/kg

SAR(1 g) = 0.768 W/kg; SAR(10 g) = 0.372 W/kg

Maximum value of SAR (measured) = 1.22 W/kg



P12 WLAN2.4G_802.11b_Left Check_Ch11_Ant1**DUT: 190114C07**

Communication System: WLAN_2.4G; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0224 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.888$ S/m; $\epsilon_r = 38.437$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(7.64, 7.64, 7.64); Calibrated: 2018/07/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2018/08/27
- Phantom: Twin SAM Phantom_1653; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (91x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.665 W/kg

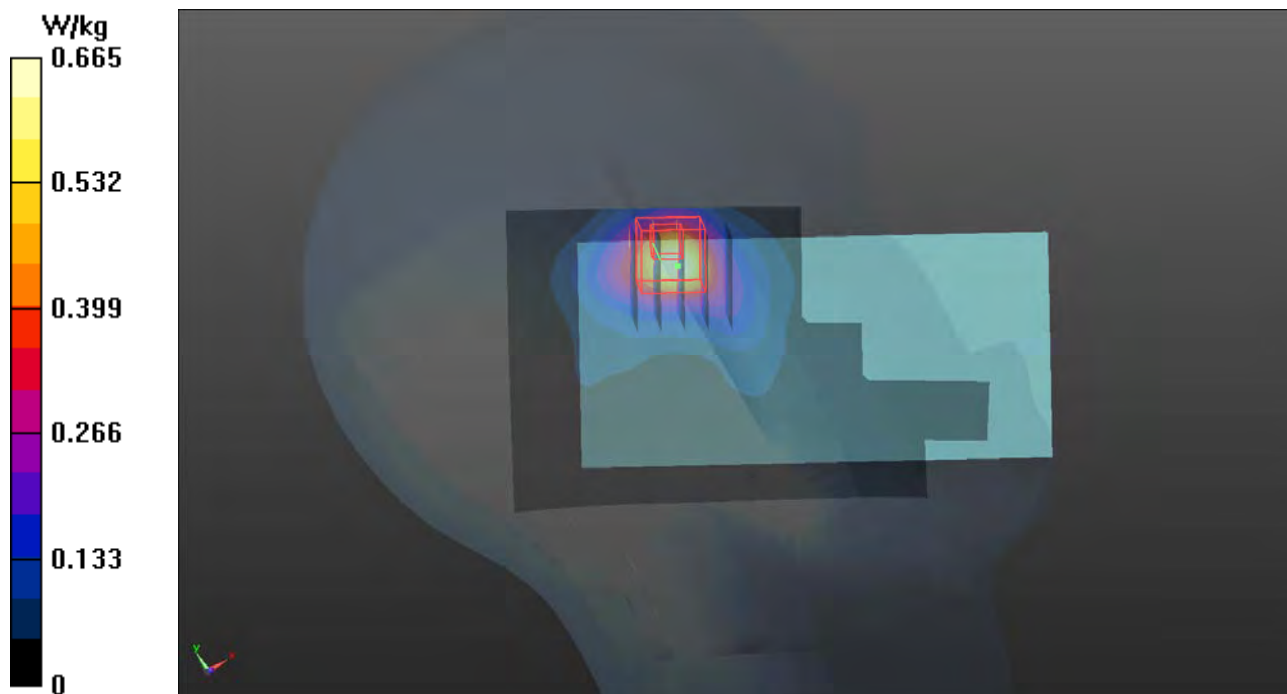
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.84 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 1.47 W/kg

SAR(1 g) = 0.609 W/kg; SAR(10 g) = 0.252 W/kg

Maximum value of SAR (measured) = 1.15 W/kg



P13 WLAN5.3G_802.11a_Left Cheek_Ch60_Ant1**DUT: 190114C07**

Communication System: WLAN_5G; Frequency: 5300 MHz; Duty Cycle: 1:1.01

Medium: H34T60N1_0219 Medium parameters used: $f = 5300$ MHz; $\sigma = 4.783$ S/m; $\epsilon_r = 36.9$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.9 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(5.4, 5.4, 5.4); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1823; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (121x201x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.98 W/kg

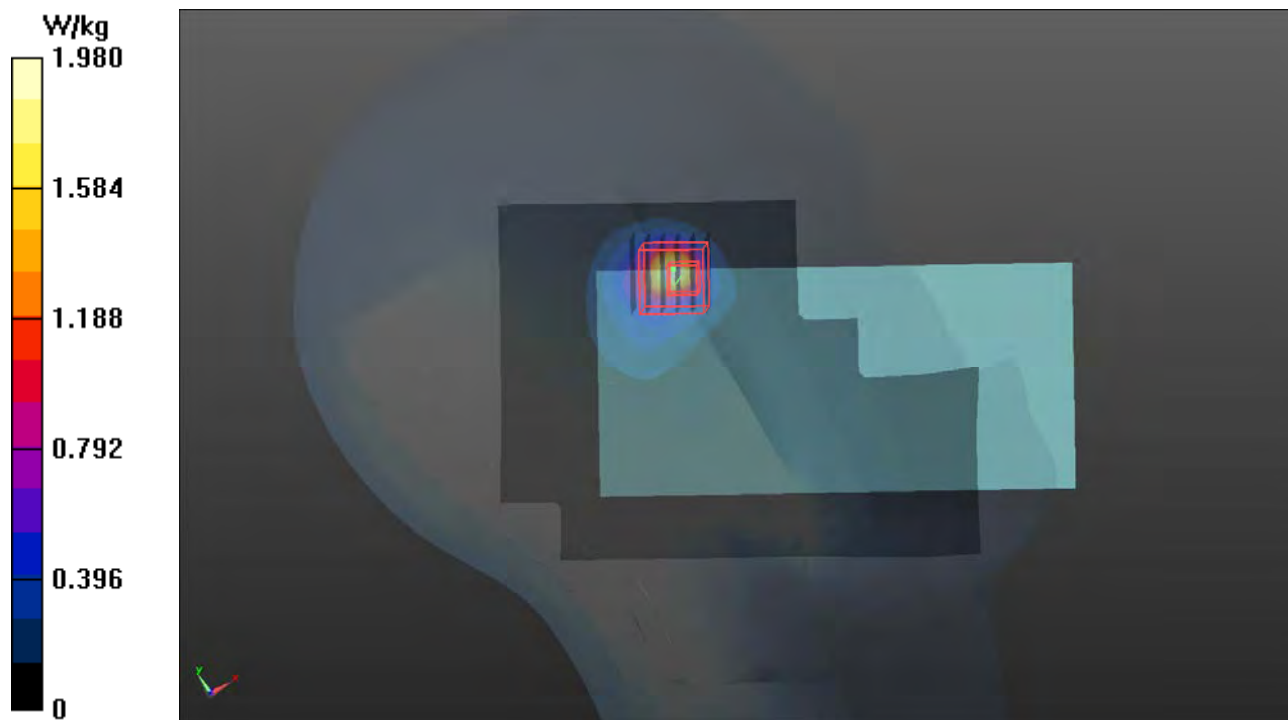
- Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 18.49 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 3.40 W/kg

SAR(1 g) = 0.726 W/kg; SAR(10 g) = 0.212 W/kg

Maximum value of SAR (measured) = 1.95 W/kg



P14 WLAN5.6G_802.11a_Left Cheek_Ch100_Ant1**DUT: 190114C07**

Communication System: WLAN_5G; Frequency: 5500 MHz; Duty Cycle: 1:1.01

Medium: H34T60N1_0219 Medium parameters used: $f = 5500$ MHz; $\sigma = 4.98$ S/m; $\epsilon_r = 36.636$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.9 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(4.88, 4.88, 4.88); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1823; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (121x201x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.75 W/kg

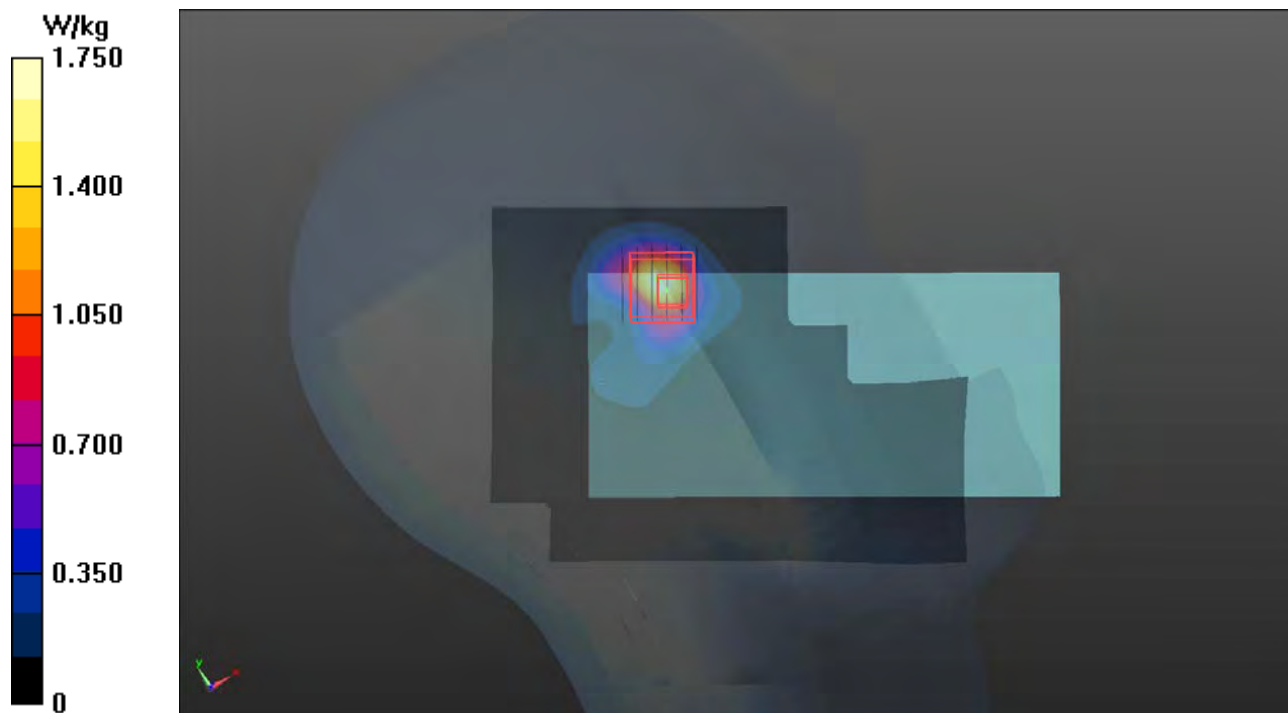
- Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 14.29 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 5.27 W/kg

SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.290 W/kg

Maximum value of SAR (measured) = 2.52 W/kg



P15 WLAN5.8G_802.11a_Left Cheek_Ch149_Ant1**DUT: 190114C07**

Communication System: WLAN_5G; Frequency: 5745 MHz; Duty Cycle: 1:1.01

Medium: H34T60N1_0219 Medium parameters used: $f = 5745$ MHz; $\sigma = 5.244$ S/m; $\epsilon_r = 36.277$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(5.09, 5.09, 5.09); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1823; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (121x201x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.56 W/kg

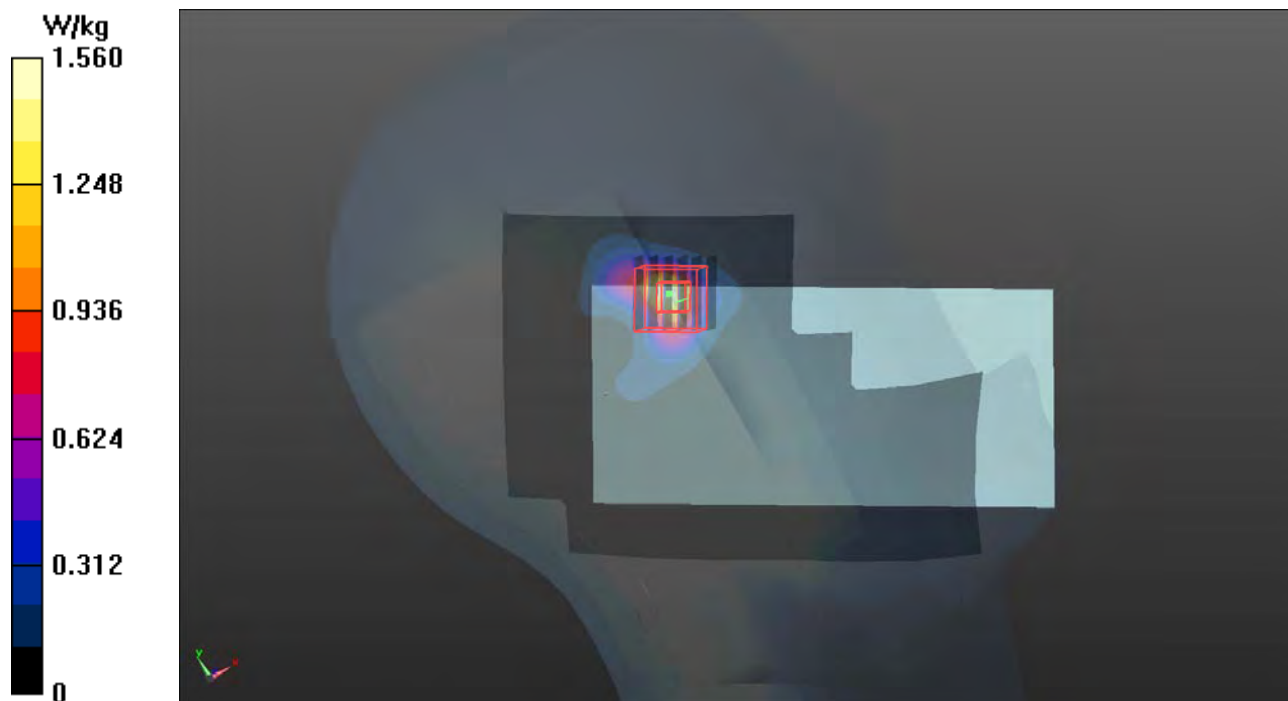
- Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 12.15 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 4.83 W/kg

SAR(1 g) = 0.889 W/kg; SAR(10 g) = 0.257 W/kg

Maximum value of SAR (measured) = 2.50 W/kg



P16 BT_EDR_Left Check_Ch39_Ant0**DUT: 190114C07**

Communication System: BT; Frequency: 2441 MHz; Duty Cycle: 1:1.28

Medium: H19T27N1_0211 Medium parameters used: $f = 2441$ MHz; $\sigma = 1.873$ S/m; $\epsilon_r = 38.369$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(7.71, 7.71, 7.71); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1654; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (91x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.113 W/kg

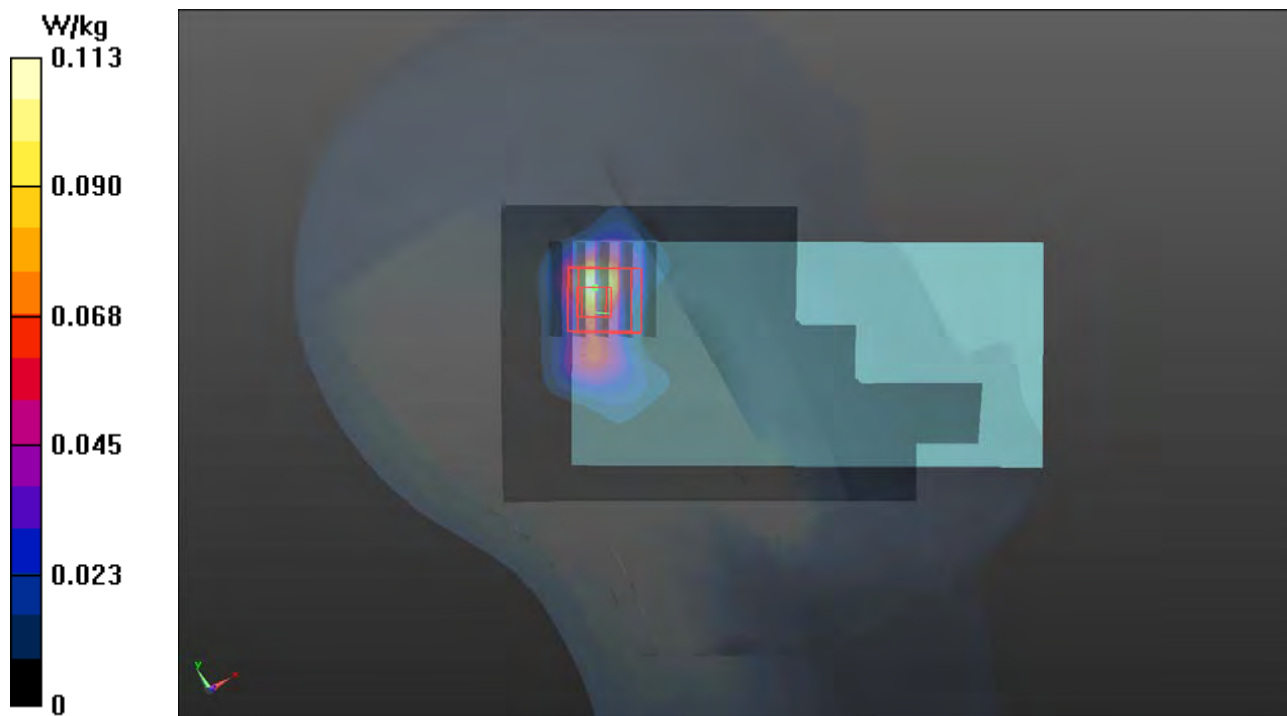
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.979 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.0880 W/kg

SAR(1 g) = 0.042 W/kg; SAR(10 g) = 0.022 W/kg

Maximum value of SAR (measured) = 0.0649 W/kg



P17 GSM850_GPRS10_Rear Face_10mm_Ch251_Ant0**DUT: 190114C07**

Communication System: GPRS10; Frequency: 848.8 MHz; Duty Cycle: 1:4

Medium: B07T10N1_0125 Medium parameters used: $f = 848.8$ MHz; $\sigma = 1.024$ S/m; $\epsilon_r = 56.595$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(10.35, 10.35, 10.35); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.18 W/kg

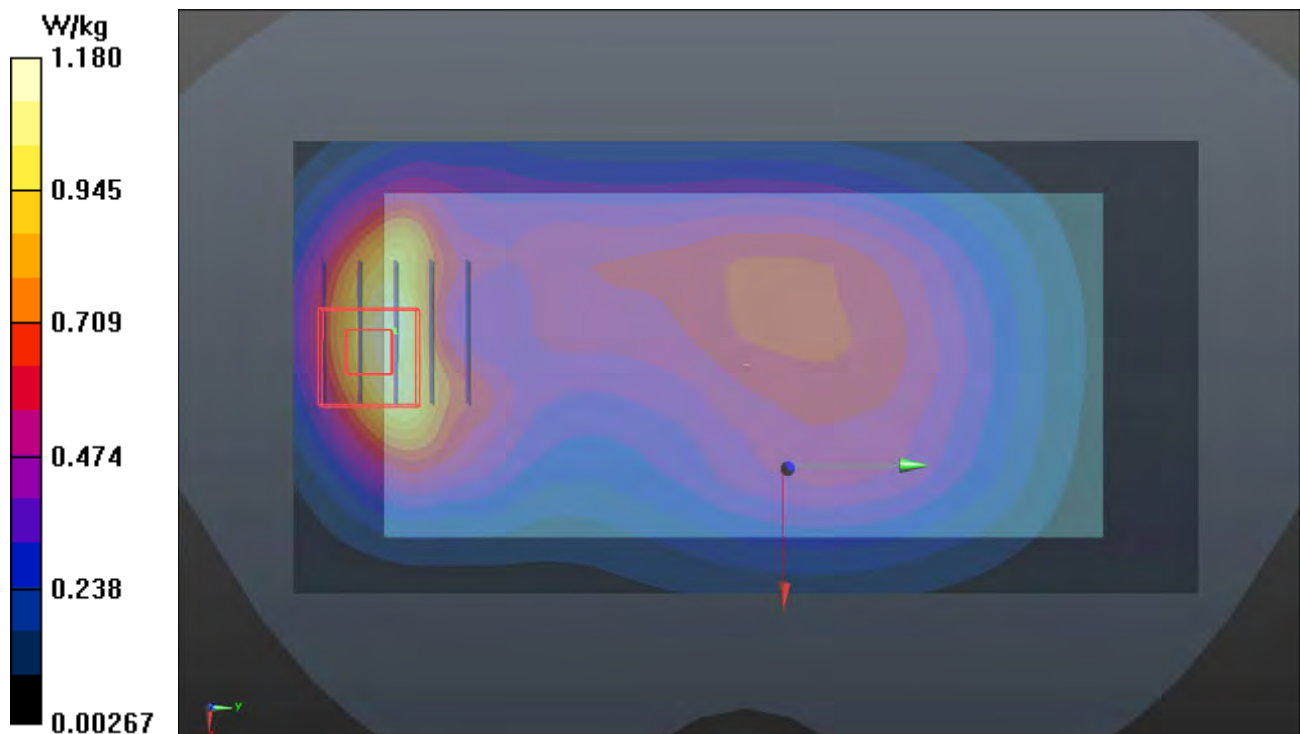
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 35.24 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 3.68 W/kg

SAR(1 g) = 0.815 W/kg; SAR(10 g) = 0.440 W/kg

Maximum value of SAR (measured) = 1.17 W/kg



P18 GSM1900_GPRS10_Rear Face_10mm_Ch512_Ant0**DUT: 190114C07**

Communication System: GPRS10; Frequency: 1850.2 MHz; Duty Cycle: 1:4

Medium: B16T20N1_0126 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.521$ S/m; $\epsilon_r = 52.341$; ρ $= 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.07, 8.07, 8.07); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

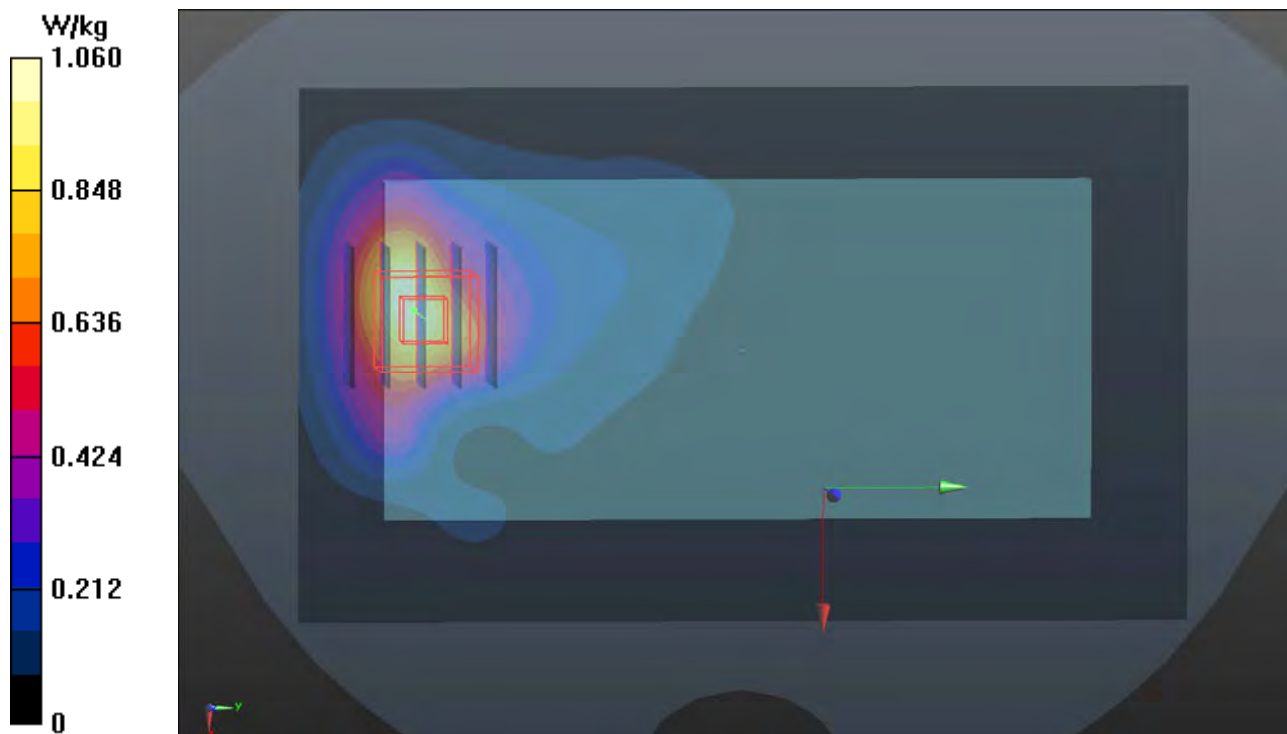
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.08 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.19 W/kg

SAR(1 g) = 0.719 W/kg; SAR(10 g) = 0.424 W/kg

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



P19 WCDMA II_RMC12.2K_Rear Face_10mm_Ch9262_Ant0**DUT: 190114C07**

Communication System: WCDMA; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: B16T20N1_0131 Medium parameters used: $f = 1852.4$ MHz; $\sigma = 1.538$ S/m; $\epsilon_r = 52.294$; ρ $= 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.07, 8.07, 8.07); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.991 W/kg

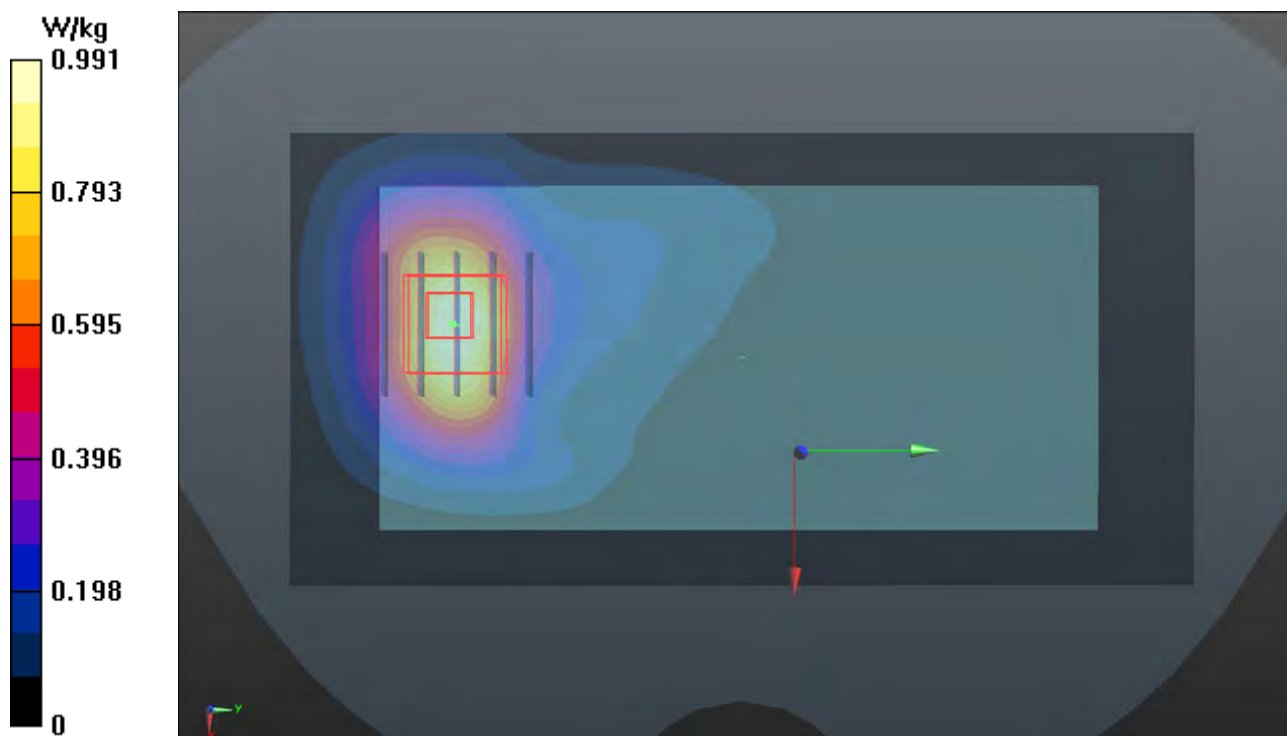
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.77 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.702 W/kg; SAR(10 g) = 0.406 W/kg

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



P20 WCDMA IV_RMC12.2K_Rear Face_10mm_Ch1413_Ant0**DUT: 190114C07**

Communication System: WCDMA; Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium: B16T20N1_0131 Medium parameters used: $f = 1733$ MHz; $\sigma = 1.422$ S/m; $\epsilon_r = 52.639$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.42, 8.42, 8.42); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.861 W/kg

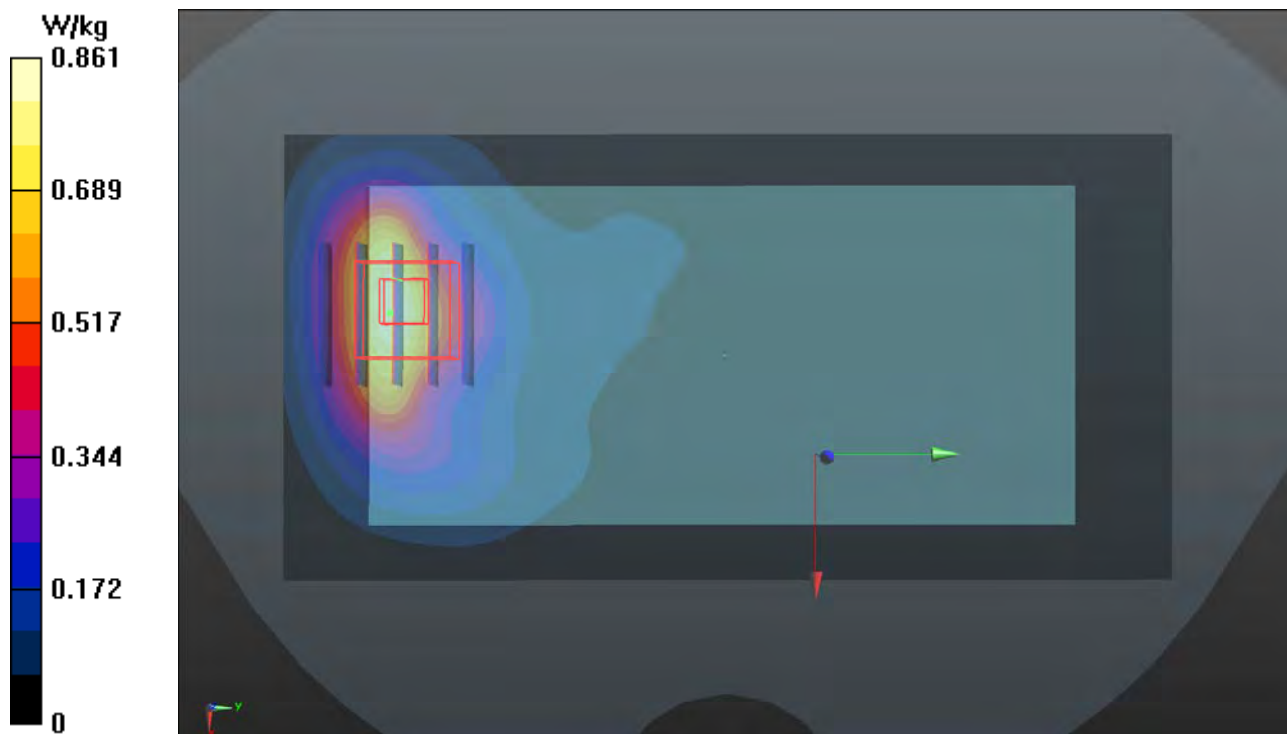
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.98 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.19 W/kg

SAR(1 g) = 0.696 W/kg; SAR(10 g) = 0.388 W/kg

Maximum value of SAR (measured) = 0.976 W/kg



P21 WCDMA V_RMC12.2K_Rear Face_10mm_Ch4233_Ant0**DUT: 190114C07**

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

Medium: B07T10N1_0125 Medium parameters used: $f = 846.6$ MHz; $\sigma = 1.022$ S/m; $\epsilon_r = 56.609$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(10.35, 10.35, 10.35); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.790 W/kg

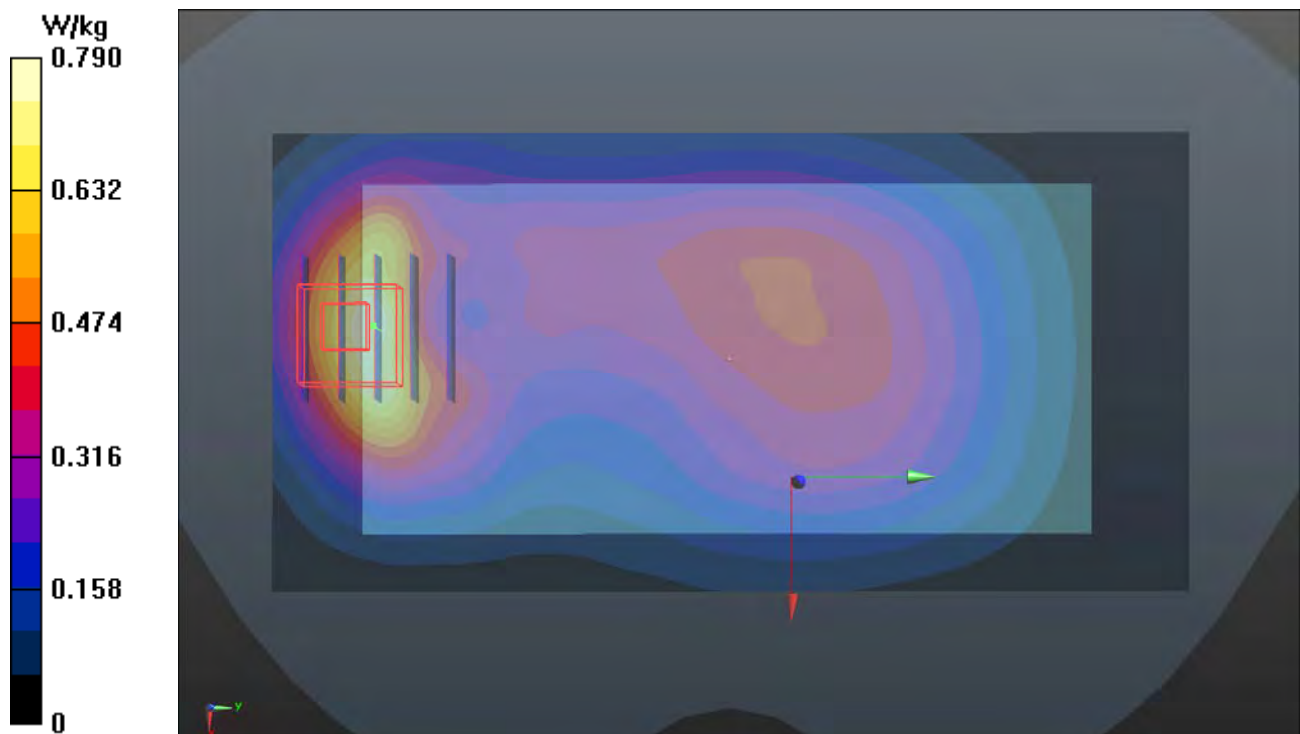
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.80 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 1.01 W/kg

SAR(1 g) = 0.560 W/kg; SAR(10 g) = 0.309 W/kg

Maximum value of SAR (measured) = 0.798 W/kg



P22 LTE 2_QPSK20M_Rear Face_10mm_Ch18700_1RB_OS0_Ant0**DUT: 190114C07**

Communication System: LTE; Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: B16T20N1_0126 Medium parameters used: $f = 1860$ MHz; $\sigma = 1.53$ S/m; $\epsilon_r = 52.307$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.07, 8.07, 8.07); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.987 W/kg

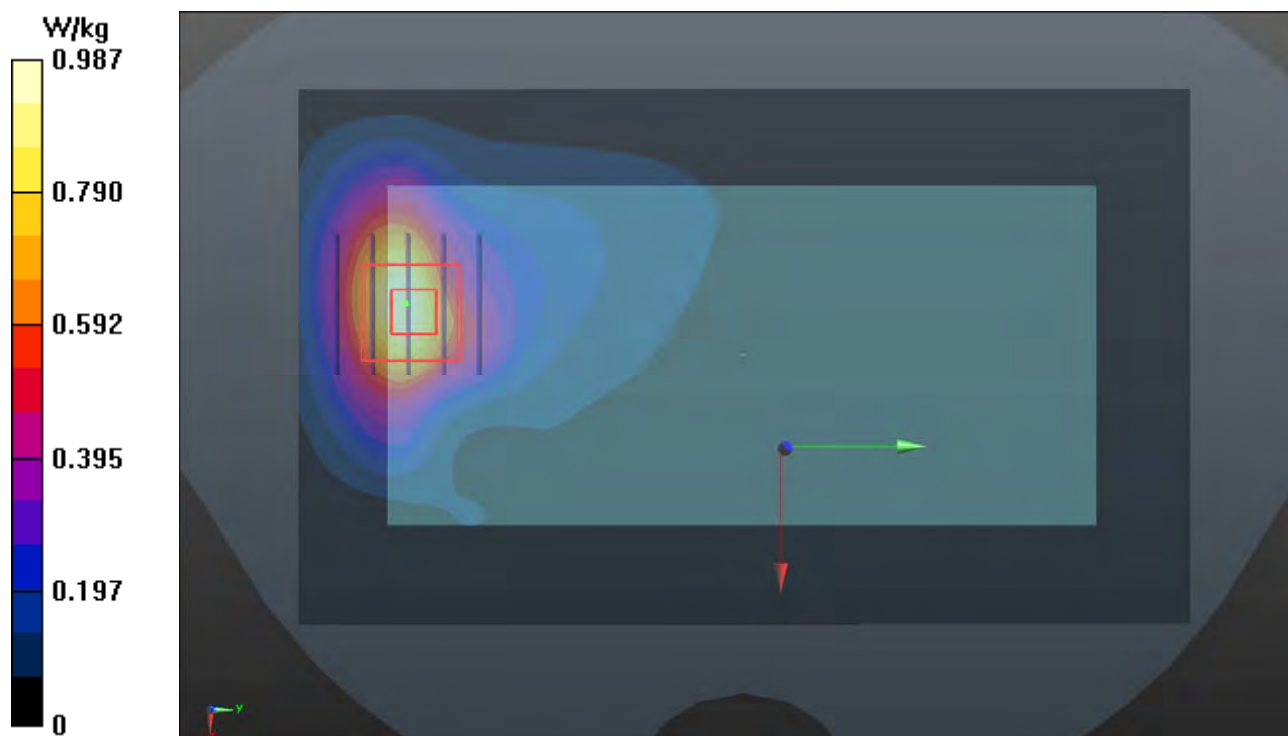
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.81 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.07 W/kg

SAR(1 g) = 0.651 W/kg; SAR(10 g) = 0.379 W/kg

Maximum value of SAR (measured) = 0.930 W/kg



P23 LTE 4_QPKS20M_Rear Face_10mm_Ch20175_1RB_OS0_Ant0**DUT: 190114C07**

Communication System: LTE; Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium: B16T20N1_0131 Medium parameters used: $f = 1733$ MHz; $\sigma = 1.422$ S/m; $\epsilon_r = 52.639$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.42, 8.42, 8.42); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.829 W/kg

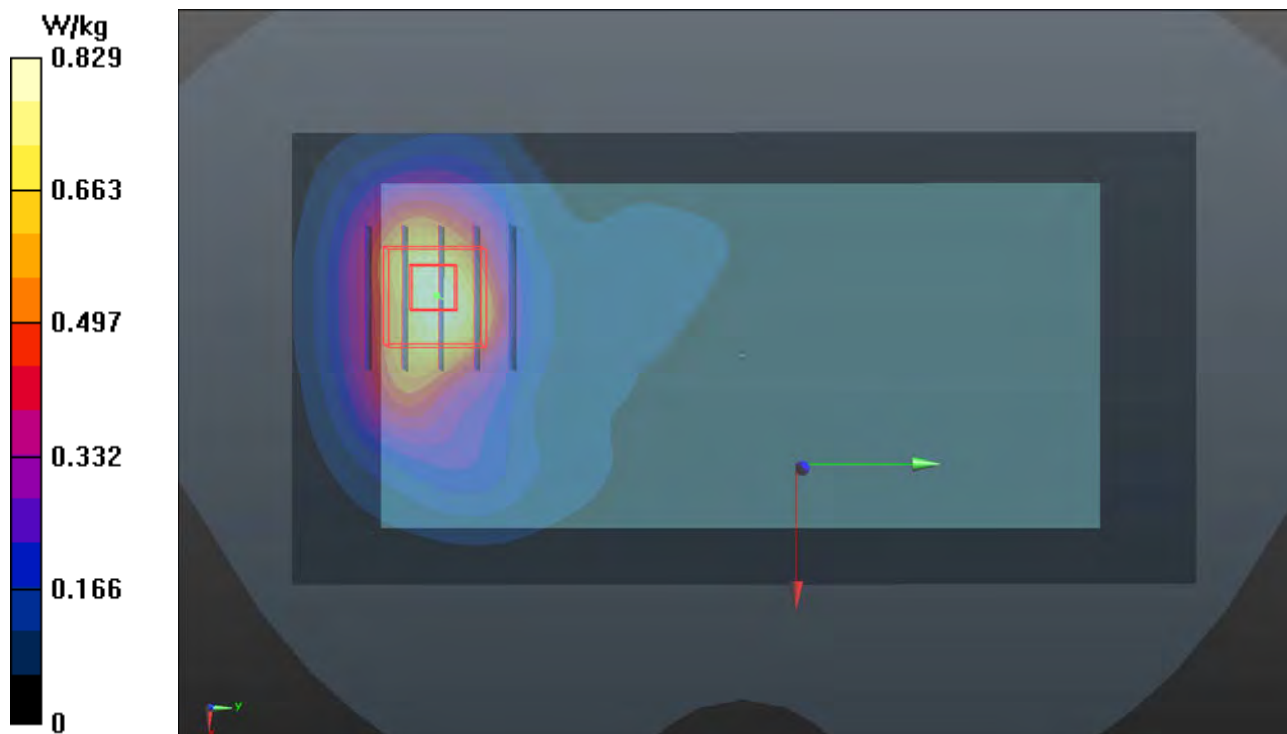
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.06 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.711 W/kg; SAR(10 g) = 0.398 W/kg

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



P24 LTE 5_QPSK10M_Rear Face_10mm_Ch20600_1RB_OS0_Ant0**DUT: 190114C07**

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

Medium: B07T10N1_0125 Medium parameters used: $f = 844$ MHz; $\sigma = 1.02$ S/m; $\epsilon_r = 56.634$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(10.35, 10.35, 10.35); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.486 W/kg

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

Reference Value = 22.55 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.622 W/kg

SAR(1 g) = 0.350 W/kg; SAR(10 g) = 0.193 W/kg

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

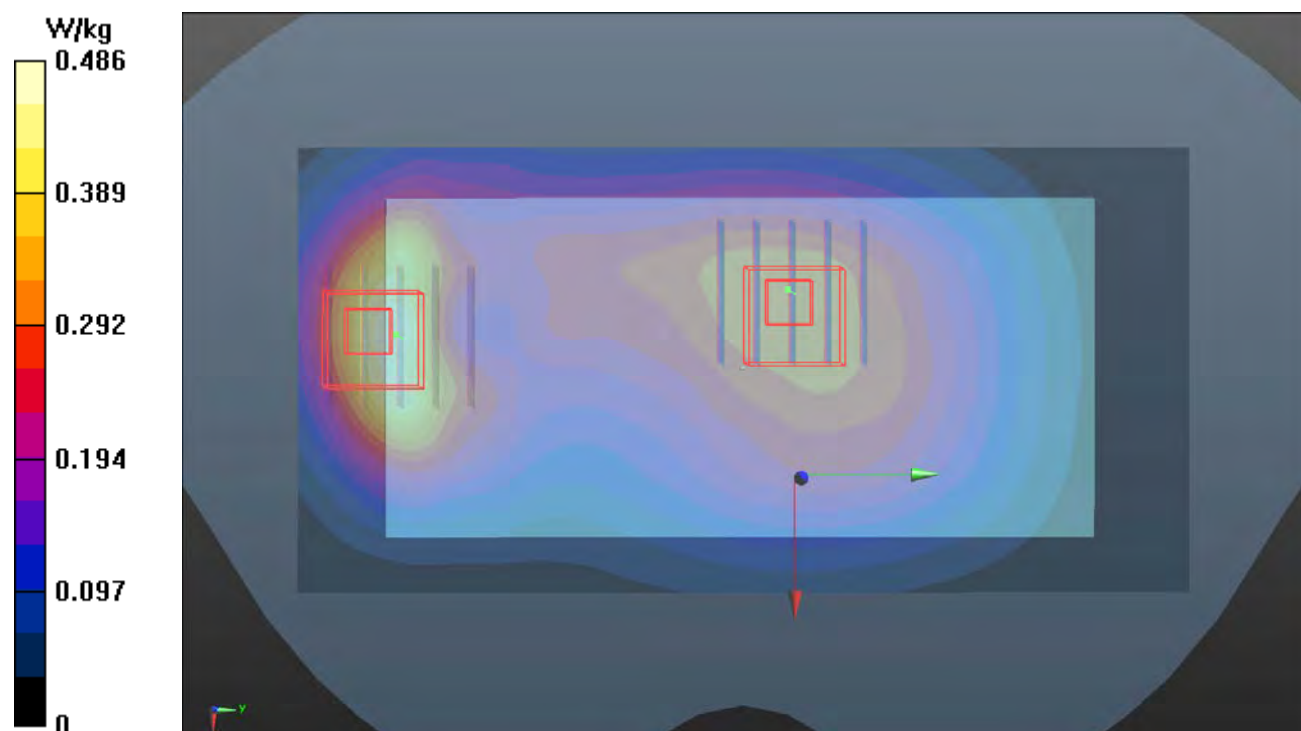
- Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.55 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.361 W/kg

SAR(1 g) = 0.263 W/kg; SAR(10 g) = 0.192 W/kg

Maximum value of SAR (measured) = 0.327 W/kg



P25 LTE 7_QPSK20M_Rear Face_10mm_Ch20850_1RB_OS0_Ant1**DUT: 190114C07**

Communication System: LTE; Frequency: 2510 MHz; Duty Cycle: 1:1

Medium: B19T27N1_0125 Medium parameters used: $f = 2510$ MHz; $\sigma = 2.105$ S/m; $\epsilon_r = 51.386$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(7.7, 7.7, 7.7); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (91x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.193 W/kg

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

Reference Value = 8.932 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.299 W/kg

SAR(1 g) = 0.139 W/kg; SAR(10 g) = 0.065 W/kg

Maximum value of SAR (measured) = 0.220 W/kg

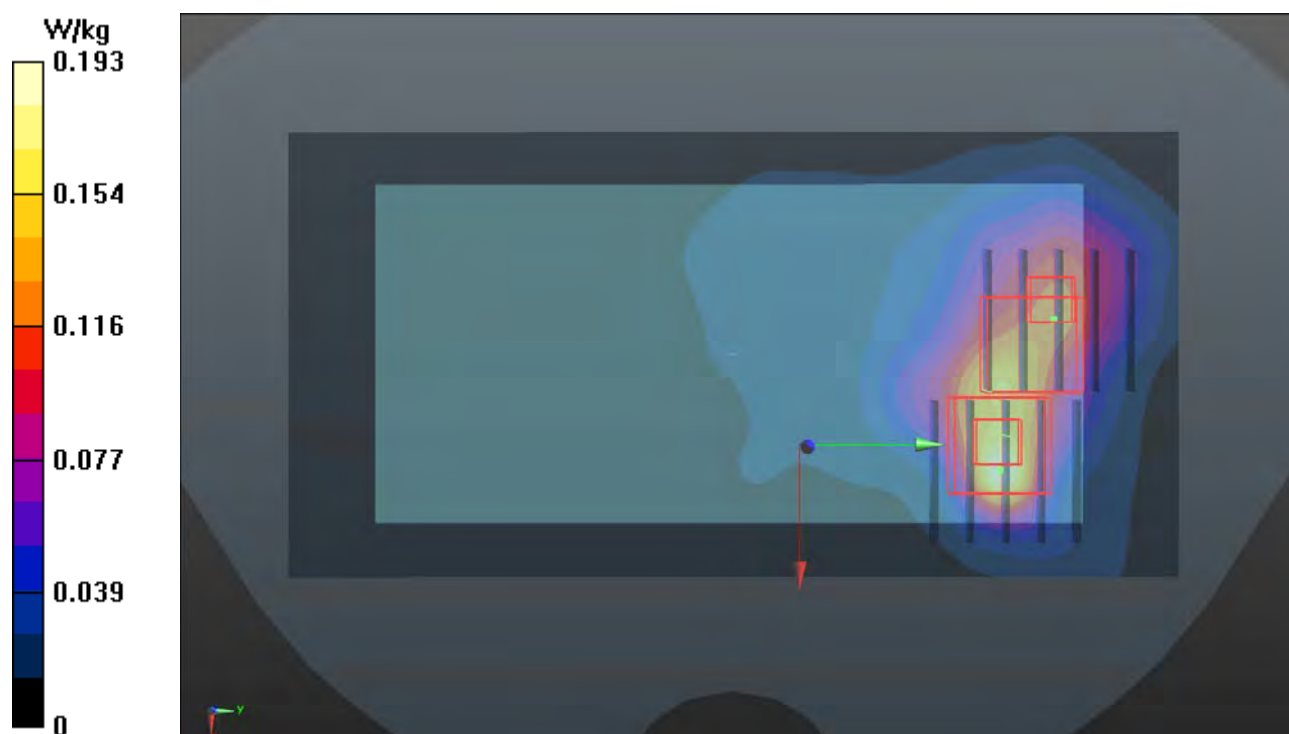
- Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.932 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.162 W/kg

SAR(1 g) = 0.077 W/kg; SAR(10 g) = 0.043 W/kg

Maximum value of SAR (measured) = 0.130 W/kg



P26 LTE 26_QPSK15M_Rear Face_10mm_Ch26965_1RB_OS0_Ant0**DUT: 190114C07**

Communication System: LTE; Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium: B07T10N1_0125 Medium parameters used: $f = 841.5$ MHz; $\sigma = 1.018$ S/m; $\epsilon_r = 56.648$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(10.35, 10.35, 10.35); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.476 W/kg

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

Reference Value = 22.44 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.605 W/kg

SAR(1 g) = 0.340 W/kg; SAR(10 g) = 0.189 W/kg

Maximum value of SAR (measured) = 0.493 W/kg

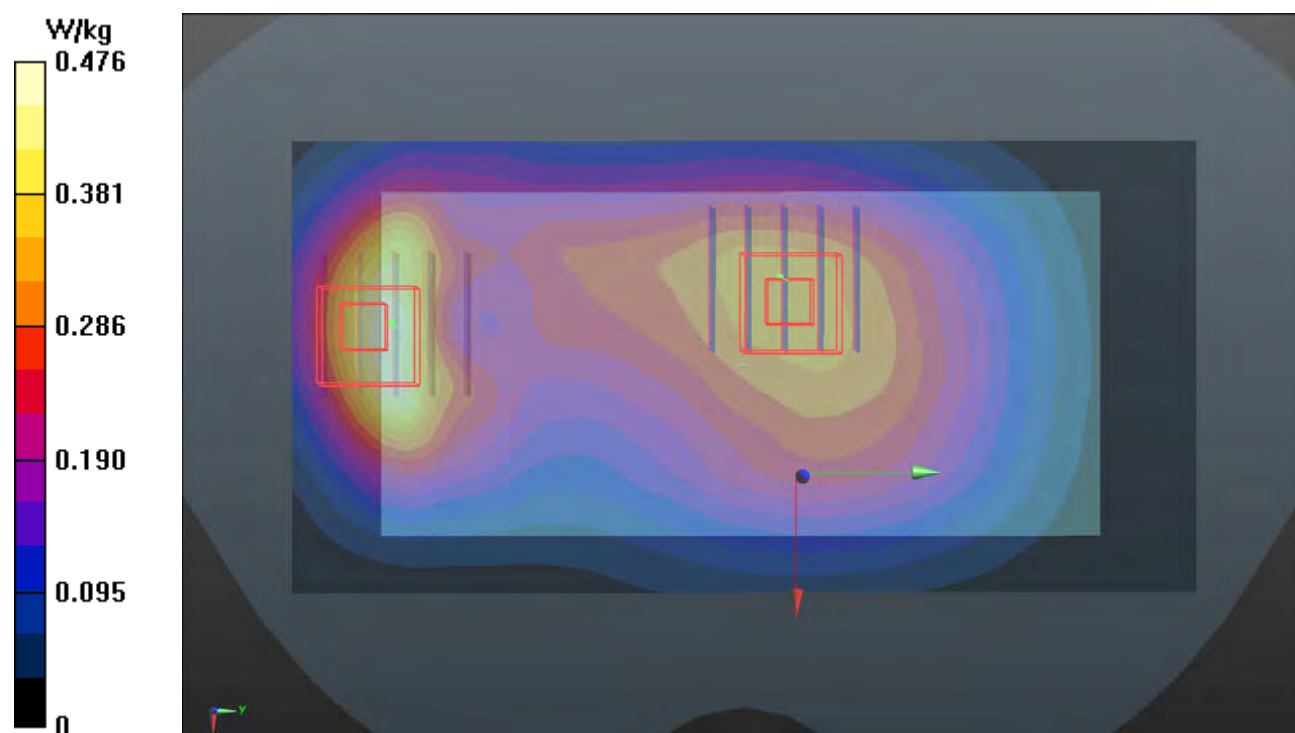
- Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.44 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.375 W/kg

SAR(1 g) = 0.274 W/kg; SAR(10 g) = 0.200 W/kg

Maximum value of SAR (measured) = 0.338 W/kg



P27 LTE 41_QPSK20M_Rear Face_10mm_Ch41140_1RB_OS0_Ant1**DUT: 190114C07**

Communication System: LTE TDD CF0; Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium: B19T27N1_0125 Medium parameters used: $f = 2645$ MHz; $\sigma = 2.254$ S/m; $\epsilon_r = 50.839$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(7.7, 7.7, 7.7); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (91x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.262 W/kg

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

Reference Value = 10.42 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.382 W/kg

SAR(1 g) = 0.171 W/kg; SAR(10 g) = 0.087 W/kg

Maximum value of SAR (measured) = 0.282 W/kg

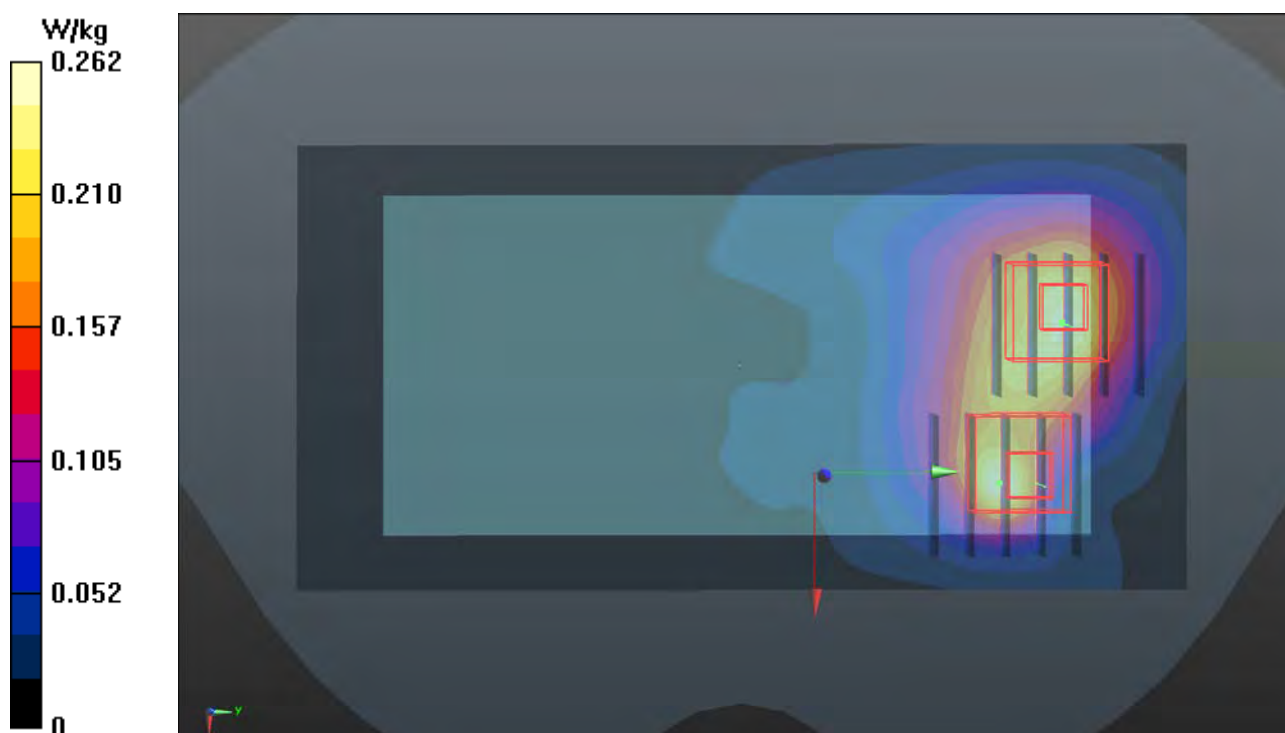
- Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.42 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.307 W/kg

SAR(1 g) = 0.161 W/kg; SAR(10 g) = 0.087 W/kg

Maximum value of SAR (measured) = 0.245 W/kg



P28 WLAN2.4G_802.11b_Rear Face_10mm_Ch11_Ant0**DUT: 190114C07**

Communication System: WLAN_2.4G; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: B19T27N1_0218 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.033$ S/m; $\epsilon_r = 50.597$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(7.61, 7.61, 7.61); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1823; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (101x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.175 W/kg

- Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.809 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.206 W/kg

SAR(1 g) = 0.132 W/kg; SAR(10 g) = 0.083 W/kg

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

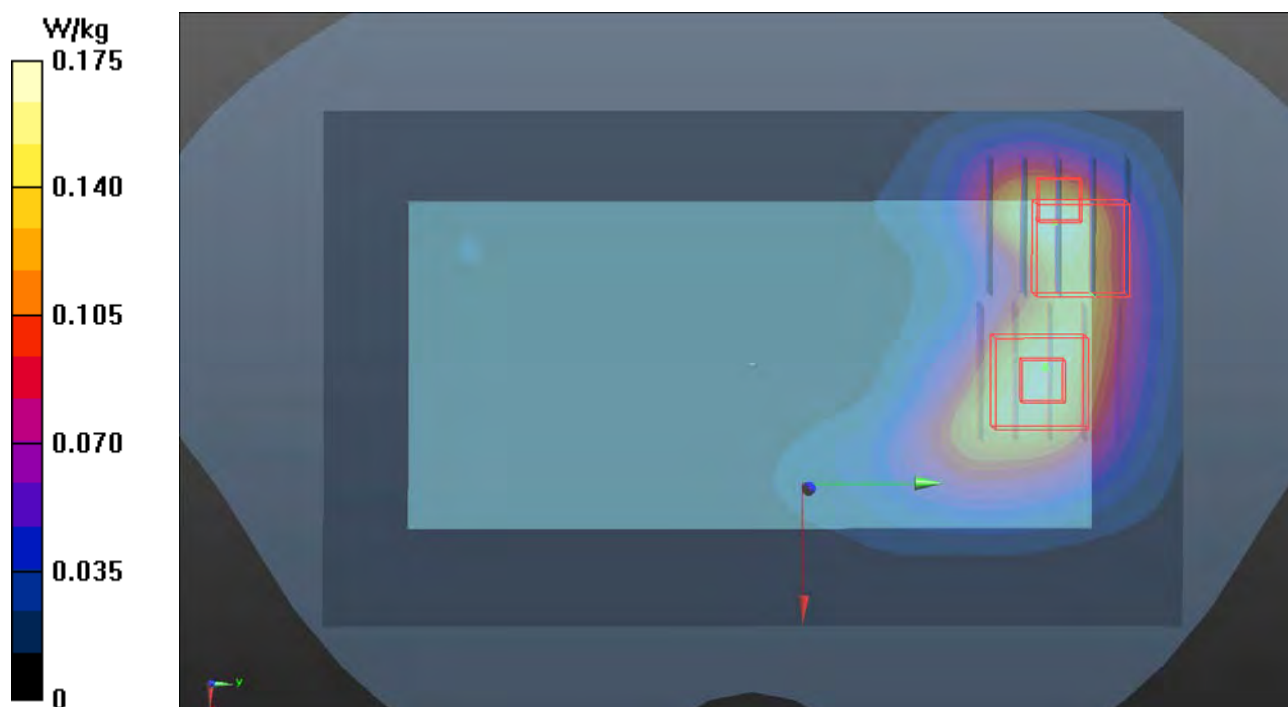
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.809 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.185 W/kg

SAR(1 g) = 0.094 W/kg; SAR(10 g) = 0.053 W/kg

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



P29 WLAN5.3G_802.11a_Rear Face_10mm_Ch56_Ant1**DUT: 190114C07**

Communication System: WLAN_5G; Frequency: 5280 MHz; Duty Cycle: 1:1.01

Medium: B34T60N1_0218 Medium parameters used: $f = 5280$ MHz; $\sigma = 5.326$ S/m; $\epsilon_r = 49.838$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(4.95, 4.95, 4.95); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1823; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (121x201x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.741 W/kg

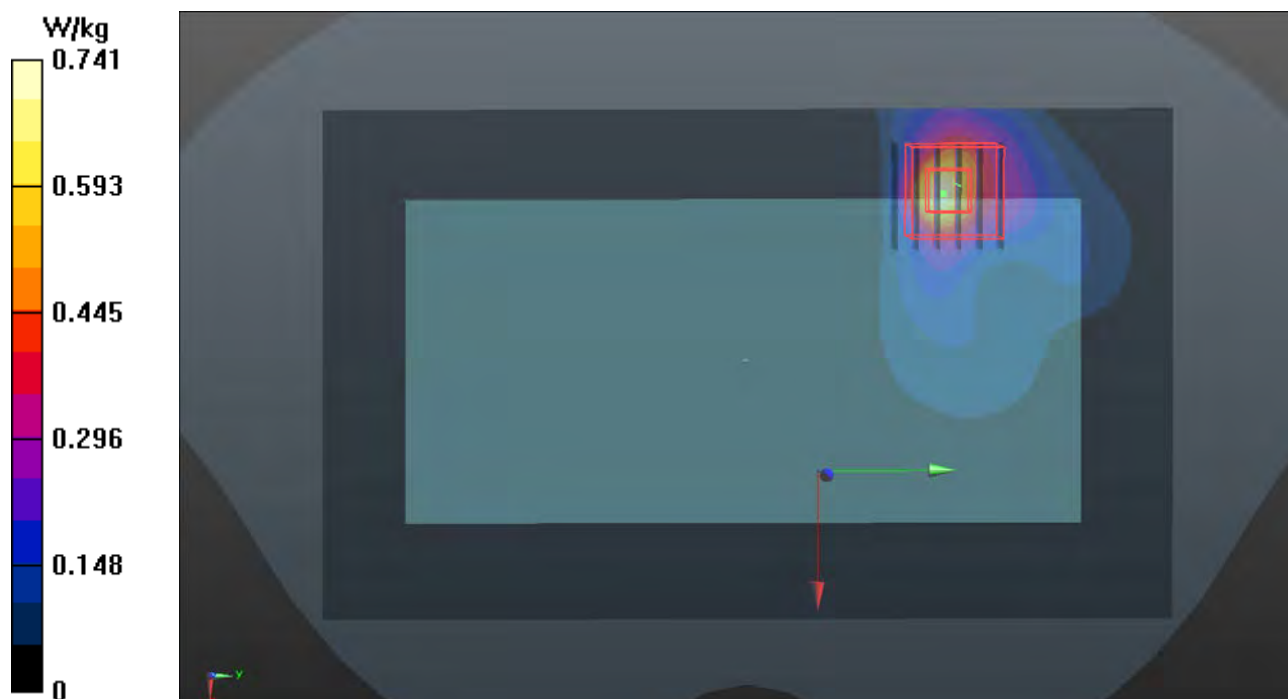
- Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 11.35 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 1.07 W/kg

SAR(1 g) = 0.408 W/kg; SAR(10 g) = 0.156 W/kg

Maximum value of SAR (measured) = 0.773 W/kg



P30 WLAN5.6G_802.11a_Rear Face_10mm_Ch100_Ant1**DUT: 190114C07**

Communication System: WLAN_5G; Frequency: 5500 MHz; Duty Cycle: 1:1.01

Medium: B34T60N1_0218 Medium parameters used: $f = 5500$ MHz; $\sigma = 5.604$ S/m; $\epsilon_r = 49.499$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(4.17, 4.17, 4.17); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1823; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (121x201x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.817 W/kg

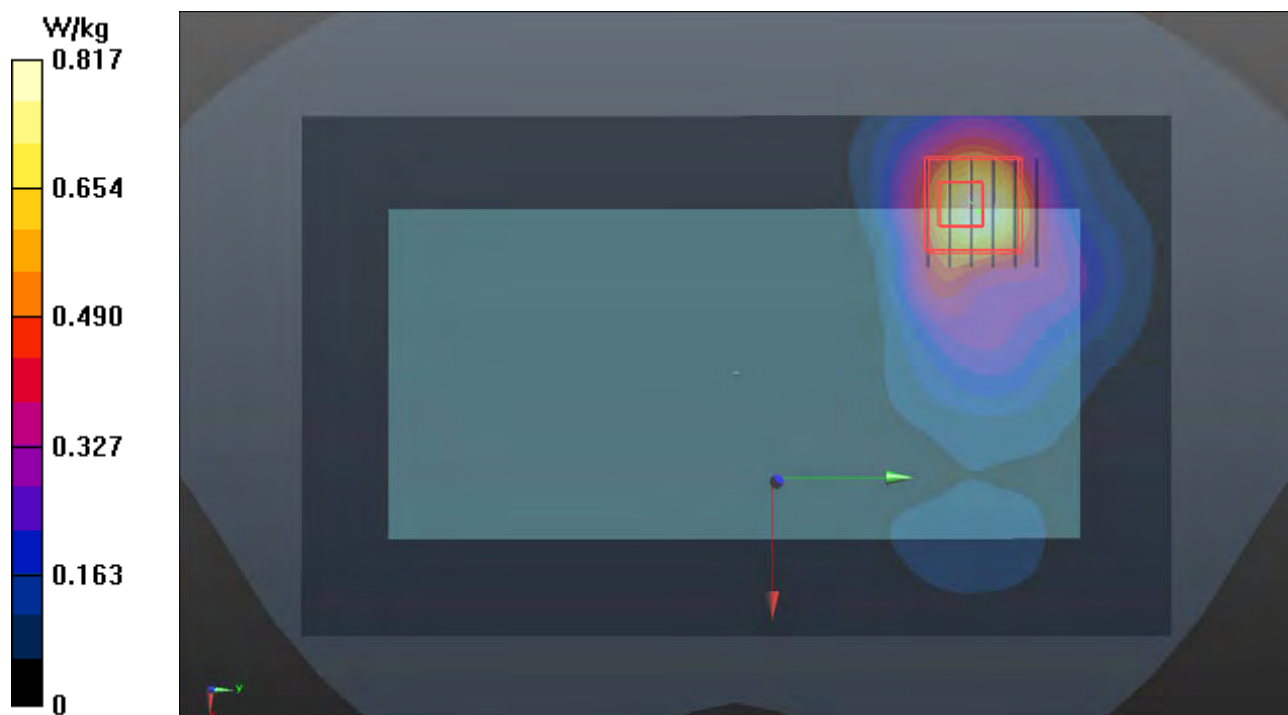
- Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 13.51 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.62 W/kg

SAR(1 g) = 0.581 W/kg; SAR(10 g) = 0.224 W/kg

Maximum value of SAR (measured) = 1.13 W/kg



P31 WLAN5.8G_802.11a_Rear Face_10mm_Ch149_Ant1**DUT: 190114C07**

Communication System: WLAN_5G; Frequency: 5745 MHz; Duty Cycle: 1:1.01

Medium: B34T60N1_0218 Medium parameters used: $f = 5745$ MHz; $\sigma = 5.945$ S/m; $\epsilon_r = 49.112$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(4.45, 4.45, 4.45); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1823; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (121x201x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.652 W/kg

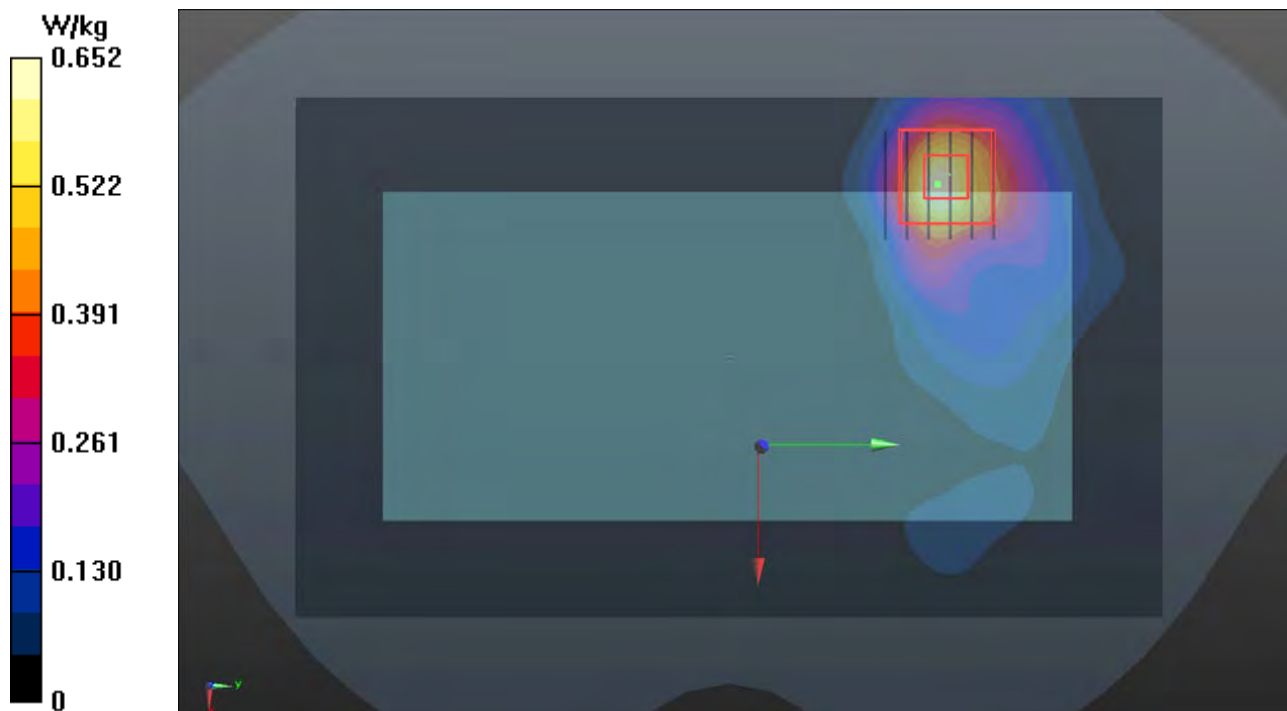
- Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 9.840 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 1.11 W/kg

SAR(1 g) = 0.371 W/kg; SAR(10 g) = 0.142 W/kg

Maximum value of SAR (measured) = 0.747 W/kg



P32 BT_BDR_Rear Face_10mm_Ch39**DUT: 190114C07**

Communication System: Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.28

Medium: B19T27N1_0212 Medium parameters used: $f = 2441$ MHz; $\sigma = 2.014$ S/m; $\epsilon_r = 50.619$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(7.84, 7.84, 7.84); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- **Area Scan (91x171x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0515 W/kg

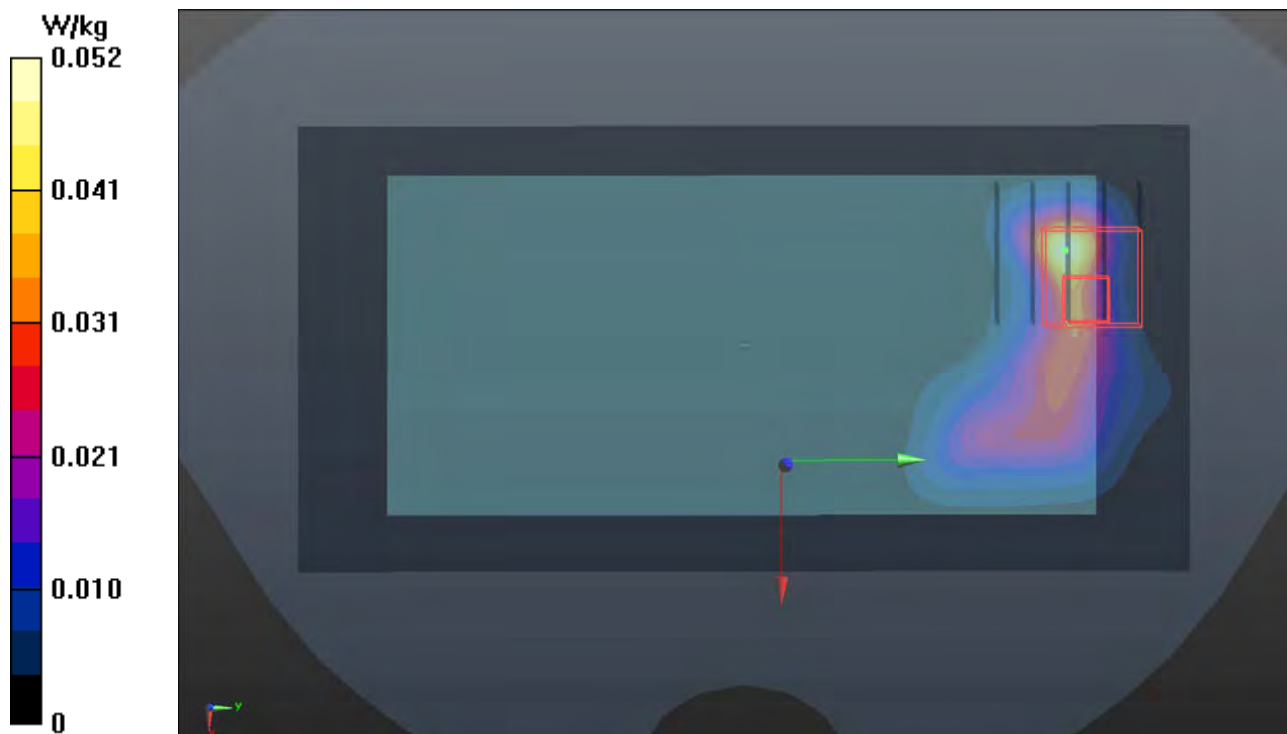
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.342 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.0270 W/kg

SAR(1 g) = 0.013 W/kg; SAR(10 g) = 0.0051 W/kg

Maximum value of SAR (measured) = 0.0220 W/kg



P33 GSM1900_GPRS10_Bottom Side_10mm_Ch512_Ant0**DUT: 190114C07**

Communication System: GPRS10; Frequency: 1850.2 MHz; Duty Cycle: 1:4

Medium: B16T20N1_0125 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.531$ S/m; $\epsilon_r = 51.432$; ρ $= 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.07, 8.07, 8.07); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.78 W/kg

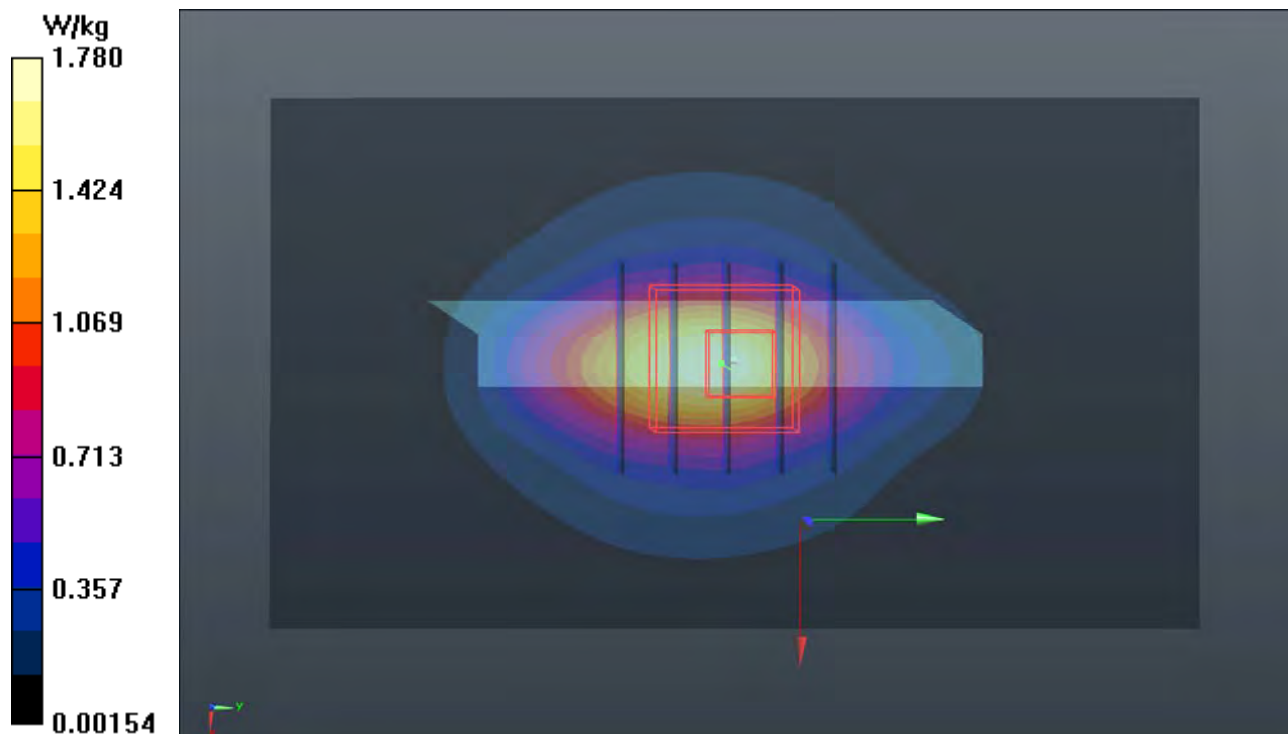
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 34.43 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 1.85 W/kg

SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.572 W/kg

Maximum value of SAR (measured) = 1.63 W/kg



P34 WCDMA II_RMC12.2K_Bottom Side_10mm_Ch9262_Ant0**DUT: 190114C07**

Communication System: WCDMA; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: B16T20N1_0131 Medium parameters used: $f = 1852.4$ MHz; $\sigma = 1.538$ S/m; $\epsilon_r = 52.294$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.07, 8.07, 8.07); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.49 W/kg

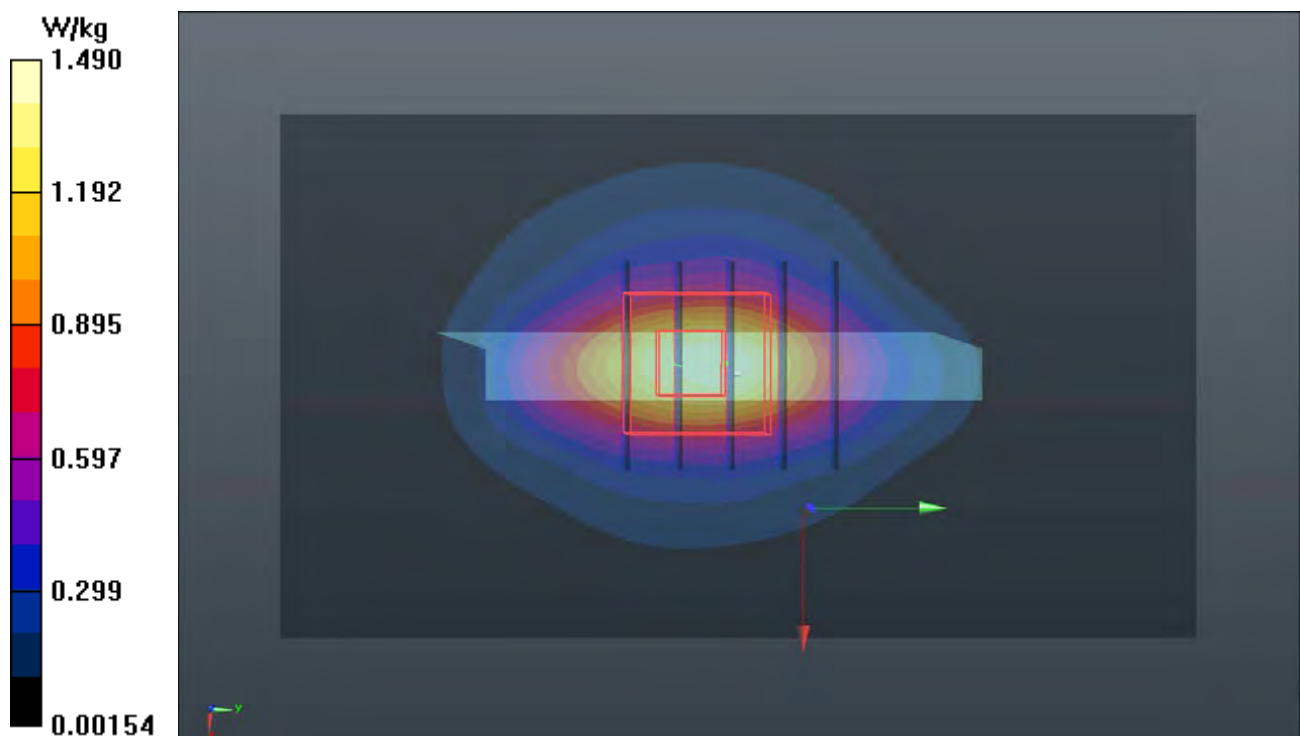
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 31.42 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.63 W/kg

SAR(1 g) = 0.939 W/kg; SAR(10 g) = 0.517 W/kg

Maximum value of SAR (measured) = 1.38 W/kg



P35 WCDMA IV_RMC12.2K_Bottom Side_10mm_Ch1413_Ant0**DUT: 190114C07**

Communication System: WCDMA; Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium: B16T20N1_0131 Medium parameters used: $f = 1733$ MHz; $\sigma = 1.422$ S/m; $\epsilon_r = 52.639$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.42, 8.42, 8.42); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.60 W/kg

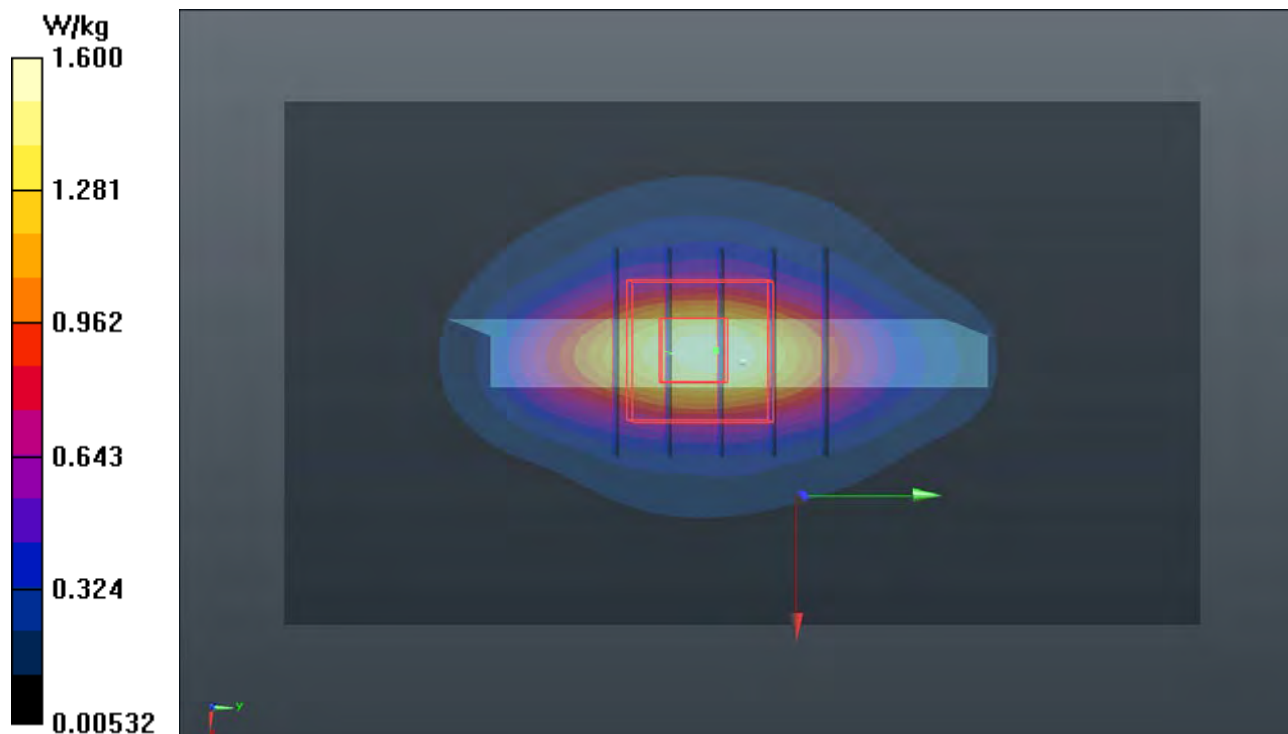
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 33.98 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.79 W/kg

SAR(1 g) = 1.03 W/kg; SAR(10 g) = 0.566 W/kg

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



P36 LTE 2_QPSK20M_Bottom Side_10mm_Ch18700_1RB_OS0_Ant0**DUT: 190114C07**

Communication System: LTE; Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: B16T20N1_0125 Medium parameters used: $f = 1860$ MHz; $\sigma = 1.539$ S/m; $\epsilon_r = 51.435$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.07, 8.07, 8.07); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.56 W/kg

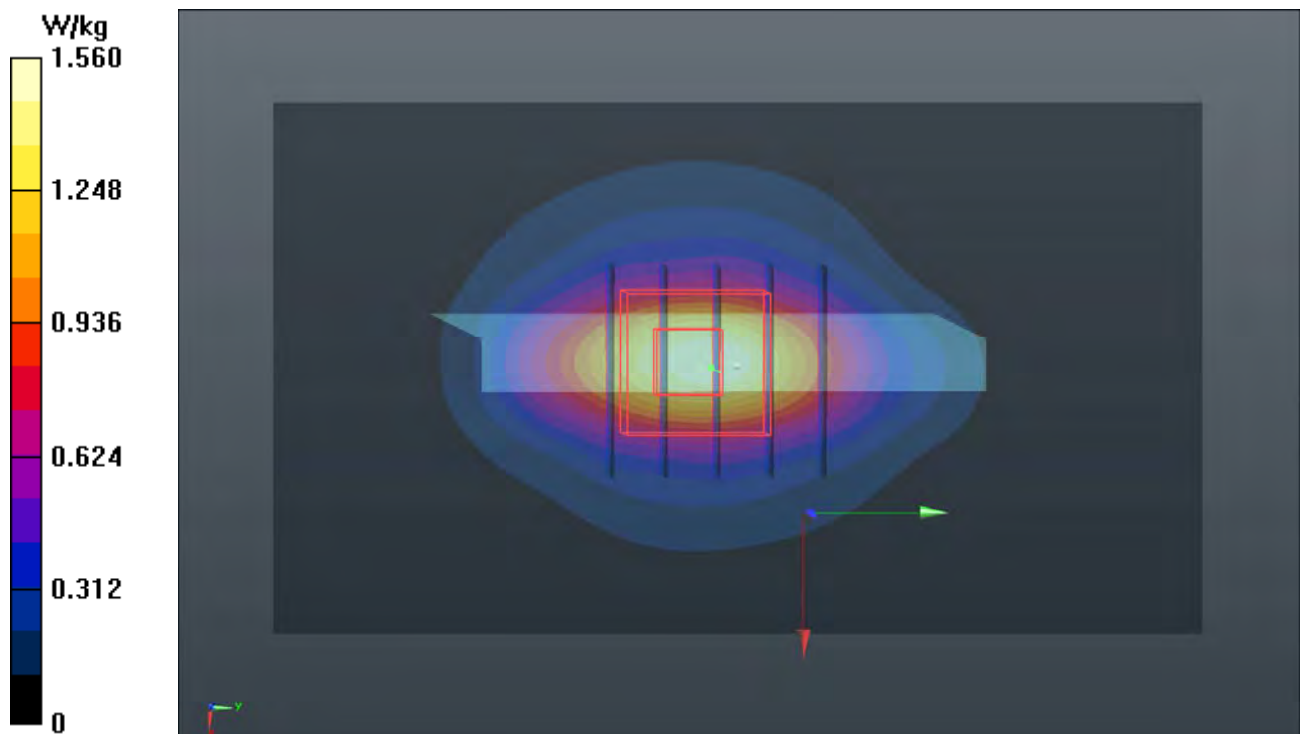
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 32.53 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.75 W/kg

SAR(1 g) = 0.981 W/kg; SAR(10 g) = 0.557 W/kg

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



P37 LTE 4_QPSK20M_Bottom Side_10mm_Ch20300_1RB_OS0_Ant0**DUT: 190114C07**

Communication System: LTE; Frequency: 1745 MHz; Duty Cycle: 1:1

Medium: B16T20N1_0131 Medium parameters used: $f = 1745$ MHz; $\sigma = 1.434$ S/m; $\epsilon_r = 52.618$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.42, 8.42, 8.42); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.65 W/kg

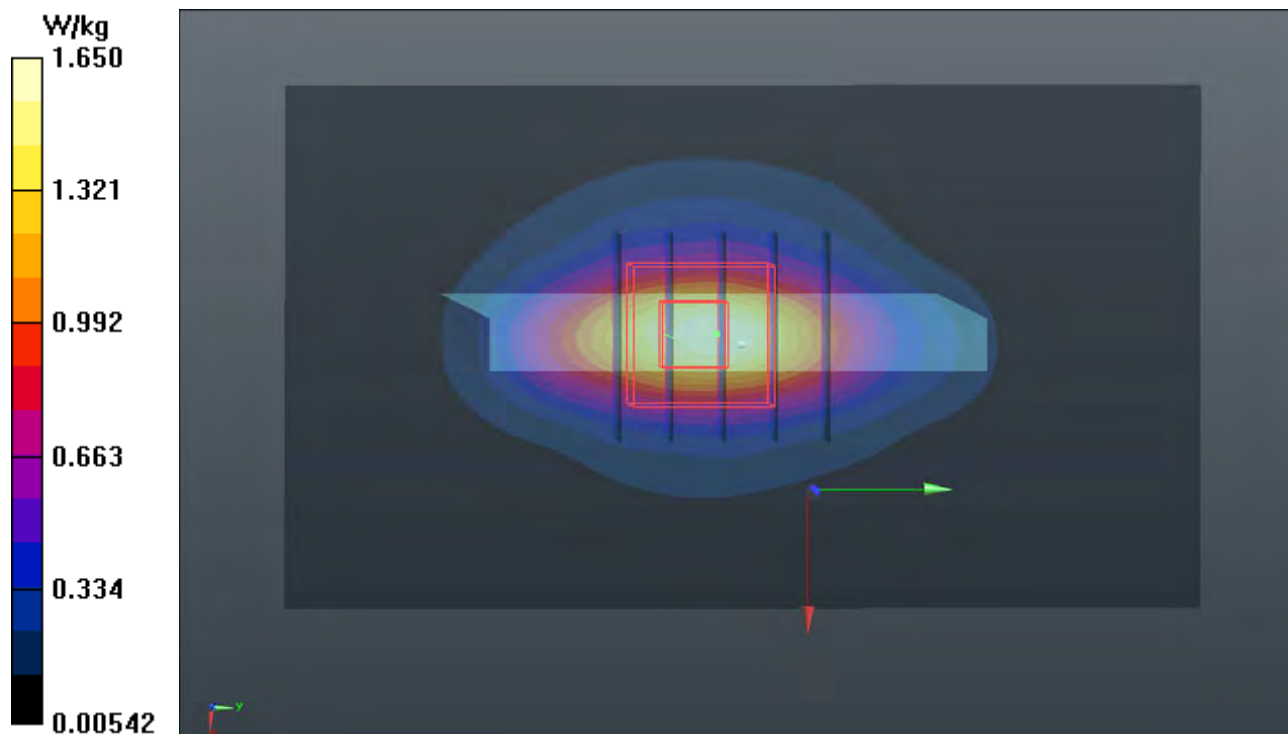
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 34.19 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.82 W/kg

SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.580 W/kg

Maximum value of SAR (measured) = 1.53 W/kg



P39 LTE 41_QPSK20M_Left Side_10mm_Ch41140_1RB_OS0_Ant0**DUT: 190114C07**

Communication System: LTE TDD CF0; Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium: B19T27N1_0125 Medium parameters used: $f = 2645$ MHz; $\sigma = 2.254$ S/m; $\epsilon_r = 50.839$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(7.7, 7.7, 7.7); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (51x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.249 W/kg

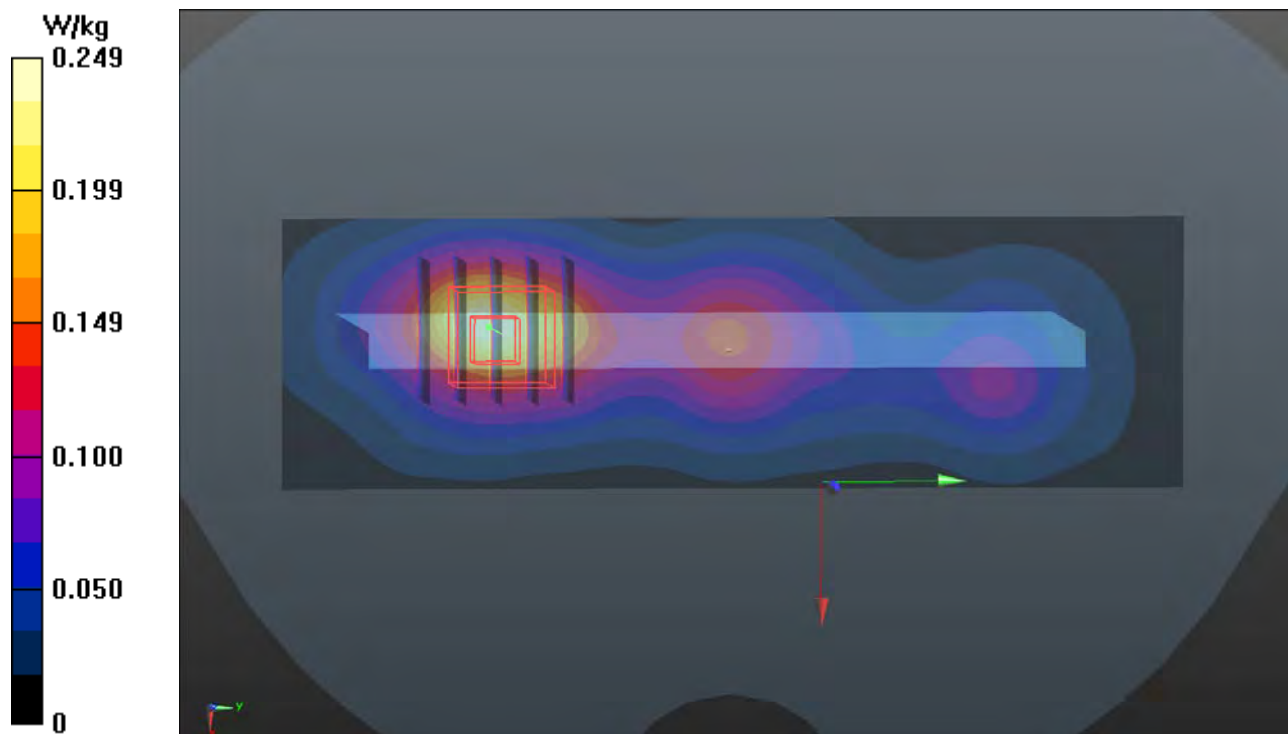
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.29 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.394 W/kg

SAR(1 g) = 0.186 W/kg; SAR(10 g) = 0.090 W/kg

Maximum value of SAR (measured) = 0.299 W/kg



P40 WLAN2.4G_802.11b_Top Side_10mm_Ch11_Ant0**DUT: 190114C07**

Communication System: WLAN_2.4G; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: B19T27N1_0218 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.033$ S/m; $\epsilon_r = 50.597$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(7.61, 7.61, 7.61); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1823; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x91x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.322 W/kg

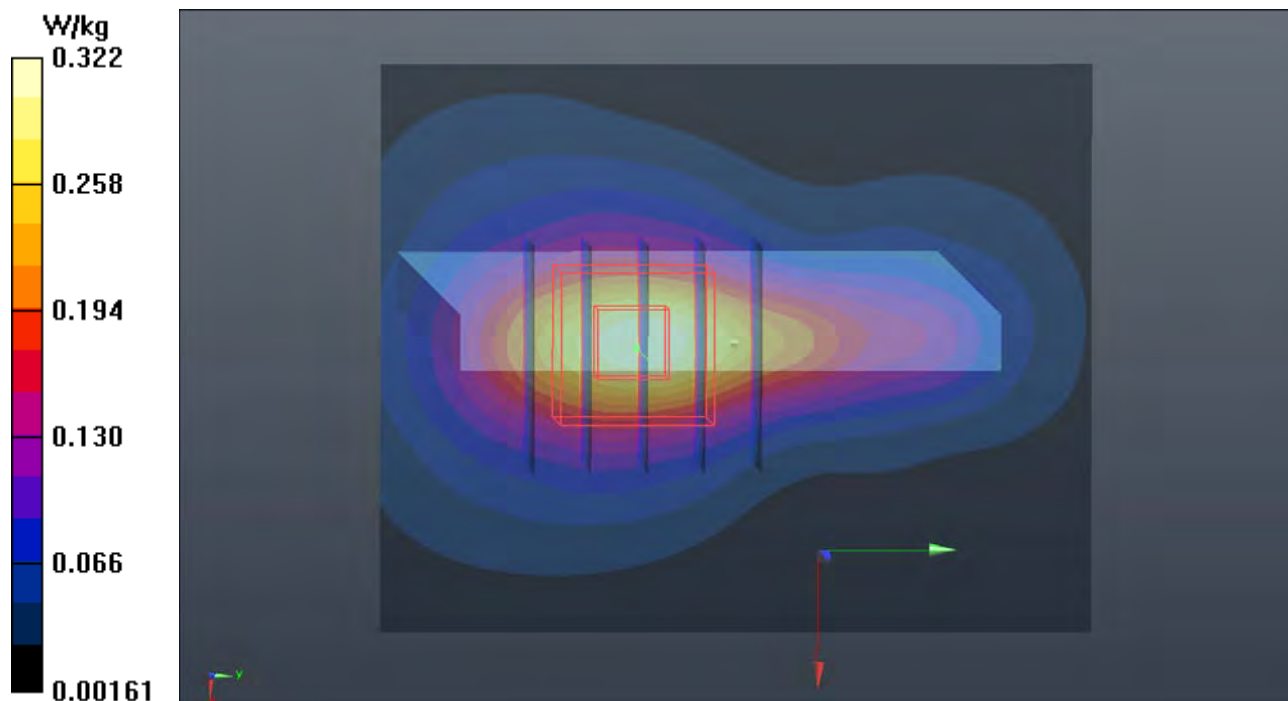
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.92 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.383 W/kg

SAR(1 g) = 0.228 W/kg; SAR(10 g) = 0.132 W/kg

Maximum value of SAR (measured) = 0.326 W/kg



P41 WLAN5.2G_802.11a_Rear Face_10mm_Ch48_Ant1**DUT: 190114C07**

Communication System: WLAN_5G; Frequency: 5240 MHz; Duty Cycle: 1:1.01

Medium: B34T60N1_0218 Medium parameters used: $f = 5240$ MHz; $\sigma = 5.277$ S/m; $\epsilon_r = 49.889$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3898; ConvF(4.95, 4.95, 4.95); Calibrated: 2018/06/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2018/06/26
- Phantom: Twin SAM Phantom_1823; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (121x201x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.673 W/kg

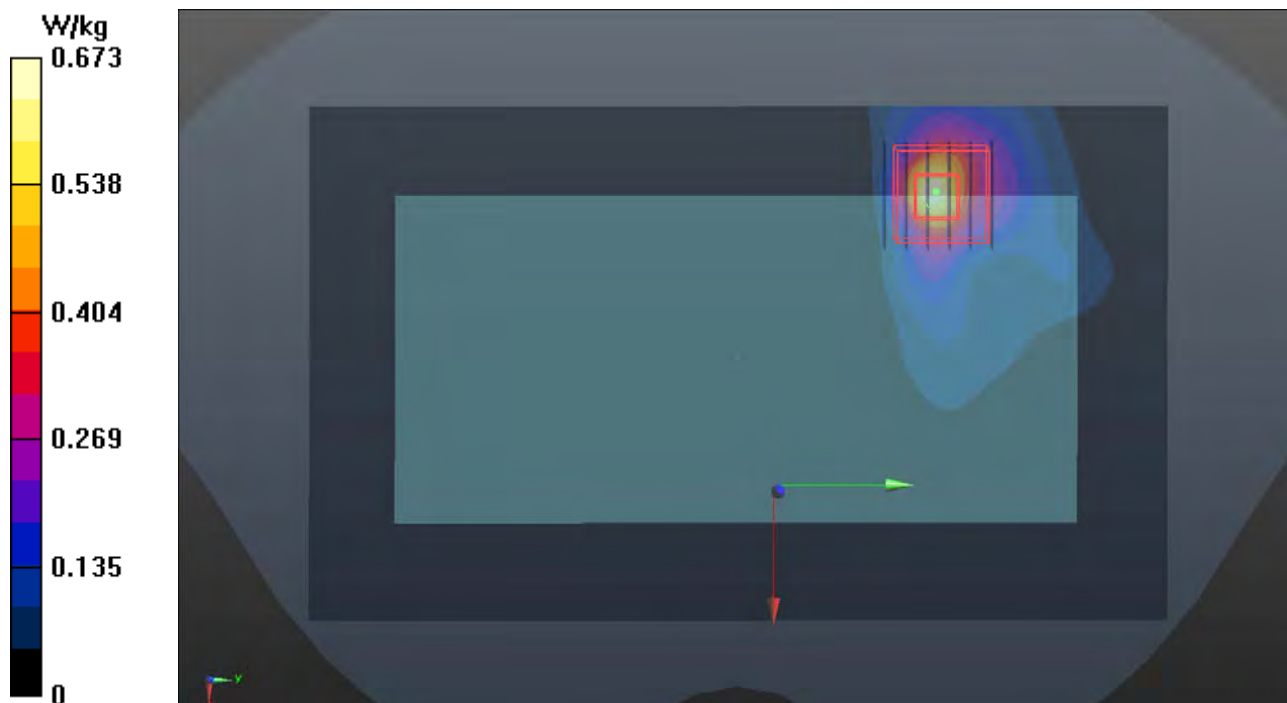
- Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 10.76 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.861 W/kg

SAR(1 g) = 0.337 W/kg; SAR(10 g) = 0.131 W/kg

Maximum value of SAR (measured) = 0.616 W/kg



P42 BT_BDR_Top Side_10mm_Ch39**DUT: 190114C07**

Communication System: Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.28

Medium: B19T27N1_0212 Medium parameters used: $f = 2441$ MHz; $\sigma = 2.014$ S/m; $\epsilon_r = 50.619$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(7.84, 7.84, 7.84); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x91x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0468 W/kg

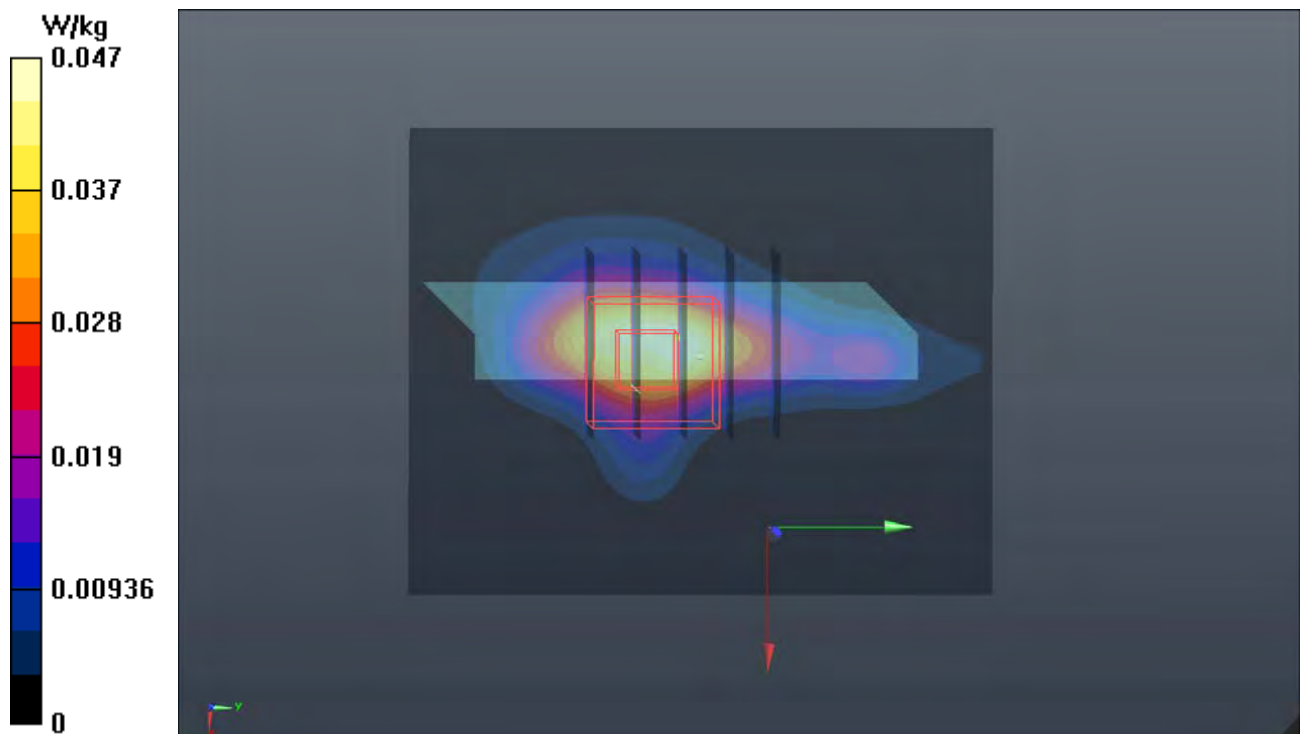
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.685 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.0460 W/kg

SAR(1 g) = 0.025 W/kg; SAR(10 g) = 0.011 W/kg

Maximum value of SAR (measured) = 0.0370 W/kg



P43 WLAN5.3G_802.11a_Right Side_0mm_Ch64_Ant1**DUT: 190114C07**

Communication System: WLAN_5G; Frequency: 5320 MHz; Duty Cycle: 1:1.01

Medium: B34T60N2_0308 Medium parameters used: $f = 5320$ MHz; $\sigma = 5.539$ S/m; $\epsilon_r = 47.057$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(4.59, 4.59, 4.59); Calibrated: 2018/3/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2018/5/30
- Phantom: Twin SAM Phantom_1823; Type: QD 000 P40 CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (61x201x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.494 W/kg

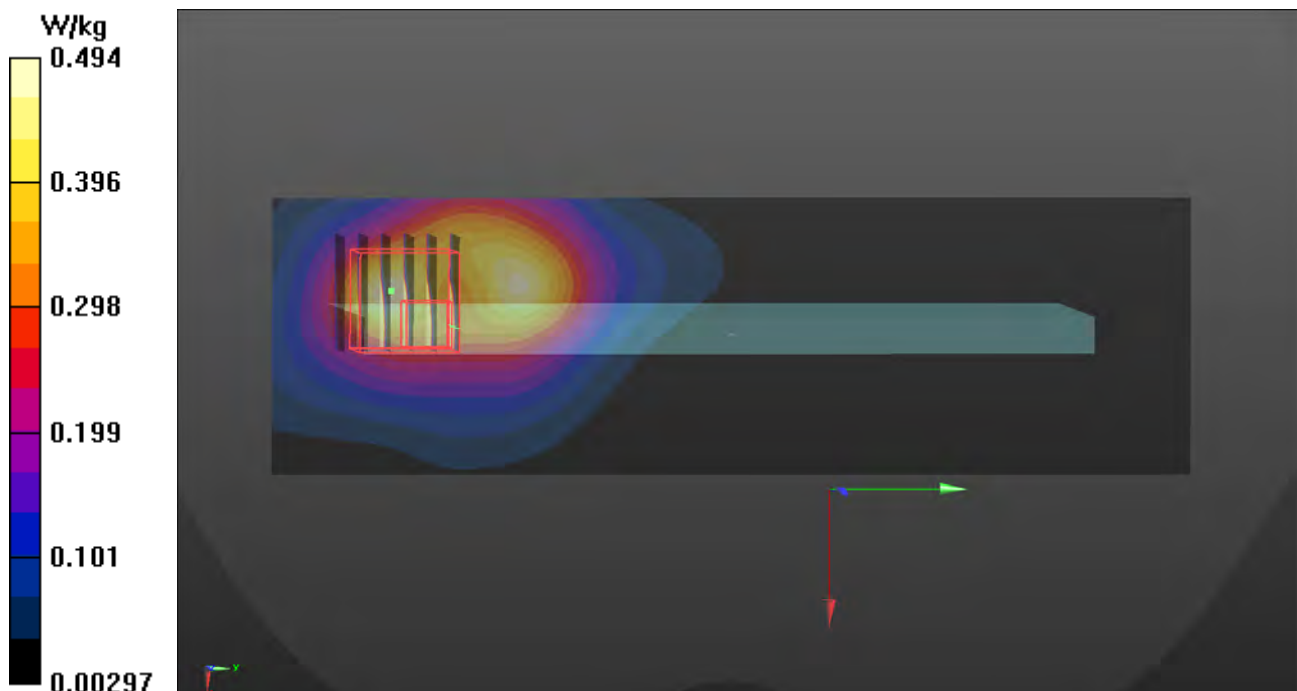
- Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 9.769 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 30.9 W/kg

SAR(1 g) = 4.63 W/kg; SAR(10 g) = 0.761 W/kg

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



P44 WLAN5.6G_802.11a_Right Side_0mm_Ch116_Ant1**DUT: 190114C07**

Communication System: WLAN_5G; Frequency: 5580 MHz; Duty Cycle: 1:1.01

Medium: B34T60N2_0308 Medium parameters used: $f = 5580$ MHz; $\sigma = 5.884$ S/m; $\epsilon_r = 46.518$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(4.08, 4.08, 4.08); Calibrated: 2018/3/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2018/5/30
- Phantom: Twin SAM Phantom_1823; Type: QD 000 P40 CD;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (61x201x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.04 W/kg

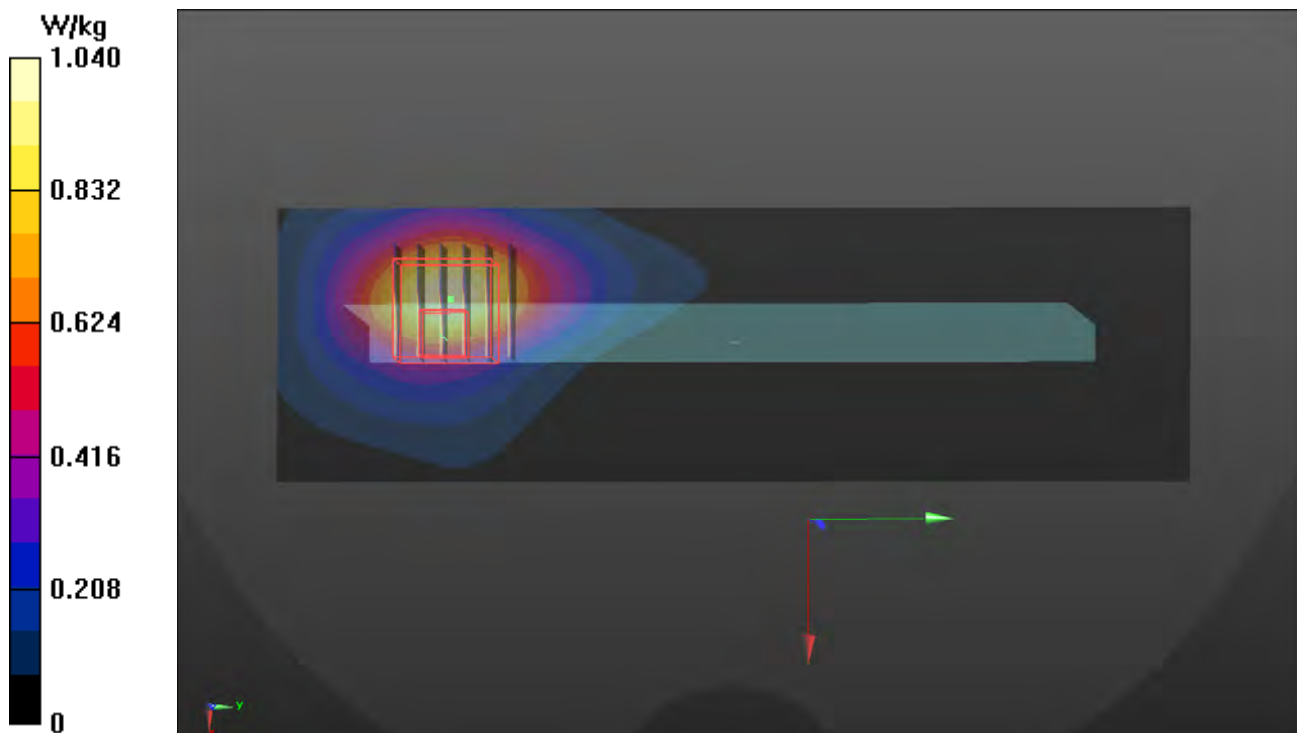
- Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 14.96 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 32.0 W/kg

SAR(1 g) = 5.2 W/kg; SAR(10 g) = 1.19 W/kg

Maximum value of SAR (measured) = 18.2 W/kg



Appendix C. Calibration Certificate for Probe and Dipole

The SPEAG calibration certificates are shown as follows.



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

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

Client **B.V.ADT (Auden)**

Certificate No: **D835V2-4d121_Aug18**

CALIBRATION CERTIFICATE

Object **D835V2 - SN:4d121**

Calibration procedure(s) **QA CAL-05.v10**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **August 23, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-17)	In house check: Oct-18

Calibrated by:	Name Michael Weber	Function Laboratory Technician	Signature 
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 24, 2018

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



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

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

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.1
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	40.7 $\pm$ 6 %	0.92 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.41 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	9.44 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.55 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	6.10 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	54.9 $\pm$ 6 %	0.99 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.45 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	9.64 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.60 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	6.32 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.3 Ω - 2.3 j Ω
Return Loss	- 31.8 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.2 Ω - 5.4 j Ω
Return Loss	- 24.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.395 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	June 29, 2010

DASY5 Validation Report for Head TSL

Date: 22.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d121

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.92 \text{ S/m}$; $\epsilon_r = 40.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.9, 9.9, 9.9) @ 835 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

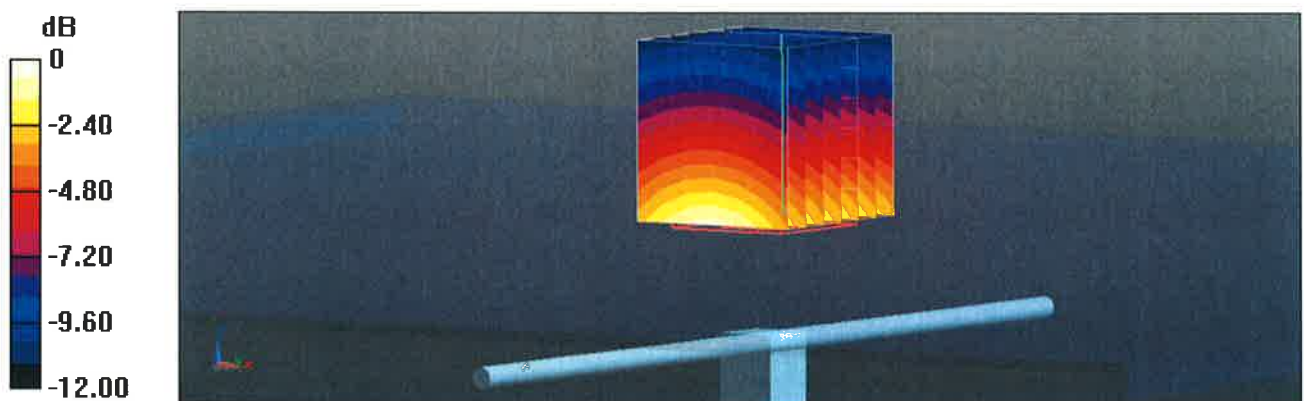
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 63.11 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 3.70 W/kg

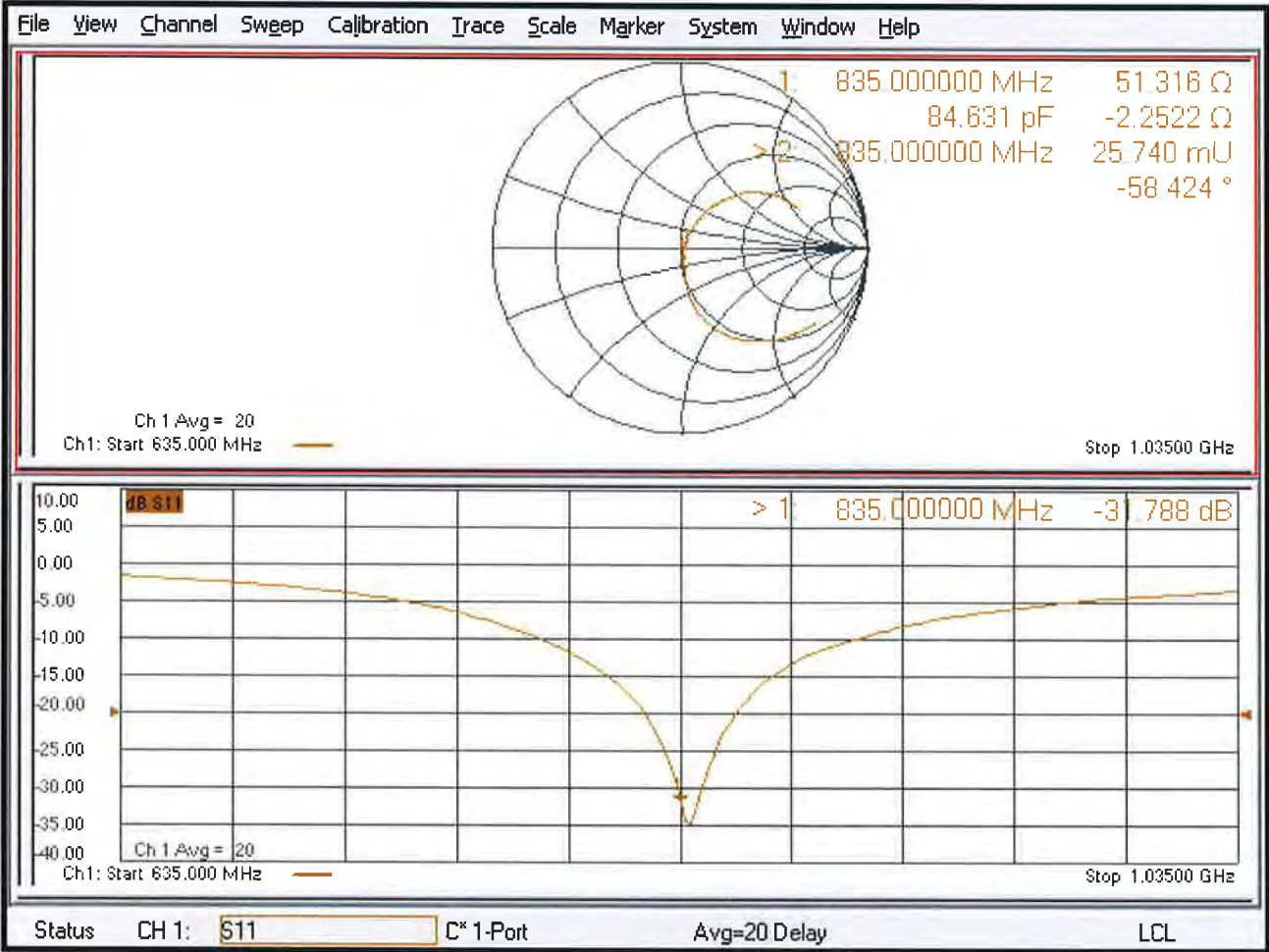
SAR(1 g) = 2.41 W/kg; SAR(10 g) = 1.55 W/kg

Maximum value of SAR (measured) = 3.26 W/kg



0 dB = 3.26 W/kg = 5.13 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 23.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d121

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used: $f = 835$ MHz; $\sigma = 0.99$ S/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.05, 10.05, 10.05) @ 835 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 4.9 (Back); Type: QD 00R P49 AA; Serial: 1005
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

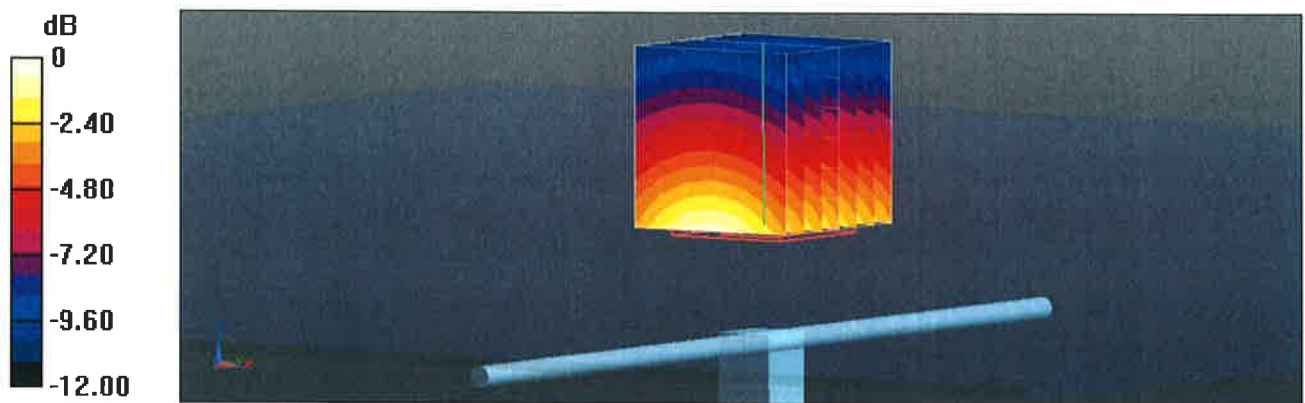
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 61.20 V/m; Power Drift = -0.01 dB

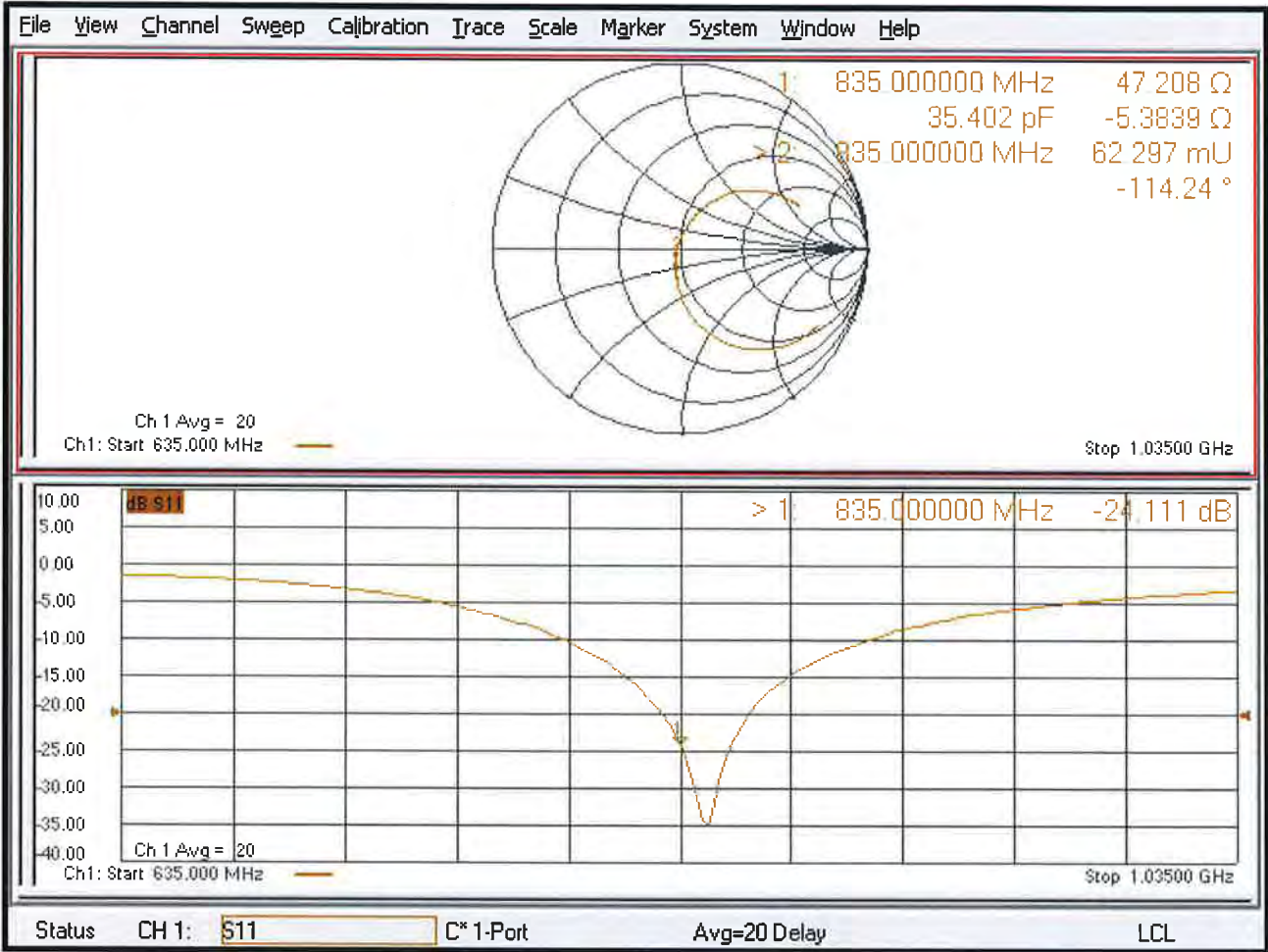
Peak SAR (extrapolated) = 3.64 W/kg

SAR(1 g) = 2.45 W/kg; SAR(10 g) = 1.6 W/kg

Maximum value of SAR (measured) = 3.26 W/kg



Impedance Measurement Plot for Body TSL





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 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **B.V. ADT (Auden)**

Certificate No: **D1750V2-1055_Aug18**

CALIBRATION CERTIFICATE

Object **D1750V2 - SN:1055**

Calibration procedure(s) **QA CAL-05.v10**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **August 27, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-17)	In house check: Oct-18

Calibrated by: **Manu Seitz** **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Signature

Issued: August 28, 2018

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



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

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

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.1
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1750 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.1	1.37 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	38.9 $\pm$ 6 %	1.34 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.15 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	36.9 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	4.81 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	19.3 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.4	1.49 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	53.4 $\pm$ 6 %	1.47 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.15 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	36.9 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	4.89 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	19.7 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$52.6 \Omega + 2.1 j\Omega$
Return Loss	- 29.9 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$47.3 \Omega + 0.5 j\Omega$
Return Loss	- 31.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.223 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	February 19, 2010

DASY5 Validation Report for Head TSL

Date: 27.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1055

Communication System: UID 0 - CW; Frequency: 1750 MHz

Medium parameters used: $f = 1750 \text{ MHz}$; $\sigma = 1.34 \text{ S/m}$; $\epsilon_r = 38.9$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.5, 8.5, 8.5) @ 1750 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

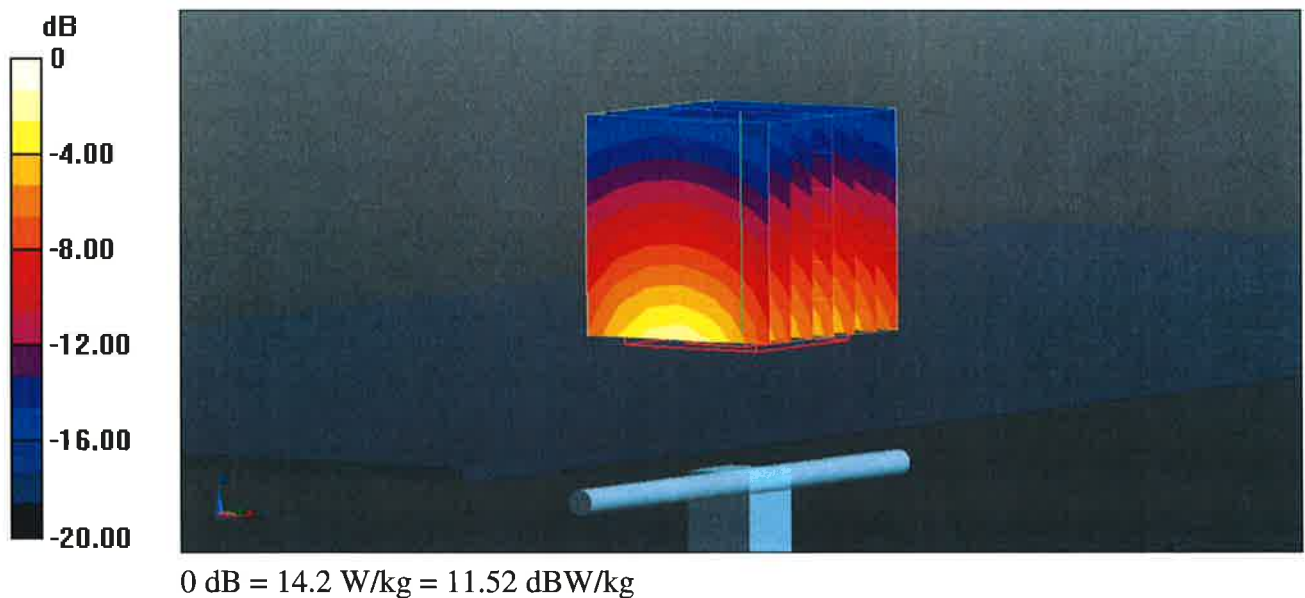
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 107.6 V/m; Power Drift = -0.03 dB

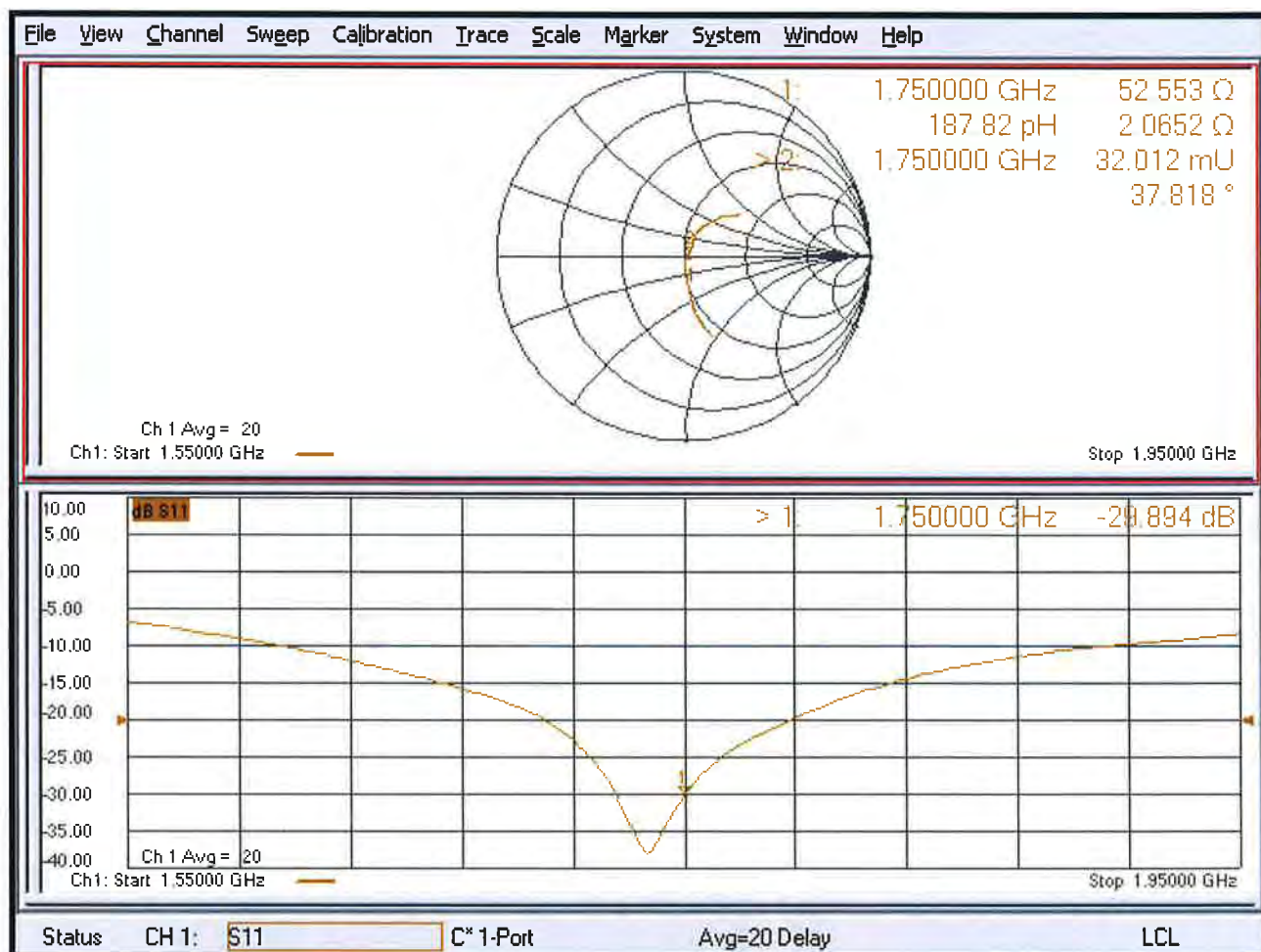
Peak SAR (extrapolated) = 16.9 W/kg

SAR(1 g) = 9.15 W/kg; SAR(10 g) = 4.81 W/kg

Maximum value of SAR (measured) = 14.2 W/kg



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 27.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1055

Communication System: UID 0 - CW; Frequency: 1750 MHz

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.47$ S/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.35, 8.35, 8.35) @ 1750 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

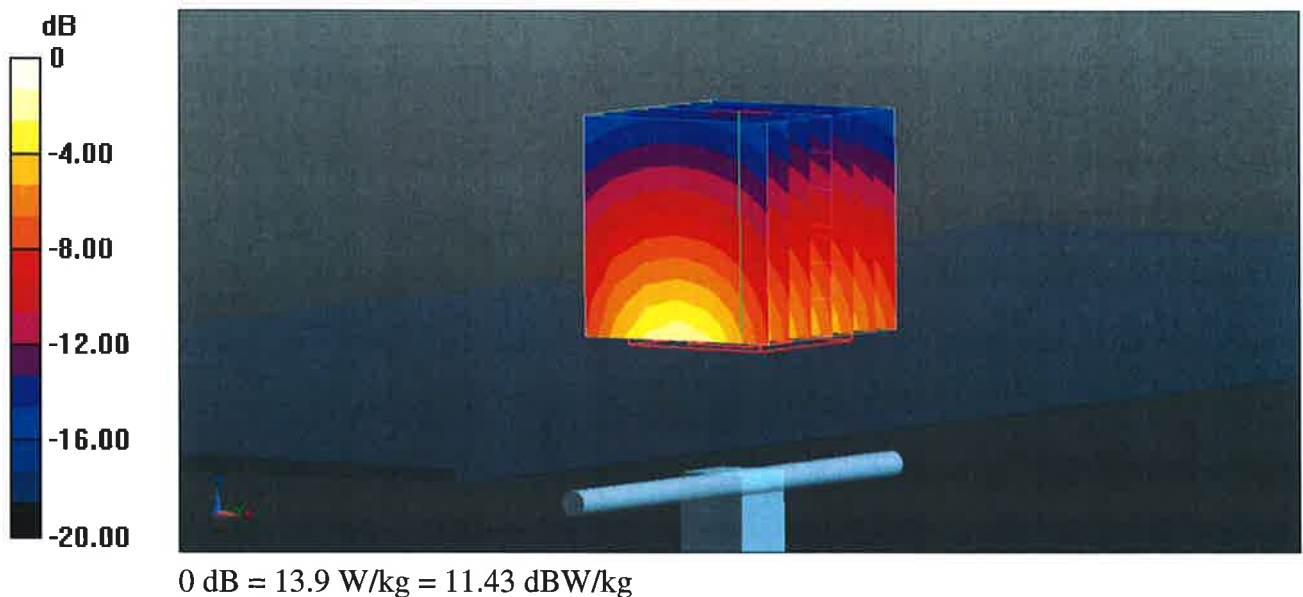
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 102.2 V/m; Power Drift = -0.02 dB

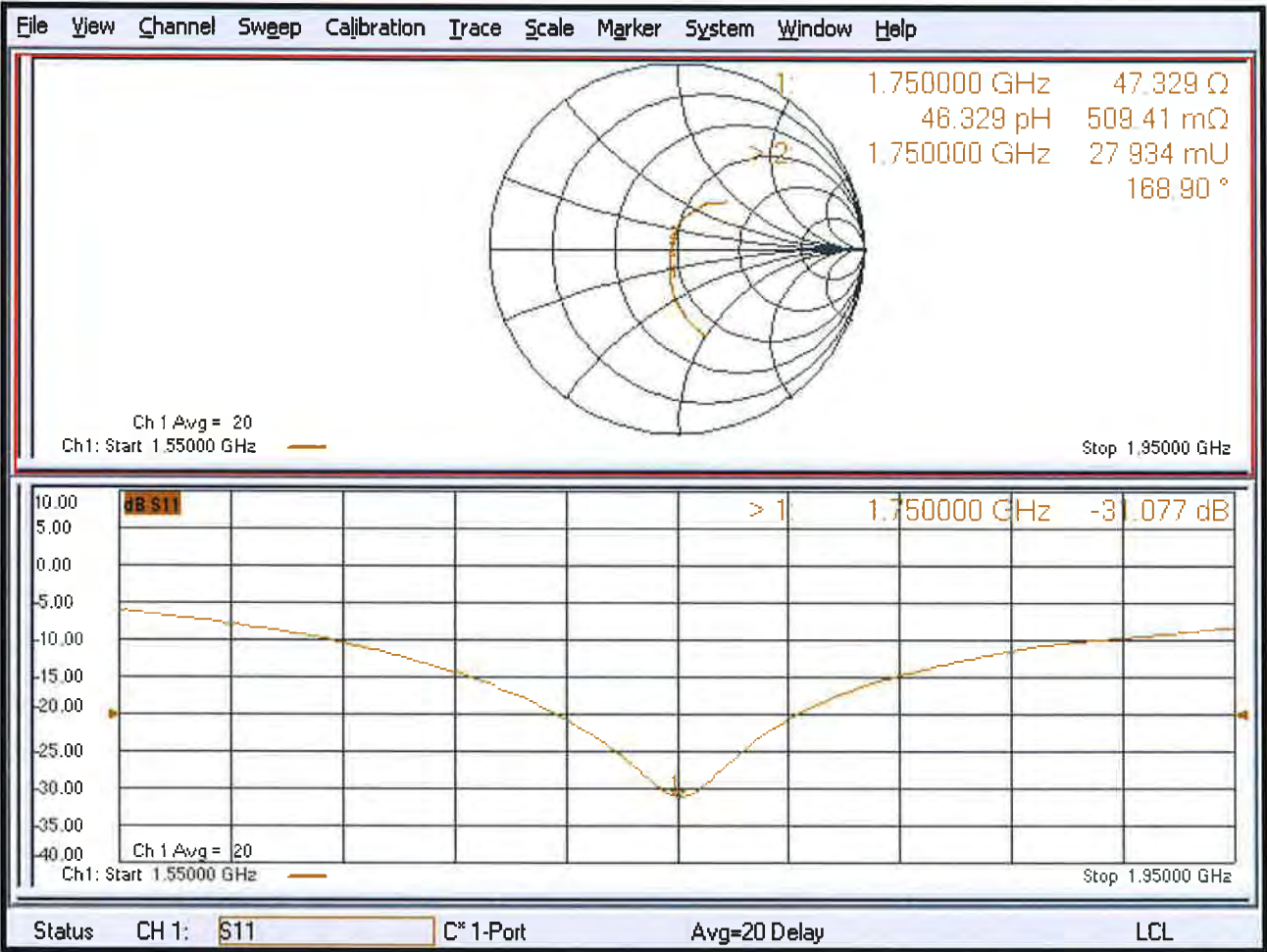
Peak SAR (extrapolated) = 16.1 W/kg

SAR(1 g) = 9.15 W/kg; SAR(10 g) = 4.89 W/kg

Maximum value of SAR (measured) = 13.9 W/kg



Impedance Measurement Plot for Body TSL





Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

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

Client **Auden**

Certificate No: **D1900V2-5d018_Jun18**

CALIBRATION CERTIFICATE

Object **D1900V2 - SN:5d018**

Calibration procedure(s) **QA CAL-05.v10
Calibration procedure for dipole validation kits above 700 MHz**

Calibration date: **June 21, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-17)	In house check: Oct-18

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: June 21, 2018

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Accredited by the Swiss Accreditation Service (SAS)

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.1
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	40.6 $\pm$ 6 %	1.35 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.77 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	40.1 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.22 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	21.2 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	54.9 $\pm$ 6 %	1.46 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.75 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	40.2 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.24 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	21.4 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$52.2\ \Omega + 1.6\ j\Omega$
Return Loss	- 31.4 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$47.1\ \Omega + 3.0\ j\Omega$
Return Loss	- 27.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.195 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	June 04, 2002

DASY5 Validation Report for Head TSL

Date: 21.06.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d018

Communication System: UID 0 - CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.35$ S/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.18, 8.18, 8.18) @ 1900 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

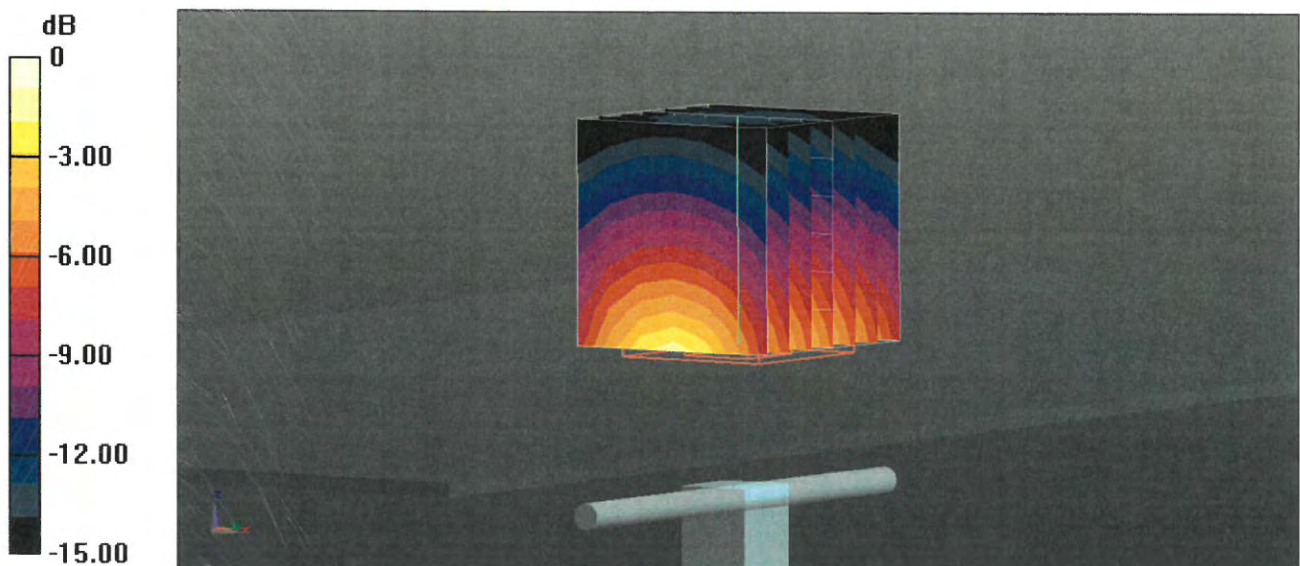
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 109.9 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 17.6 W/kg

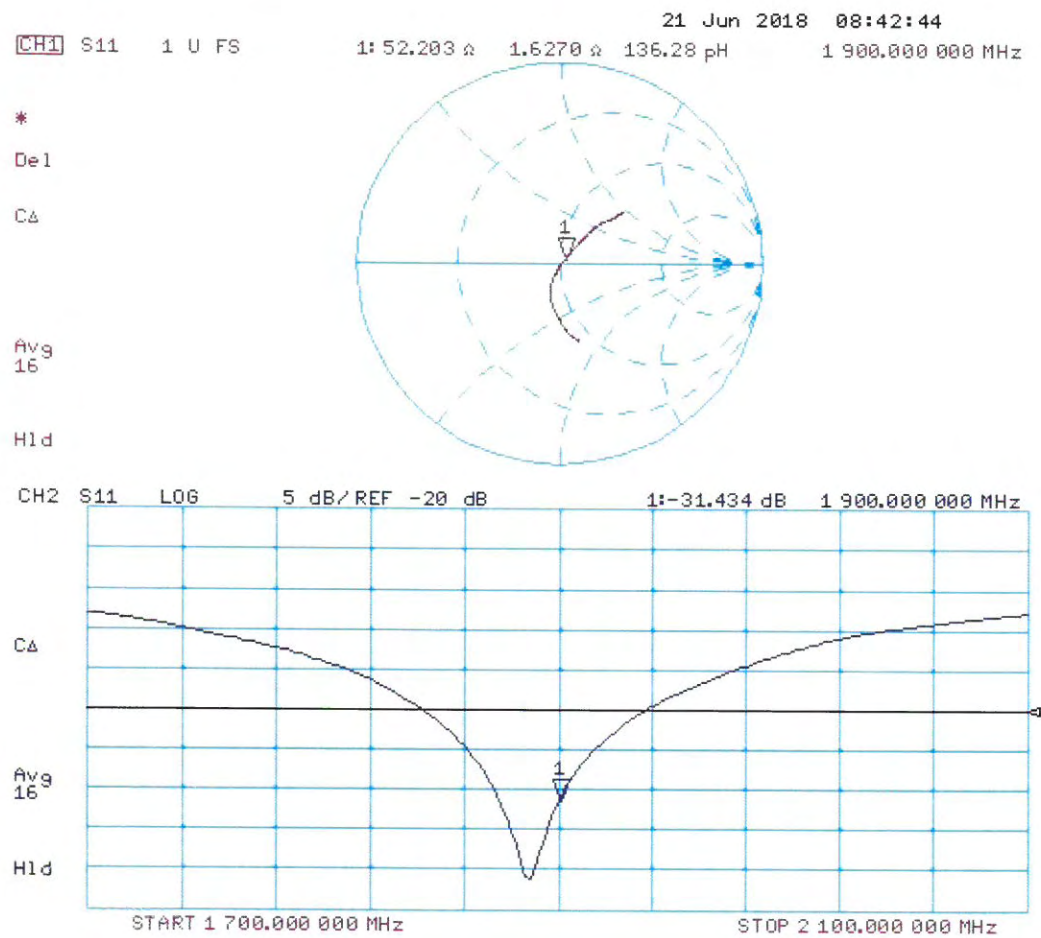
SAR(1 g) = 9.77 W/kg; SAR(10 g) = 5.22 W/kg

Maximum value of SAR (measured) = 14.9 W/kg



0 dB = 14.9 W/kg = 11.73 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 21.06.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d018

Communication System: UID 0 - CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.46$ S/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.15, 8.15, 8.15) @ 1900 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

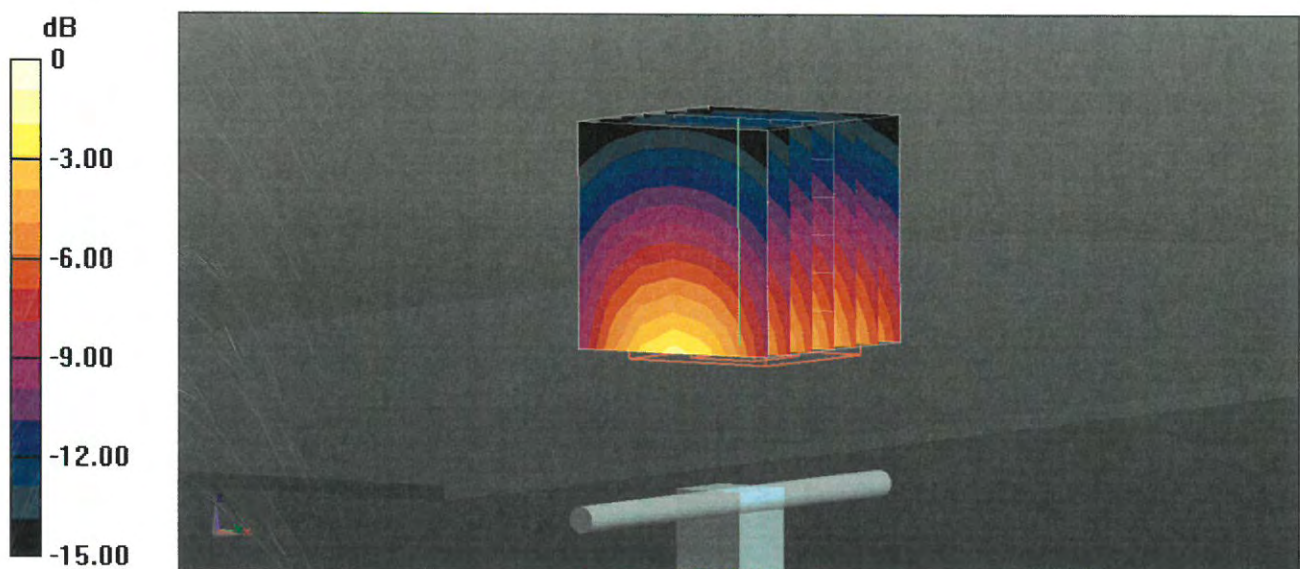
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 104.5 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 16.9 W/kg

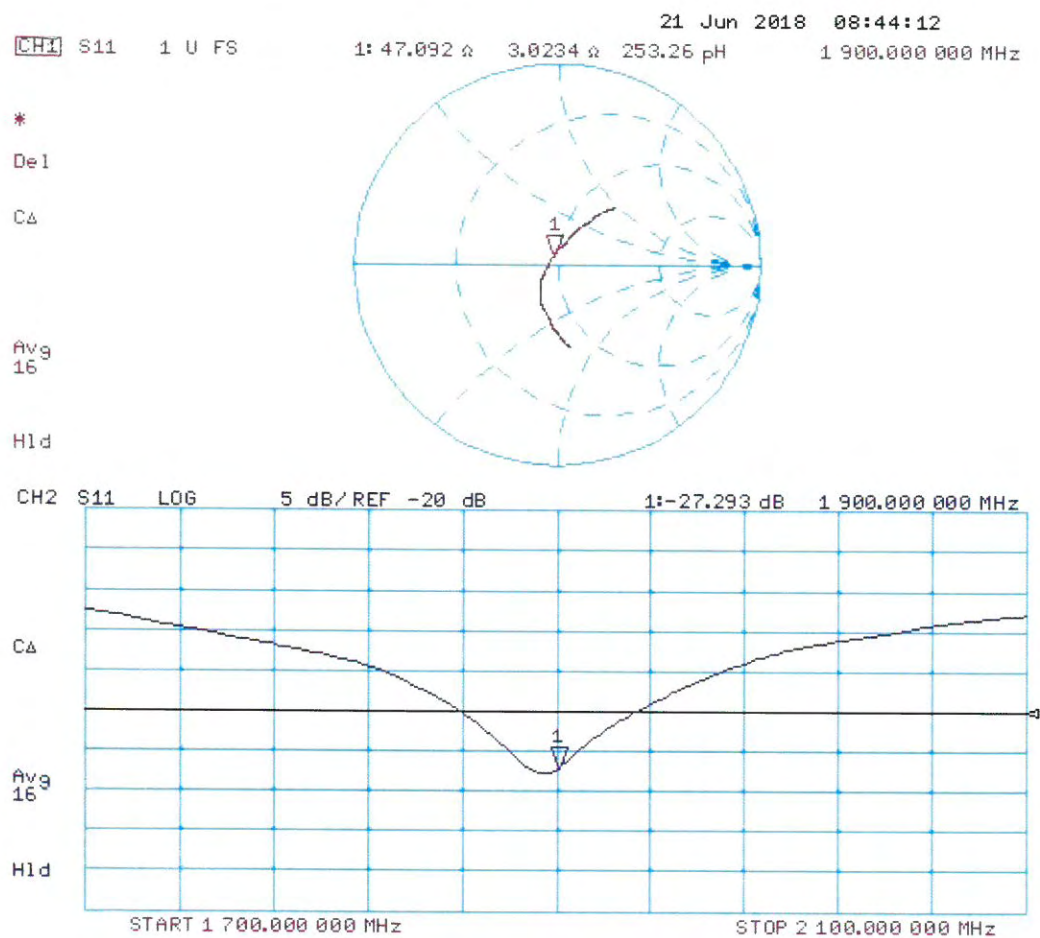
SAR(1 g) = 9.75 W/kg; SAR(10 g) = 5.24 W/kg

Maximum value of SAR (measured) = 14.5 W/kg



0 dB = 14.5 W/kg = 11.61 dBW/kg

Impedance Measurement Plot for Body TSL





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 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **B.V. ADT (Auden)**

Certificate No: **D2450V2-737_Aug18**

CALIBRATION CERTIFICATE

Object **D2450V2 - SN:737**

Calibration procedure(s) **QA CAL-05.v10**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **August 24, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-17)	In house check: Oct-18

Calibrated by: **Manu Seitz** **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Signature

Issued: August 24, 2018

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Accreditation No.: **SCS 0108**

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.1
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	37.7 $\pm$ 6 %	1.86 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.2 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	51.5 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.13 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	24.2 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	51.8 $\pm$ 6 %	2.02 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	12.9 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	50.5 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.01 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	23.8 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$55.6 \Omega + 4.1 j\Omega$
Return Loss	- 23.7 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$49.4 \Omega + 7.3 j\Omega$
Return Loss	- 22.7 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.162 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	August 26, 2003

DASY5 Validation Report for Head TSL

Date: 23.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:737

Communication System: UID 0 - CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.86$ S/m; $\epsilon_r = 37.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.88, 7.88, 7.88) @ 2450 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

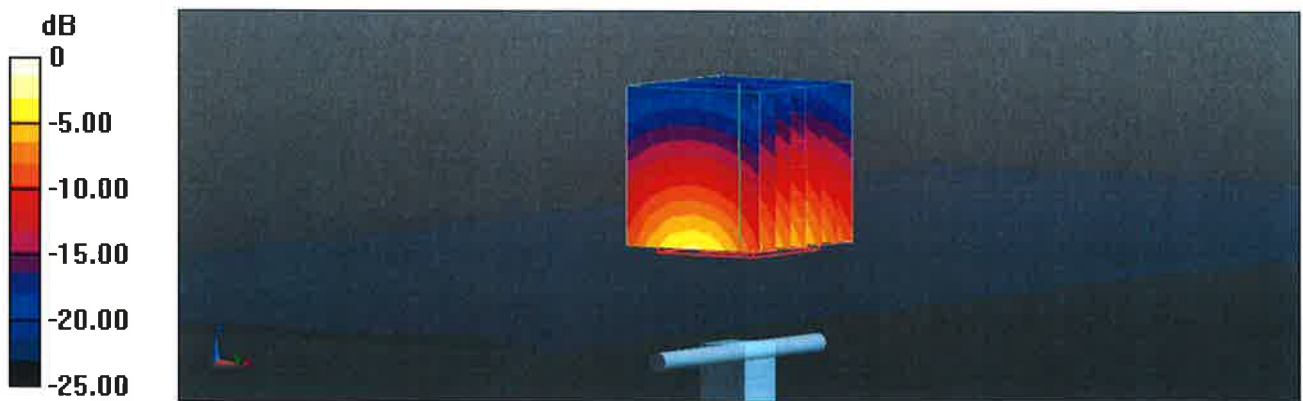
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 115.2 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 26.1 W/kg

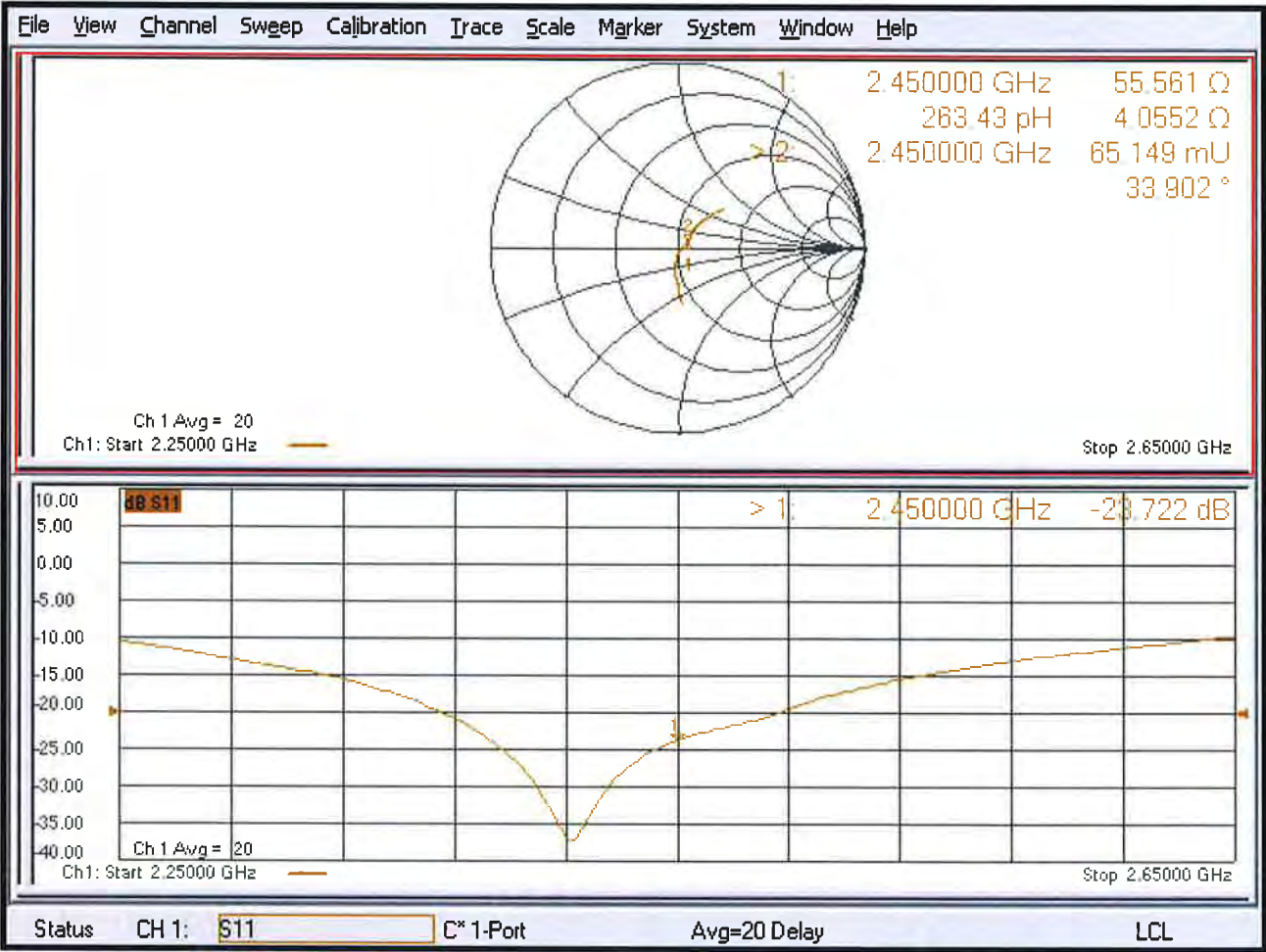
SAR(1 g) = 13.2 W/kg; SAR(10 g) = 6.13 W/kg

Maximum value of SAR (measured) = 21.7 W/kg



0 dB = 21.7 W/kg = 13.36 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 24.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:737

Communication System: UID 0 - CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 2.02$ S/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.01, 8.01, 8.01) @ 2450 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 107.8 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 25.5 W/kg

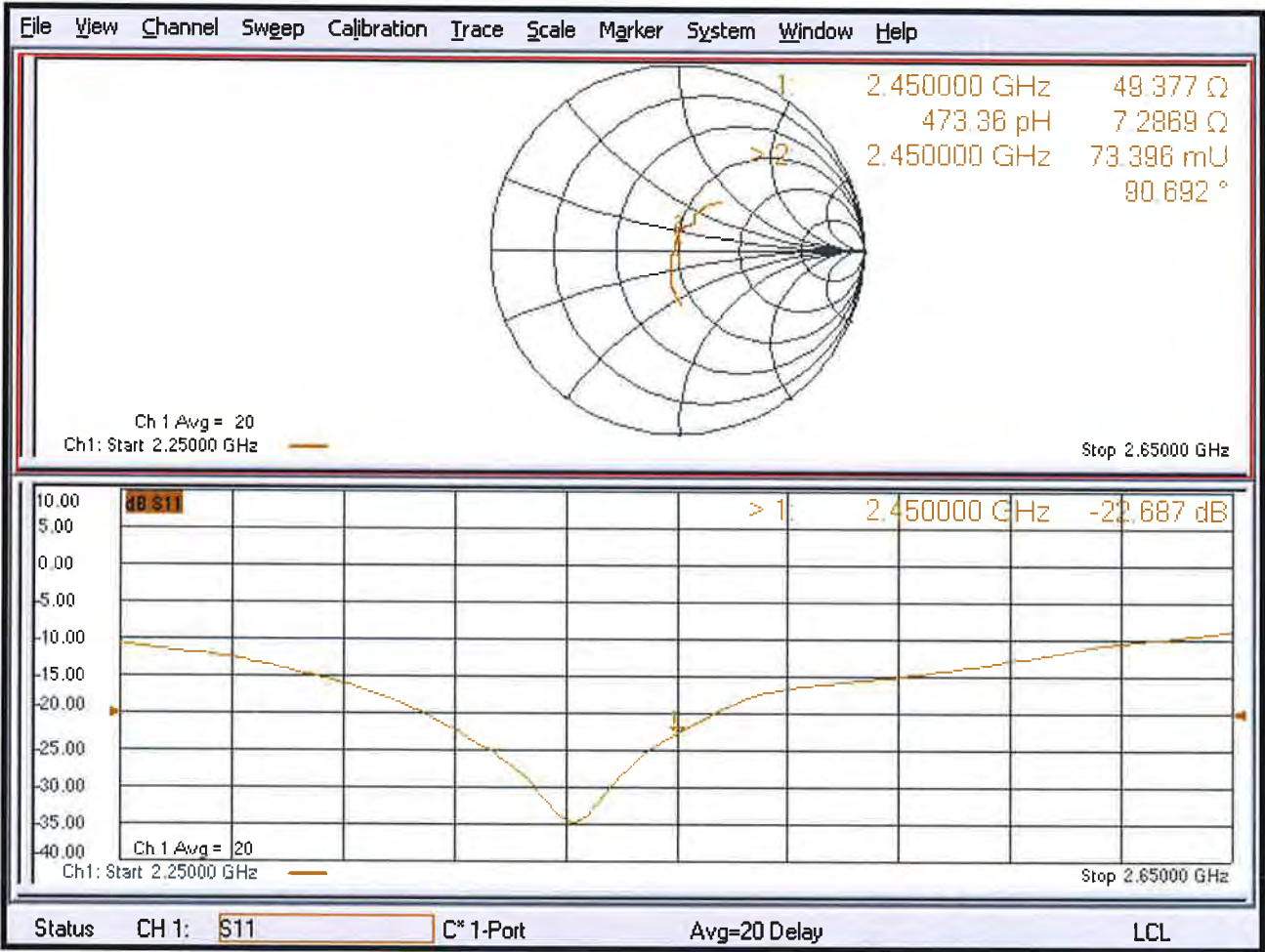
SAR(1 g) = 12.9 W/kg; SAR(10 g) = 6.01 W/kg

Maximum value of SAR (measured) = 20.9 W/kg



0 dB = 20.9 W/kg = 13.20 dBW/kg

Impedance Measurement Plot for Body TSL





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Accreditation No.: **SCS 0108**

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Client **B.V. ADT (Auden)**

Certificate No: **D2600V2-1020_Aug18**

CALIBRATION CERTIFICATE

Object **D2600V2 - SN:1020**

Calibration procedure(s) **QA CAL-05.v10**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **August 24, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-17)	In house check: Oct-18

Calibrated by: **Manu Seitz** **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Signature

Issued: August 24, 2018

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