

**Appendix (Additional assessments outside the scope of SCS 0108)****Antenna Parameters with Head TSL**

Impedance, transformed to feed point	47.4 $\Omega$ - 7.4 $j\Omega$
Return Loss	- 21.9 dB

**Antenna Parameters with Body TSL**

Impedance, transformed to feed point	44.1 $\Omega$ - 4.9 $j\Omega$
Return Loss	- 21.8 dB

**General Antenna Parameters and Design**

Electrical Delay (one direction)	1.154 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	October 30, 2007

## DASY5 Validation Report for Head TSL

Date: 26.07.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN:1012**

Communication System: UID 0 - CW; Frequency: 2600 MHz

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.02$  S/m;  $\epsilon_r = 37.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.7, 7.7, 7.7) @ 2600 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:

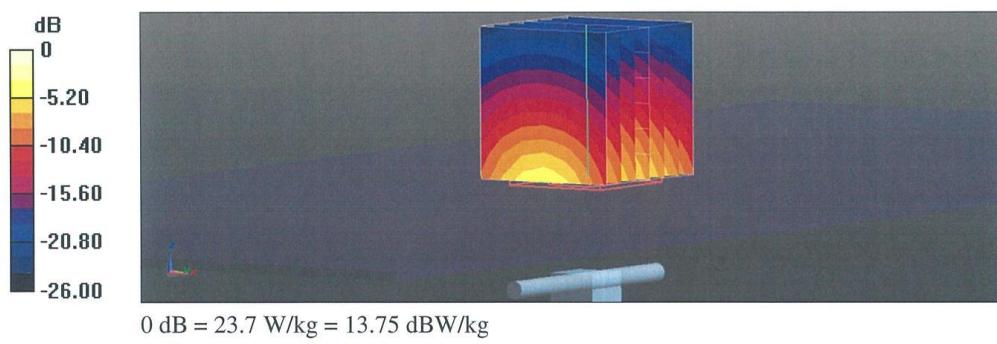
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 118.3 V/m; Power Drift = -0.04 dB

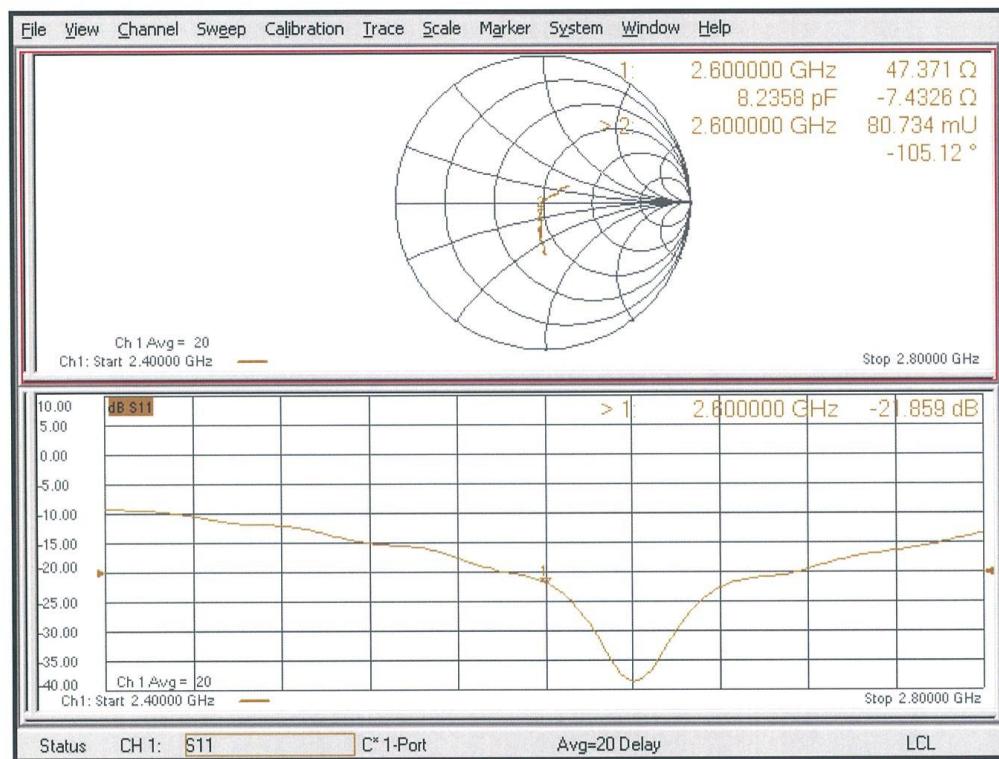
Peak SAR (extrapolated) = 28.3 W/kg

**SAR(1 g) = 14.2 W/kg; SAR(10 g) = 6.33 W/kg**

Maximum value of SAR (measured) = 23.7 W/kg



Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 26.07.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN:1012**

Communication System: UID 0 - CW; Frequency: 2600 MHz

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.2$  S/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.81, 7.81, 7.81) @ 2600 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:

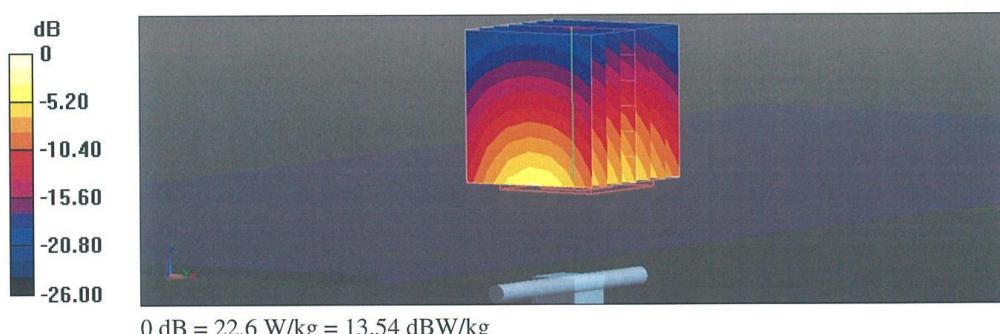
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 107.5 V/m; Power Drift = -0.07 dB

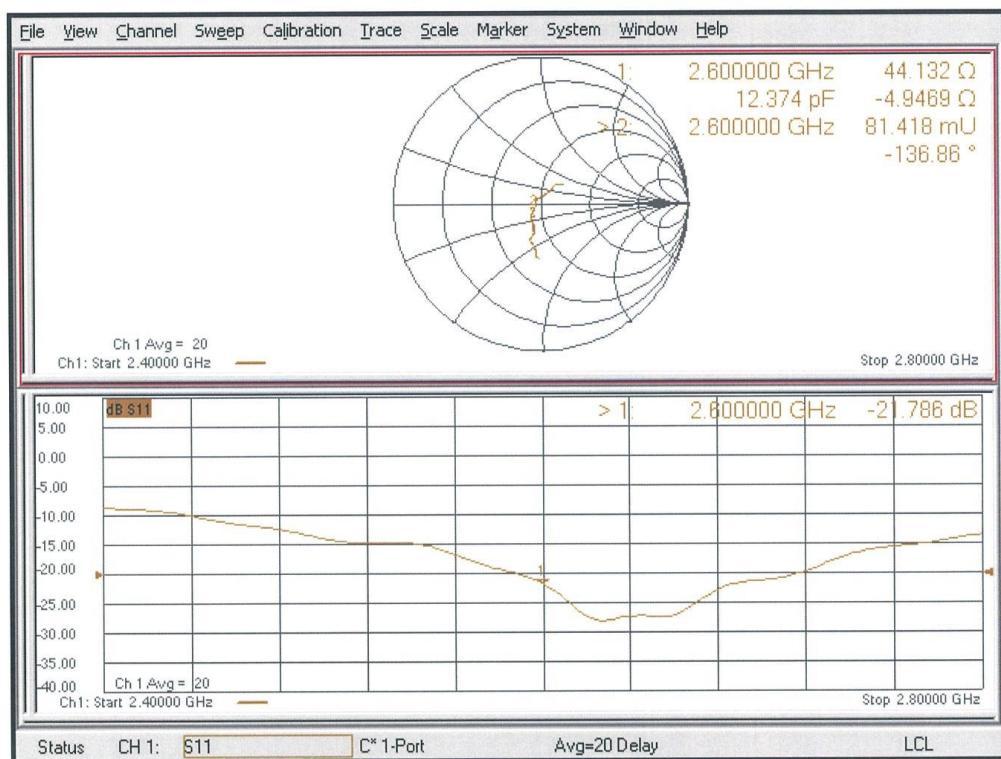
Peak SAR (extrapolated) = 27.7 W/kg

**SAR(1 g) = 13.7 W/kg; SAR(10 g) = 6.17 W/kg**

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



Impedance Measurement Plot for Body TSL



## ANNEX I Sensor Triggering Data Summary

1, Maximum transmit power reduce process follow below strategy when mobile connect network.

Headset	P-sensor	SAR sensor	TX Power reduce
Insert	Near	Near	Yes
Insert	Near	Far	No
Insert	Far	Near	Yes
Insert	Far	Far	No
Pull out	Near	Near	No
Pull out	Near	Far	No
Pull out	Far	Near	Yes
Pull out	Far	Far	No

2, Distance definition

P-sensor Detect	Near	Far
Distance Detected	<3cm	>=5cm

SAR Sensor Detect	Near	Far
black	<=23mm	>23mm
front	<=12mm	>12mm
bottom	<=23mm	>23mm
top	Not Detect	Not Detect
right	Not Detect	Not Detect
left	Not Detect	Not Detect

3, Reduction and Bands

Band	Requirement	Maximum conduct power reduction
DCS	1、2、3、4 Slots	3dB
PCS	1、2、3、4 Slots	3dB
WB1		2dB
LTE B1		2dB
LTE B3		2dB
LTE B7		2dB

According to the above description, this device was tested by the manufacturer to determine the SAR sensor triggering distances for the rear and bottom edge of the device. The measured power state within  $\pm 5\text{mm}$  of the triggering points (or until touching the phantom) is included for rear and each applicable edge.

To ensure all production units are compliant it is necessary to test SAR at a distance 1mm less than the smallest distance from the device and SAR phantom with the device at maximum output power without power reduction.

We tested the power and got the different proximity sensor triggering distances for rear and bottom edge. But the manufacturer has declared 23mm is the most conservative triggering distance for main antenna. So base on the most conservative triggering distance of 23mm, additional SAR measurements were required at 22mm from the highest SAR position between rear and bottom edge of main antenna.

### Rear

Moving device toward the phantom:

Distance [mm]	The power state										
	28	27	26	25	24	23	22	21	20	19	18
Main antenna	Normal	Normal	Normal	Normal	Low						

Moving device away from the phantom:

Distance [mm]	The power state										
	18	19	20	21	22	23	24	25	26	27	28
Main antenna	Low	Low	Low	Low	Low	Low	Low	Normal	Normal	Normal	Normal

### Bottom Edge

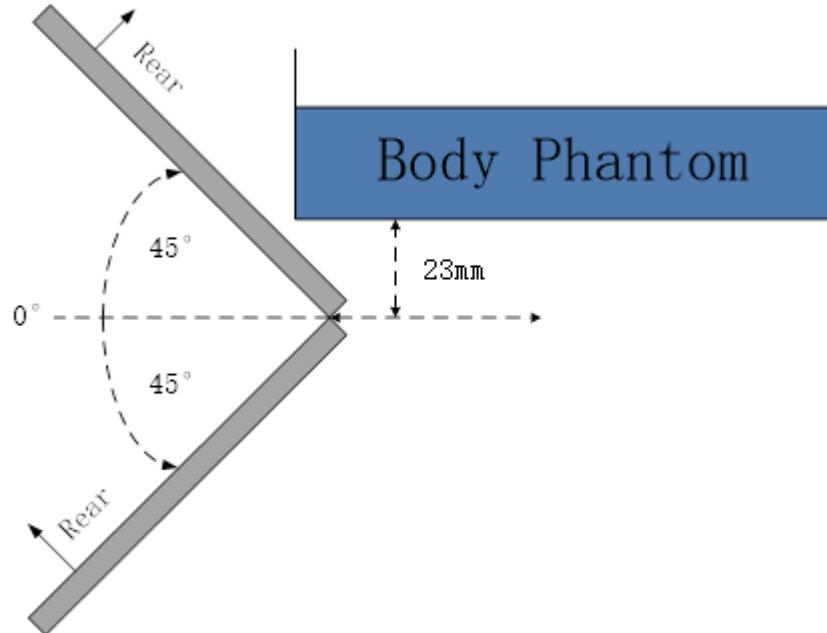
Moving device toward the phantom:

Distance [mm]	The power state										
	28	27	26	25	24	23	22	21	20	19	18
Main antenna	Normal	Normal	Normal	Normal	Normal	Low	Low	Low	Low	Low	Low

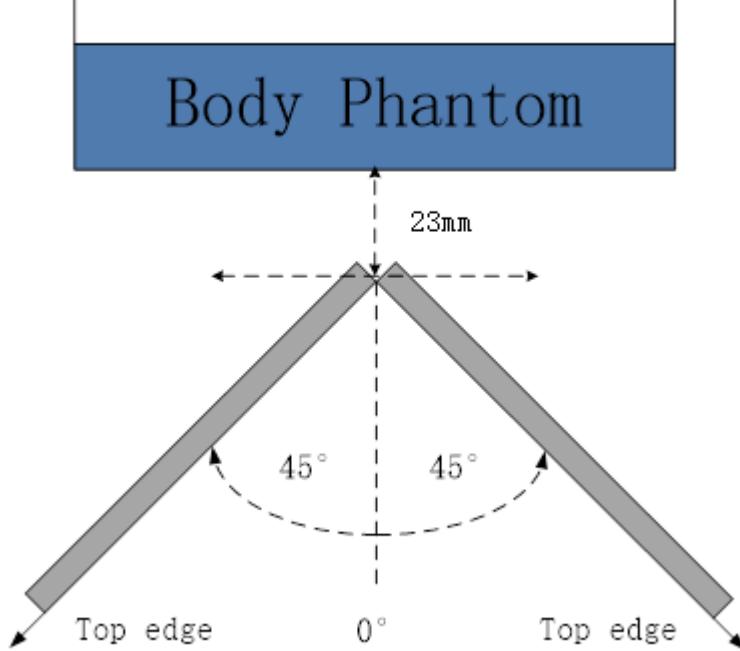
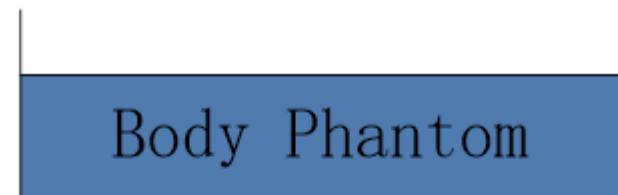
Moving device away from the phantom:

Distance [mm]	The power state										
	18	19	20	21	22	23	24	25	26	27	28
Main antenna	Low	Low	Low	Low	Low	Low	Normal	Normal	Normal	Normal	Normal

The influence of table tilt angles to proximity sensor triggering is determined by positioning each edge that contains a transmitting antenna, perpendicular to the flat phantom, at the smallest sensor triggering test distance by rotating the device around the edge next to the phantom in  $\leq 10^\circ$  increments until the tablet is  $\pm 45^\circ$  or more from the vertical position at  $0^\circ$ .



**The rear evaluation for main antenna**



**The bottom edge evaluation for main antenna**

Based on the above evaluation, we come to the conclusion that the sensor triggering is not released and normal maximum output power is not restored within the  $\pm 45^\circ$  range at the smallest sensor triggering test distance declared by manufacturer.

## ANNEX J SPOT CHECK

### J.1 Conducted power of selected case

**Table J.1-1: The conducted power results for 2G**

GSM 850	Measured Power (dBm)		
	251	190	128
Speech	33.49	/	/
GPRS 3Txslots	28.78	/	/
GSM1900	Measured Power (dBm)		
	810	661	512
Speech	29.47	/	/
GPRS 3Txslots	/	/	26.01

**Table J.1-2: The conducted Power for 3G**

WCDMA	band	FDDV result		
	ARFCN	4233 (846.6MHz)	4182 (836.4MHz)	4132 (826.4MHz)
RMC	\	/	24.37	/

**Table J.1-3: The conducted Power for LTE**

Band	Bandwidth	RB allocation - RB offset (Start RB)	Frequency (Channel)	Measured Power (dBm)
LTE Band5	10MHz	1RB-Middle (24)	829 (20450)	24.39
LTE Band7 - Normal power	20MHz	1RB-High (99)	2510 (20850)	23.61
LTE Band7 - Low power	20MHz	1RB-Middle (50)	2510 (20850)	22.11
LTE Band38	20MHz	1RB-Middle (50)	2610 (38150)	24.42
			2580 (37850)	24.08

**Table J.1-4: The conducted Power for WLAN**

Mode / data rate	Frequency (Channel)	Measured Power (dBm)
802.11b / 1Mbps	2412 (1)	17.56

## J.2 Measurement results

Test Band	Channel	Frequency	Test Position	Figure No./Note	Conducted Power (dBm)	Tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
GSM850	251	848.8	Left	Fig J.1	33.49	33.5	0.187	<b>0.19</b>	0.247	<b>0.25</b>	-0.12
GSM850	251	848.8	Rear	Fig J.2	28.78	29	0.144	<b>0.15</b>	0.235	<b>0.25</b>	0.06
GSM1900	810	1909.8	Left	Fig J.3	29.47	30.5	0.067	<b>0.08</b>	0.100	<b>0.13</b>	0.03
GSM1900	512	1850.2	Bottom	Fig J.4	26.01	26.5	0.363	<b>0.41</b>	0.681	<b>0.76</b>	0.02
WCDMA 850	4182	836.4	Right	Fig J.5	24.37	24.5	0.184	<b>0.19</b>	0.239	<b>0.25</b>	0.02
WCDMA 850	4182	836.4	Rear	Fig J.6	24.37	24.5	0.213	<b>0.22</b>	0.350	<b>0.36</b>	0.02
LTE Band5	20450	829	Left	Fig J.7	24.39	24.5	0.182	<b>0.19</b>	0.239	<b>0.25</b>	-0.16
LTE Band5	20450	829	Rear	Fig J.8	24.39	24.5	0.199	<b>0.20</b>	0.324	<b>0.33</b>	0.14
LTE Band7	20850	2510	Right	Fig J.9	23.61	24.5	0.073	<b>0.09</b>	0.138	<b>0.17</b>	0.05
LTE Band7	20850	2510	Rear	Fig J.10	22.11	23.5	0.230	<b>0.32</b>	0.507	<b>0.70</b>	0.01
LTE Band38	38150	2610	Right	Fig J.11	24.42	24.5	0.043	<b>0.04</b>	0.081	<b>0.08</b>	0.09
LTE Band38	37850	2580	Rear	Fig J.12	24.08	24.5	0.262	<b>0.29</b>	0.578	<b>0.64</b>	0.02
WLAN	1	2412	Left	Fig J.13	17.56	18	0.122	<b>0.14</b>	0.249	<b>0.28</b>	0.13
WLAN	1	2412	Rear	Fig J.14	17.56	18	0.052	<b>0.06</b>	0.103	<b>0.11</b>	-0.09

**Table J.2-1: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)**

Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
2412	1	Left	Touch	100%	100%	<b>0.28</b>	<b>0.28</b>

**Table J.2-2: SAR Values (WLAN - Body) – 802.11b (Scaled Reported SAR)**

Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.					
2412	1	Rear 10mm	100%	100%	<b>0.11</b>	<b>0.11</b>

### J.3 Reported SAR Comparison

Exposure Configuration	Technology Band	Reported SAR 1g (W/Kg): spot check	Reported SAR 1g (W/Kg): original
Head (Separation Distance 0mm)	GSM 850	<b>0.25</b>	0.21
	PCS 1900	0.13	0.17
	UMTS FDD 5	<b>0.25</b>	0.23
	LTE Band 5	<b>0.25</b>	0.23
	LTE Band 7	<b>0.17</b>	0.14
	LTE Band 38	0.08	0.08
	WLAN 2.4 GHz	<b>0.28</b>	0.27
Hotspot (Separation Distance 10mm)	GSM 850	<b>0.25</b>	0.23
	PCS 1900	<b>0.76</b>	0.62
	UMTS FDD 5	<b>0.36</b>	0.30
	LTE Band 5	<b>0.33</b>	0.28
	LTE Band 7	0.70	0.79
	LTE Band 38	0.64	1.20
	WLAN 2.4 GHz	0.11	0.11

**Note: All the spot check results marked blue are larger than the original result. So it replace the original results and others are shared.**

#### J.4 Graph Results of spot check

##### 850 Left Cheek High

Date: 2019-2-11

Electronics: DAE4 Sn1525

Medium: Head 850 MHz

Medium parameters used:  $f = 848.8$  MHz;  $\sigma = 0.893$  mho/m;  $\epsilon_r = 40.71$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 848.8 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 – SN7514 ConvF(9.09, 9.09, 9.09)

**Area Scan (71x131x1):** Interpolated grid: dx=1.000 mm, dy=1.1000 mm

Maximum value of SAR (interpolated) = 0.298 W/kg

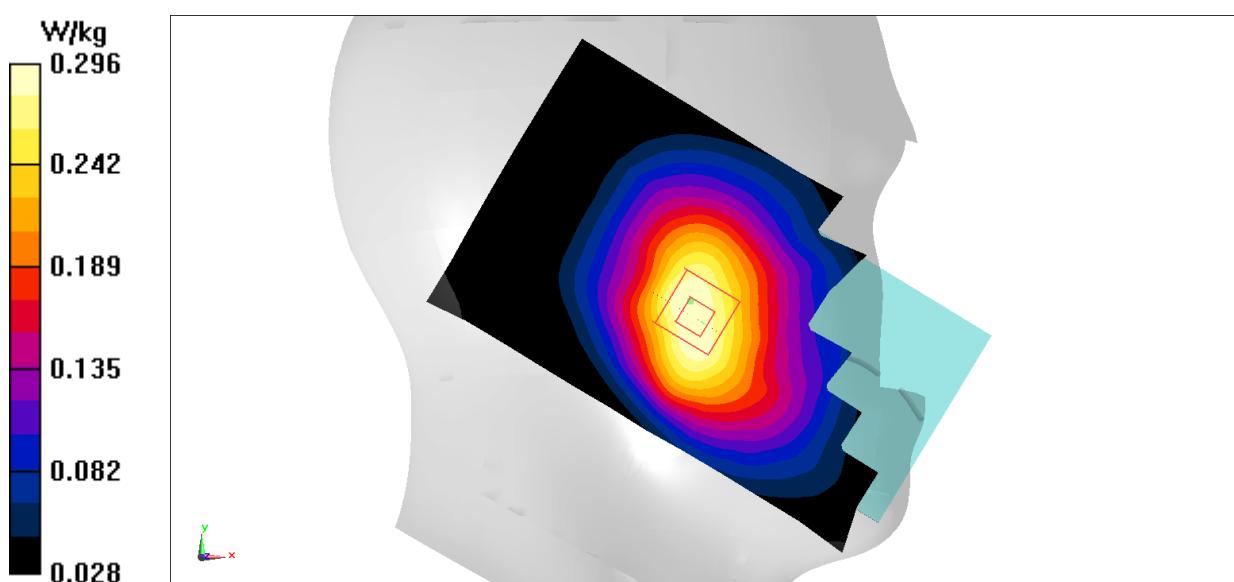
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.440 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.333 W/kg

SAR(1 g) = 0.247 W/kg; SAR(10 g) = 0.187 W/kg

Maximum value of SAR (measured) = 0.296 W/kg



**Fig J.1 850MHz**

## 850 Body Rear High

Date: 2019-2-11

Electronics: DAE4 Sn1525

Medium: Body 850 MHz

Medium parameters used:  $f = 848.8$  MHz;  $\sigma = 0.992$  mho/m;  $\epsilon_r = 55.57$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:2.67

Probe: EX3DV4 – SN7514 ConvF(9.47, 9.47, 9.47)

**Area Scan (131x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.304 W/kg

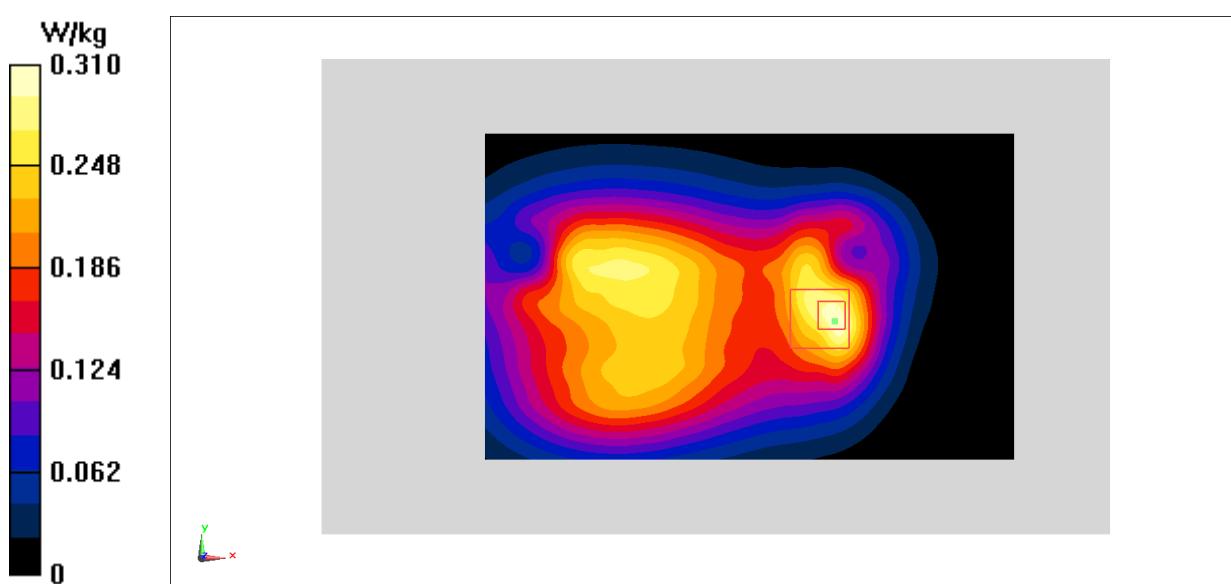
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.97 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.397 W/kg

SAR(1 g) = 0.235 W/kg; SAR(10 g) = 0.144 W/kg

Maximum value of SAR (measured) = 0.310 W/kg



**Fig J.2 850 MHz**

**1900 Left Cheek High**

Date: 2019-2-12

Electronics: DAE4 Sn1525

Medium: Head 1900 MHz

Medium parameters used (interpolated):  $f = 1909.8$  MHz;  $\sigma = 1.462$  mho/m;  $\epsilon_r = 40.13$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3

Probe: EX3DV4– SN7514 ConvF(7.73, 7.73, 7.73)

**Area Scan (71x131x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.134 W/kg

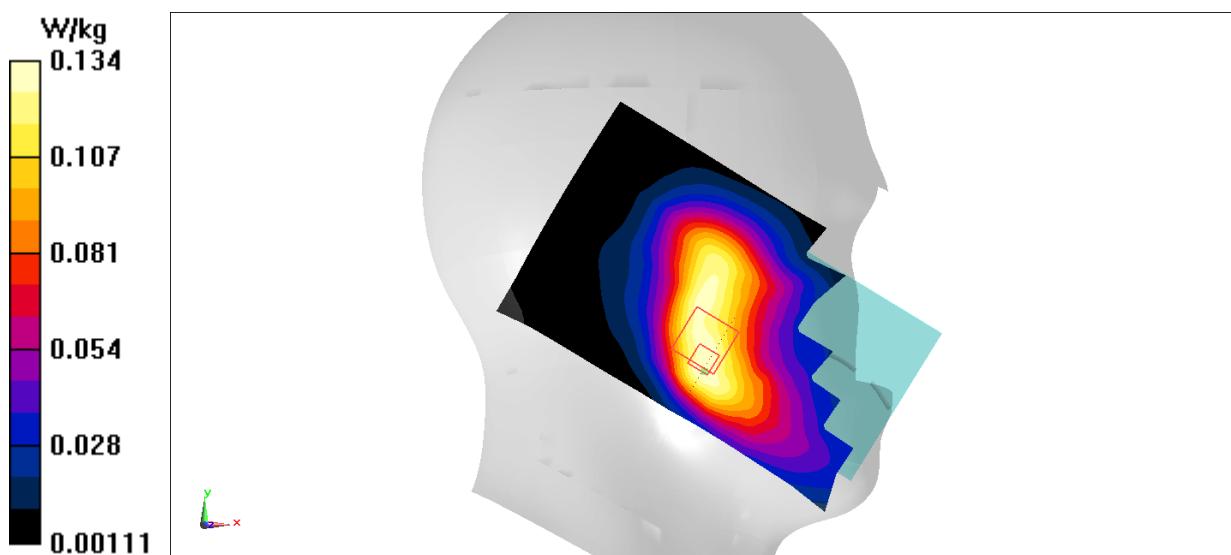
**Zoom Scan (7x7x7) /Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.512 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.157 W/kg

SAR(1 g) = 0.100 W/kg; SAR(10 g) = 0.067 W/kg

Maximum value of SAR (measured) = 0.134 W/kg

**Fig J.3 1900 MHz**

## 1900 Body Bottom Low

Date: 2019-2-12

Electronics: DAE4 Sn1525

Medium: Body 1900 MHz

Medium parameters used (interpolated):  $f = 1850.2$  MHz;  $\sigma = 1.527$  mho/m;  $\epsilon_r = 52.64$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2.67

Probe: EX3DV4– SN7514 ConvF(7.53, 7.53, 7.53)

**Area Scan (131x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

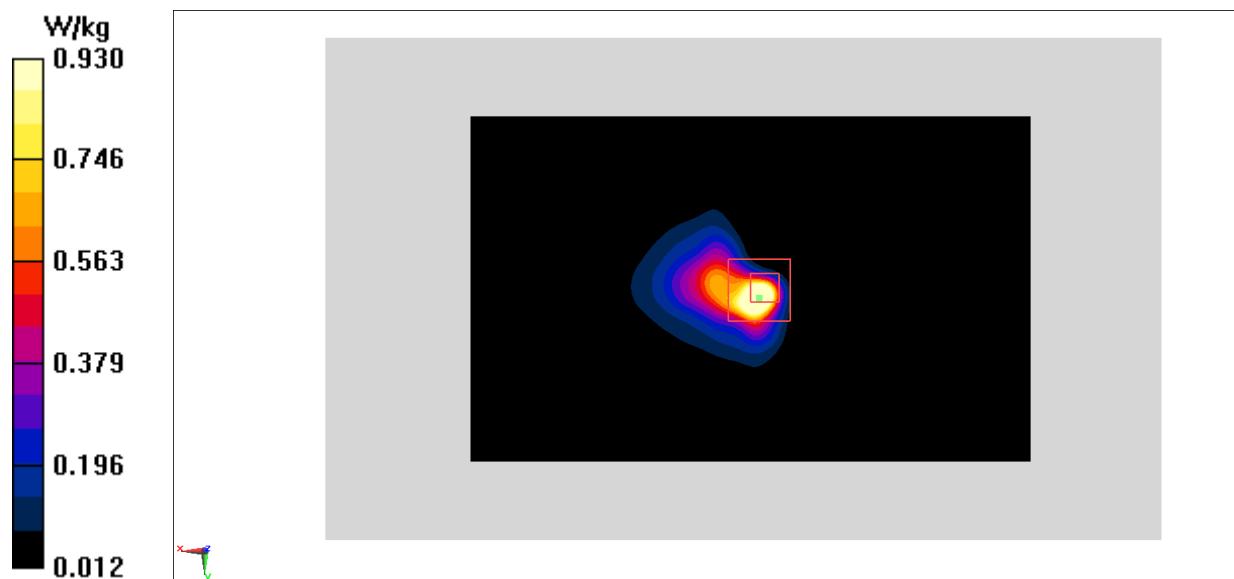
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.92 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.681 W/kg; SAR(10 g) = 0.363 W/kg

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



**Fig J.4 1900 MHz**

## WCDMA 850 Right Cheek Middle

Date: 2019-2-11

Electronics: DAE4 Sn1525

Medium: Head 850 MHz

Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.881$  mho/m;  $\epsilon_r = 40.845$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

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

Probe: EX3DV4 – SN7514 ConvF(9.09, 9.09, 9.09)

**Area Scan (71x131x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.285 W/kg

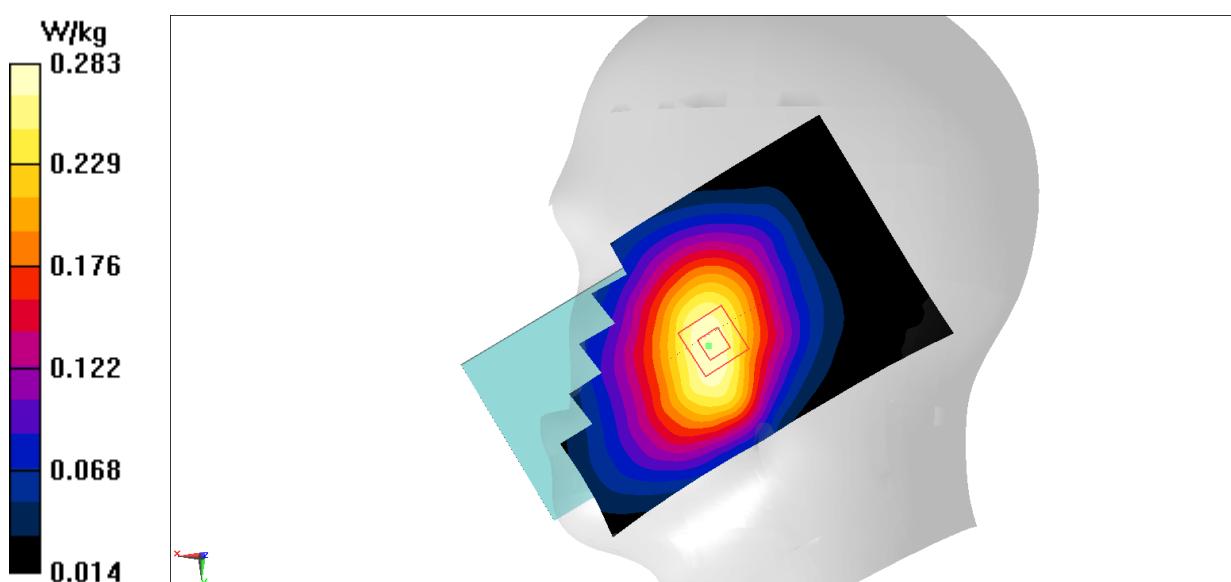
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.154 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.316 W/kg

SAR(1 g) = 0.239 W/kg; SAR(10 g) = 0.184 W/kg

Maximum value of SAR (measured) = 0.283 W/kg



**Fig J.5 WCDMA 850**

## WCDMA 850 Body Rear Middle

Date: 2019-2-11

Electronics: DAE4 Sn1525

Medium: Body 850 MHz

Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.979$  mho/m;  $\epsilon_r = 55.676$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

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

Probe: EX3DV4 – SN7514 ConvF(9.47, 9.47, 9.47)

**Area Scan (131x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.479 W/kg

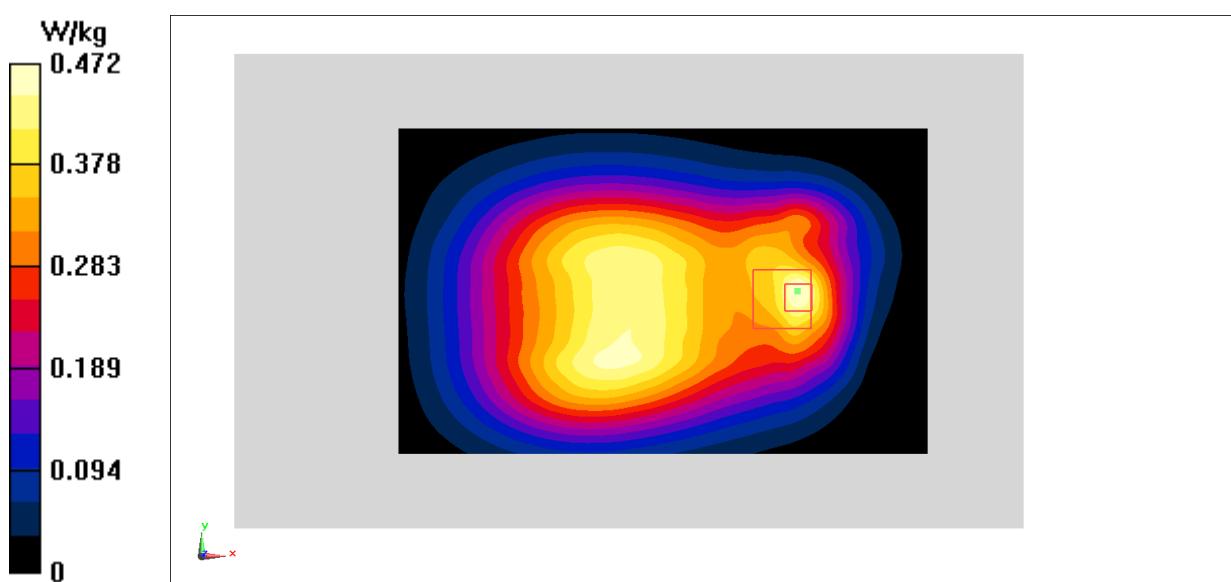
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 19.62 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.610 W/kg

SAR(1 g) = 0.350 W/kg; SAR(10 g) = 0.213 W/kg

Maximum value of SAR (measured) = 0.472 W/kg



**Fig J.6 WCDMA 850**

**LTE Band5 Left Cheek Low with QPSK\_10M\_1RB\_Middle**

Date: 2019-2-11

Electronics: DAE4 Sn1525

Medium: Head 850 MHz

Medium parameters used (interpolated):  $f = 829$  MHz;  $\sigma = 0.885$  mho/m;  $\epsilon_r = 40.841$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band5 Frequency: 829 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7514 ConvF(9.09, 9.09, 9.09)

**Area Scan (71x131x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.289 W/kg

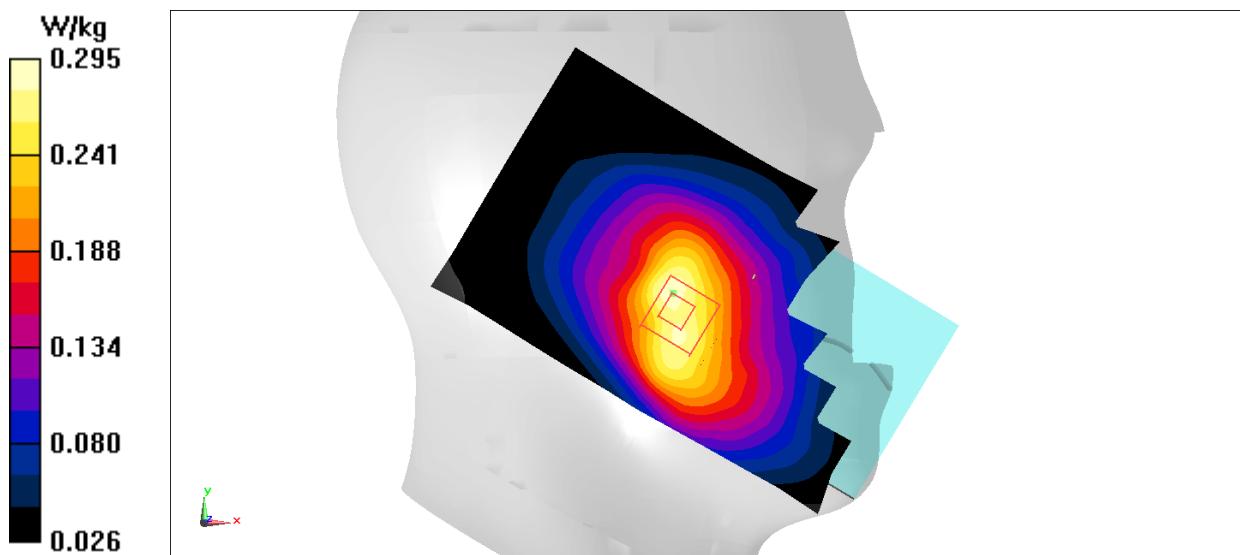
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.339 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.334 W/kg

SAR(1 g) = 0.239 W/kg; SAR(10 g) = 0.182 W/kg

Maximum value of SAR (measured) = 0.295 W/kg

**Fig J.7 LTE Band5**

**LTE Band5 Body Rear Low with QPSK\_10M\_1RB\_Middle**

Date: 2019-2-11

Electronics: DAE4 Sn1525

Medium: Body 850 MHz

Medium parameters used (interpolated):  $f = 829$  MHz;  $\sigma = 1.011$  mho/m;  $\epsilon_r = 55.394$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band5 Frequency: 829 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7514 ConvF(9.47, 9.47, 9.47)

**Area Scan (131x71x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.413 W/kg

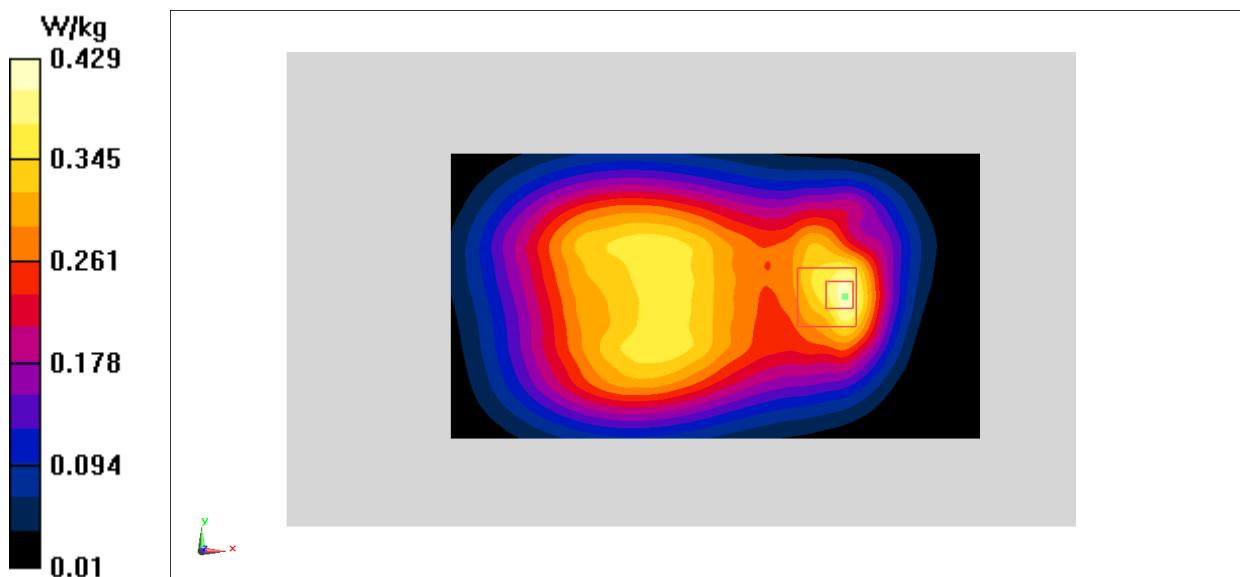
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.77 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.553 W/kg

SAR(1 g) = 0.324 W/kg; SAR(10 g) = 0.199 W/kg

Maximum value of SAR (measured) = 0.429 W/kg

**Fig J.8 LTE Band5**

**LTE Band7 Right Cheek Low with QPSK\_20M\_1RB\_High**

Date: 2019-2-13

Electronics: DAE4 Sn1525

Medium: Head 2600 MHz

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 1.899$  mho/m;  $\epsilon_r = 38.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band7 Frequency: 2510 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7514 ConvF(6.92, 6.92, 6.92)

**Area Scan (111x201x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.195 W/kg

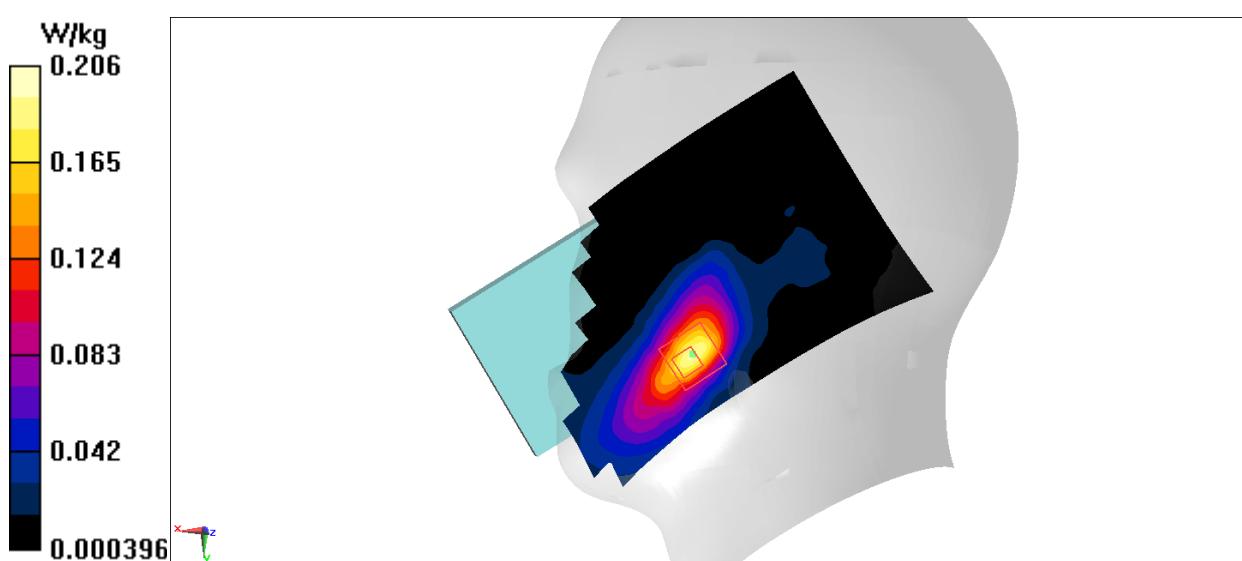
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.643 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.247 W/kg

SAR(1 g) = 0.138 W/kg; SAR(10 g) = 0.073 W/kg

Maximum value of SAR (measured) = 0.206 W/kg

**Fig J.9 LTE Band7**

**LTE Band7 Body Rear Low with QPSK\_20M\_1RB\_Middle**

Date: 2019-2-13

Electronics: DAE4 Sn1525

Medium: Body 2600 MHz

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 2.041$  mho/m;  $\epsilon_r = 51.77$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band7 Frequency: 2510 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7514 ConvF(7.06, 7.06, 7.06)

**Area Scan (161x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.666 W/kg

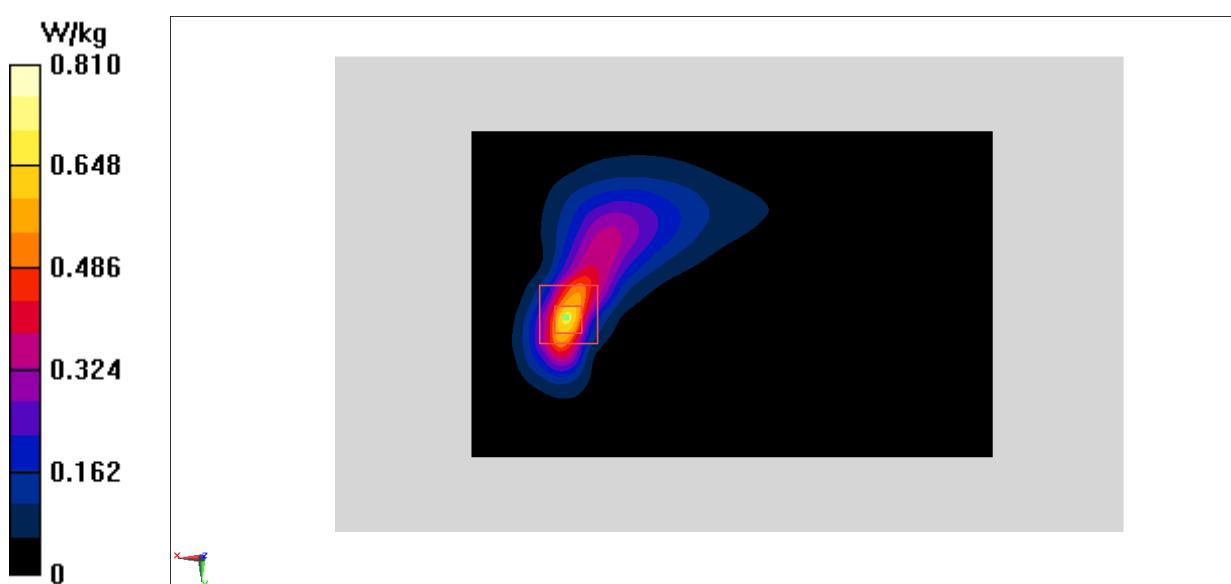
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.160 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.507 W/kg; SAR(10 g) = 0.230 W/kg

Maximum value of SAR (measured) = 0.810 W/kg

**Fig J.10 LTE Band7**

**LTE Band 38 Right Cheek with QPSK\_20M\_1RB\_Middle**

Date: 2019-2-13

Electronics: DAE4 Sn1525

Medium: Head 2600 MHz

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 1.936$  mho/m;  $\epsilon_r = 38.09$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band38 Frequency: 2610 MHz Duty Cycle: 1:1.58

Probe: EX3DV4- SN7514 ConvF(6.92, 6.92, 6.92)

**Area Scan (71x131x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.108 W/kg

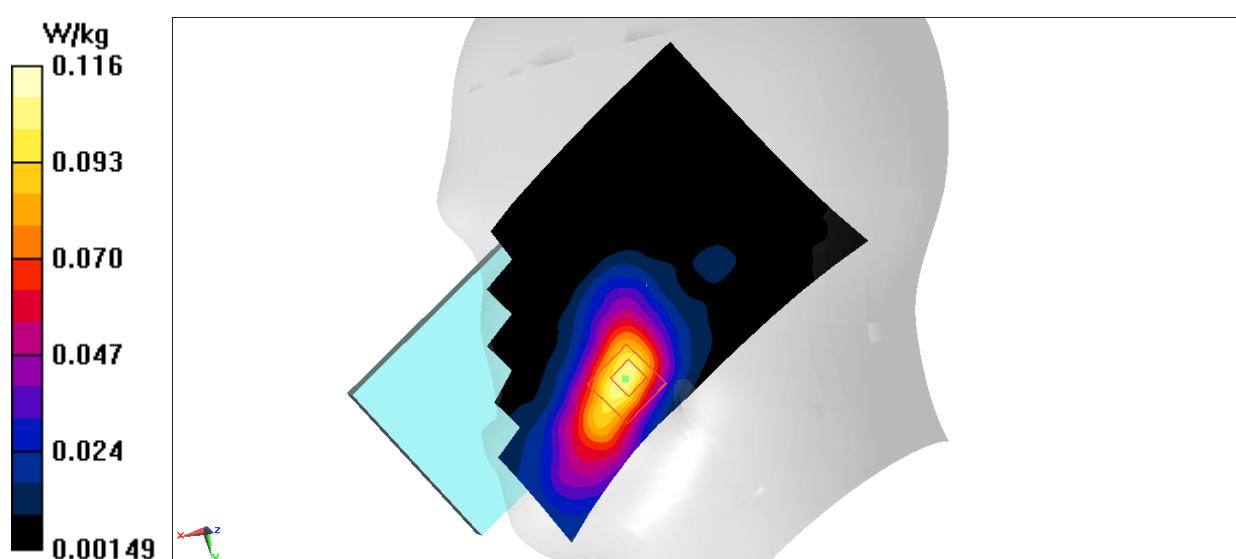
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.582 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.146 W/kg

SAR(1 g) = 0.081 W/kg; SAR(10 g) = 0.043 W/kg

Maximum value of SAR (measured) = 0.116 W/kg

**Fig J.11 LTE Band 38**

**LTE Band 38 Body Rear with QPSK\_20M\_1RB\_Middle**

Date: 2019-2-13

Electronics: DAE4 Sn1525

Medium: Body 2600 MHz

Medium parameters used:  $f = 2580$  MHz;  $\sigma = 2.076$  mho/m;  $\epsilon_r = 51.724$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band38 Frequency: 2580 MHz Duty Cycle: 1:1.58

Probe: EX3DV4- SN7514 ConvF(7.06, 7.06, 7.06)

**Area Scan (161x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

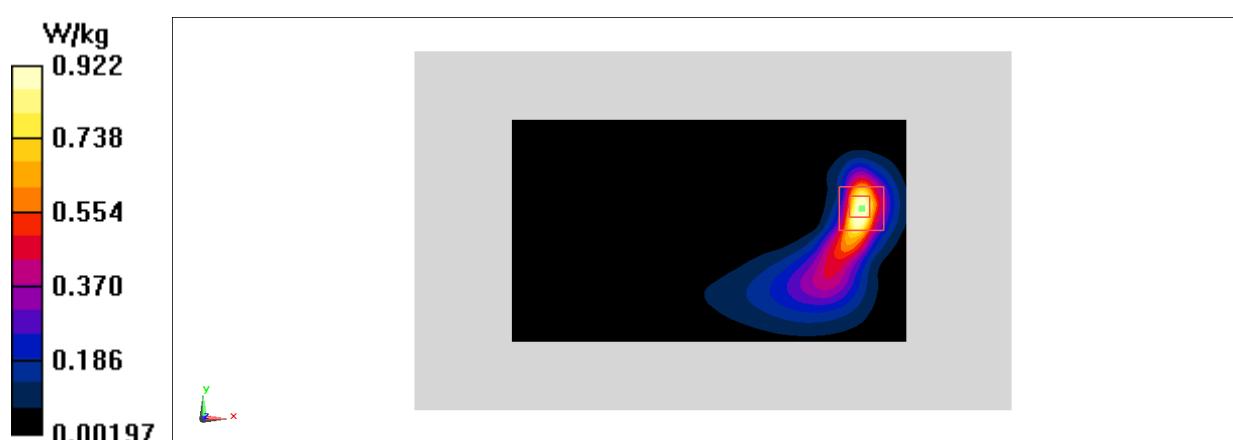
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.545 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.578 W/kg; SAR(10 g) = 0.262 W/kg

Maximum value of SAR (measured) = 0.922 W/kg

**Fig J.12 LTE Band 38**

## Wifi 802.11b Left Cheek Channel 1

Date: 2019-2-12

Electronics: DAE4 Sn1525

Medium: Head 2450 MHz

Medium parameters used (interpolated):  $f = 2412$  MHz;  $\sigma = 1.787$  mho/m;  $\epsilon_r = 39.75$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN7514 ConvF(6.95, 6.95, 6.95)

**Area Scan (91x161x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.438 W/kg

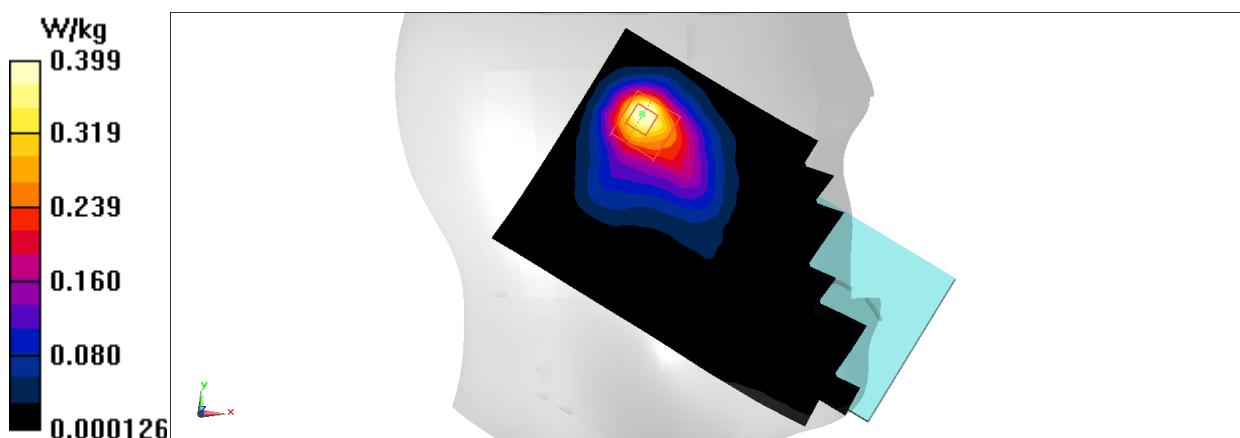
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.389 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.523 W/kg

SAR(1 g) = 0.249 W/kg; SAR(10 g) = 0.122 W/kg

Maximum value of SAR (measured) = 0.399 W/kg



**Fig J.13 2450 MHz**

## Wifi 802.11b Body Rear Channel 1

Date: 2019-2-12

Electronics: DAE4 Sn1525

Medium: Body 2450 MHz

Medium parameters used (interpolated):  $f = 2412$  MHz;  $\sigma = 1.937$  mho/m;  $\epsilon_r = 51.87$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7514 ConvF(7.13, 7.13, 7.13)

**Area Scan (161x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.158 W/kg

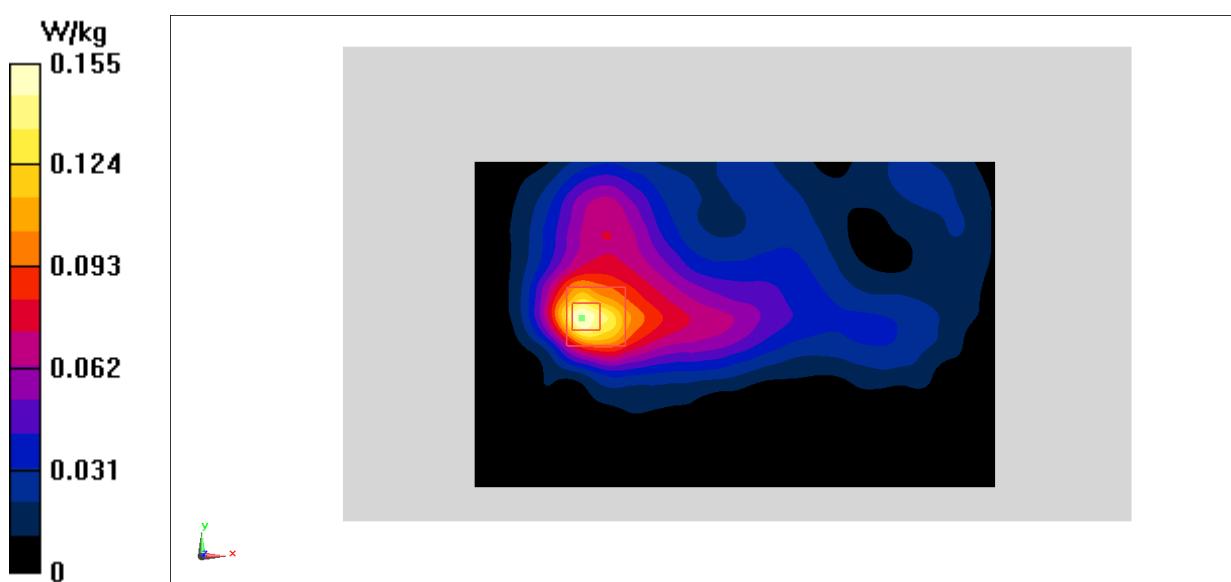
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.206 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.208 W/kg

SAR(1 g) = 0.103 W/kg; SAR(10 g) = 0.052 W/kg

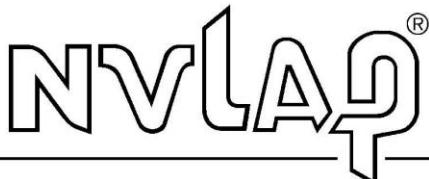
Maximum value of SAR (measured) = 0.155 W/kg



**Fig J.14 2450 MHz**

## ANNEX K Accreditation Certificate

United States Department of Commerce  
National Institute of Standards and Technology



### Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 600118-0

**Telecommunication Technology Labs, CAICT**

Beijing  
China

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

**Electromagnetic Compatibility & Telecommunications**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2018-09-28 through 2019-09-30

Effective Dates



*For the National Voluntary Laboratory Accreditation Program*

