

## DASY5 Validation Report for Body TSL

Date: 25.07.2016

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:853**

Communication System: UID 0 - CW; Frequency: 2450 MHz

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 2.03$  S/m;  $\epsilon_r = 51.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.79, 7.79, 7.79); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

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

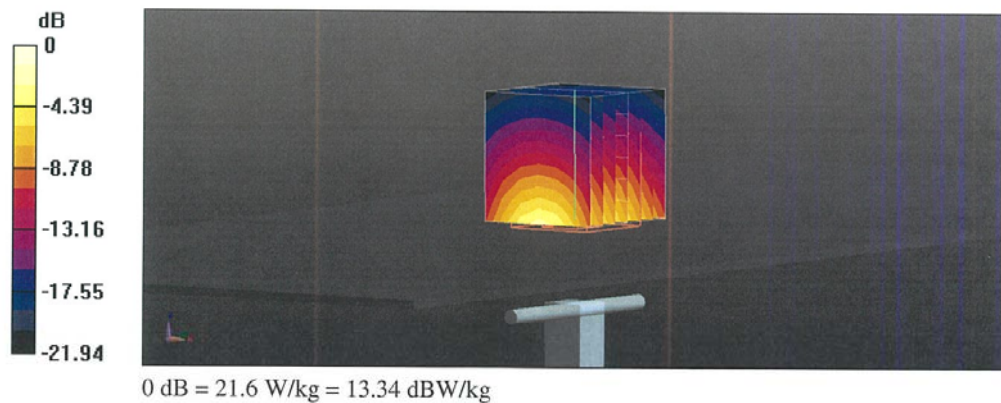
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 107.4 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 26.3 W/kg

**SAR(1 g) = 13.1 W/kg; SAR(10 g) = 6.1 W/kg**

Maximum value of SAR (measured) = 21.6 W/kg



## ANNEX I SPOT CHECK TEST

As the test lab for 5046S from TCL Communication Ltd, we, CTTL (Shouxiang), declare on our sole responsibility that, according to “Declaration of changes” provided by applicant, only the Spot check test should be performed. The test results are as below.

### I.1 Conducted power of selected case

Table I.1-1: The conducted Power for CDMA

CDMA BC0				
		Measured Power (dBm)		
Config	Tune-up	CH777 848.3 MHz	CH384 836.5 MHz	CH1013 824.7 MHz
SO55/RC3	24.50	23.96	24.21	24.12
SO32/RC3(FCH only)	24.50	23.98	24.22	24.13

CDMA BC1				
		Measured Power (dBm)		
Config	Tune-up	CH1175 1908.8 MHz	CH600 1880 MHz	CH25 1851.3 MHz
SO55/RC3	24.50	23.44	23.47	23.58
SO32/RC3(FCH only)	24.50	23.42	23.45	23.59

CDMA BC1-Hotspot On				
		Measured Power (dBm)		
Config	Tune-up	CH1175 1908.8 MHz	CH600 1880 MHz	CH25 1851.3 MHz
SO32/RC3(FCH only)	22.30	21.86	21.87	21.96

Table I.1-2: The conducted Power for LTE

LTE band 4				
BandWidth	RB Number	Channel	Tune-up	Measured Power
20 MHz	1M	1745 (20300)	24	/
		1732.5 (20175)	24	23.95
		1720 (20050)	24	/
20 MHz	1L	1745 (20300)	24	23.95
		1732.5 (20175)	24	/
		1720 (20050)	24	23.71

LTE band 13				
BandWidth	RB Number	Channel	Tune-up	Measured Power
10 MHz	1H	782 (23230)	24.5	/
	1M		24.5	23.53
	1L		24.5	/

**Table I.1-3: The conducted Power for WLAN**

802.11b(dBm)		
Channel\data rate	Tune up	1Mbps
1(2412MHz)	16.20	15.48
6(2437MHz)	16.20	15.82
11(2462MHz)	16.20	15.54

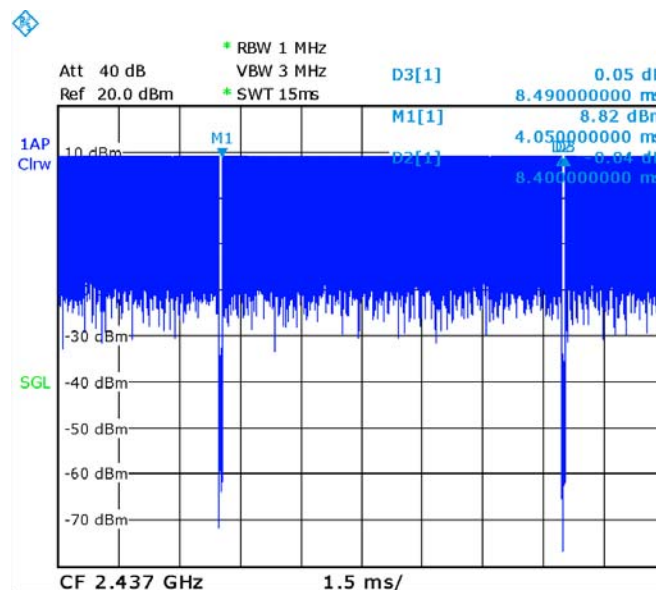
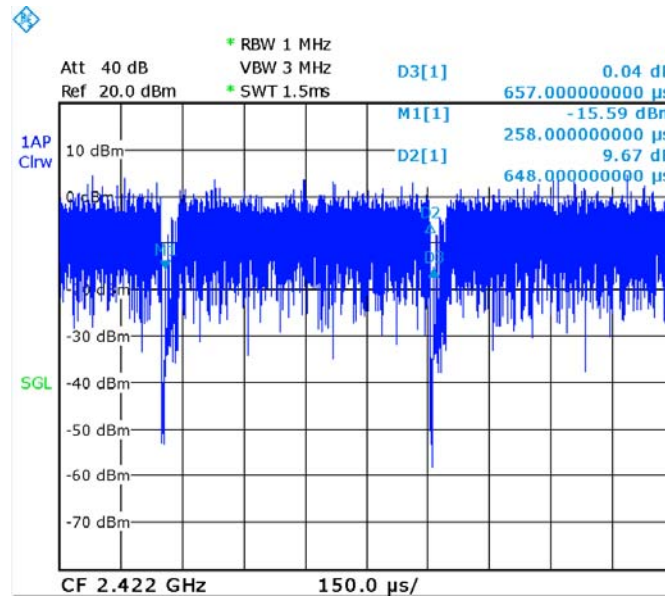
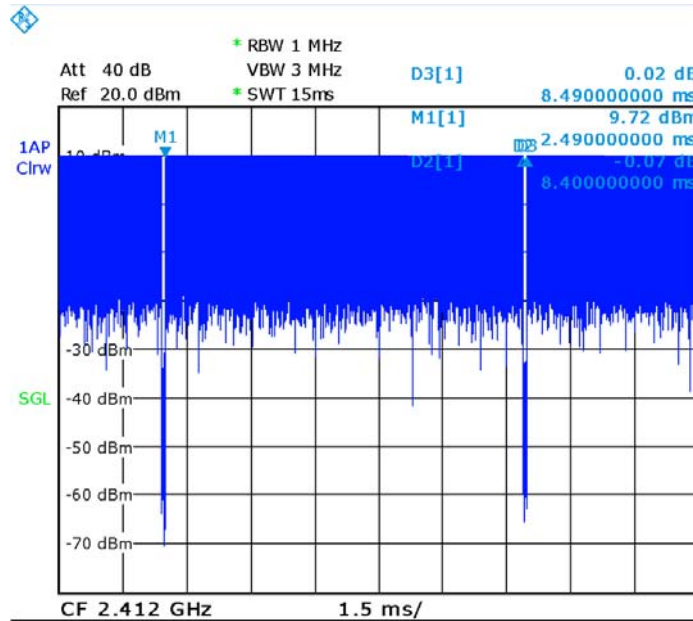
802.11n(dBm)-40MHz		
Channel\data rate	Tune up	MCS0
3(2422MHz)	17.00	15.93
6(2437MHz)	17.00	16.36
9(2452MHz)	17.00	16.50

## I.2 Measurement results

Test Band	Channel	Frequency	Tune-Up	Measured Power	Test Poisition	Measured 10g SAR	Measured 1g SAR	Reported 10g SAR	Reported 1g SAR	Power Drift	Figure
CDMA BC0	1013	824.7	24.5	24.12	Cheek Left	0.144	0.189	0.16	0.21	0.01	Fig. I.1
CDMA BC0	1013	824.7	24.5	24.13	Rear	0.322	0.427	0.35	0.46	0.18	Fig. I.2
CDMA BC1	25	1851.25	24.5	23.58	Cheek Left	0.304	0.489	0.38	0.60	0.02	Fig. I.3
CDMA BC1	1175	1908.75	22.3	21.86	Bottom	0.5	0.938	0.55	1.04	0.03	Fig. I.4
CDMA BC1	600	1880	24.5	23.45	Rear	0.452	0.775	0.58	0.99	-0.11	Fig. I.5
LTE Band4	20175	1732.5	24.7	23.95	Cheek Left	0.339	0.523	0.40	0.62	-0.04	Fig. I.6
LTE Band4	20300	1745	23.7	23.1	Front	0.465	0.815	0.53	0.94	0.01	Fig. I.7
LTE Band4	20175	1732.5	24.7	23.95	Rear	0.26	0.422	0.31	0.50	0.04	Fig. I.8
LTE Band13	23230	782	24	23.53	Cheek Left	0.179	0.229	0.20	0.26	-0.13	Fig. I.9
LTE Band13	23230	782	24	23.53	Rear	0.348	0.459	0.39	0.51	-0.03	Fig. I.10
WLAN 11b	6	2437	16.2	15.82	Cheek Left	0.334	0.714	0.36	0.78	0.14	Fig. I.11
WLAN 11n40M	3	2422	17	15.93	Cheek Left	0.416	0.889	0.53	1.14	0.06	Fig. I.12
WLAN 11b	1	2412	16.2	15.48	Front	0.079	0.146	0.09	0.17	0.17	Fig. I.13

Test Band	Frequency		Side	Test Position	maximum duty factor	Reported SAR	Scaled reported SAR
Wlan	MHz	Ch.	Left	Touch	98.93%	(1g) (W/kg)	(1g) (W/kg)
	2437	6				0.78	0.79
Wlan	Frequency		Side	Test Position	maximum duty factor	Reported SAR	Scaled reported SAR
	MHz	Ch.				(1g) (W/kg)	(1g) (W/kg)
	2422	3	Left	Touch	98.63%	1.14	1.15
Wlan	Frequency		Test Position		maximum duty factor	Reported SAR	Scaled reported SAR
	MHz	Ch.				(1g) (W/kg)	(1g) (W/kg)
	2412	1	Front		98.93%	0.17	0.17

Note: The data of spot check are all smaller than original, we share the test results of original sample directly.



### I.3 Reported SAR Comparison

Exposure Configuration	Technology Band	Reported SAR 1g (W/Kg): spot check	Reported SAR 1g (W/Kg): original
Head	CDMA BC0	0.21	0.38
	CDMA BC1	0.60	0.60
	LTE Band4	0.62	0.65
	LTE Band13	0.26	0.37
	WLAN 11b	0.79	1.42
	WLAN 11n	1.15	1.53
Body-Hotspot Off (10mm)	CDMA BC0	0.46	0.67
	CDMA BC1	1.04	1.35
	LTE Band4	0.94	1.23
	LTE Band13	0.51	0.51
	WLAN 11b	0.17	0.20
Body-Hotspot On (15mm)	CDMA BC1	0.99	1.10
	LTE Band4	0.50	0.59

### CDMA BC0 Head Left Cheek Low

Date: 2017-2-15

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used:  $f = 824.7$  MHz;  $\sigma = 0.934$  mho/m;  $\epsilon_r = 41.01$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C      Liquid Temperature: 22.0°C

Communication System: CDMA BC0 Frequency: 824.7 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(10.01, 10.01, 10.01)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

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

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

Reference Value = 2.782 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.238 W/kg

**SAR(1 g) = 0.189 W/kg; SAR(10 g) = 0.144 W/kg**

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

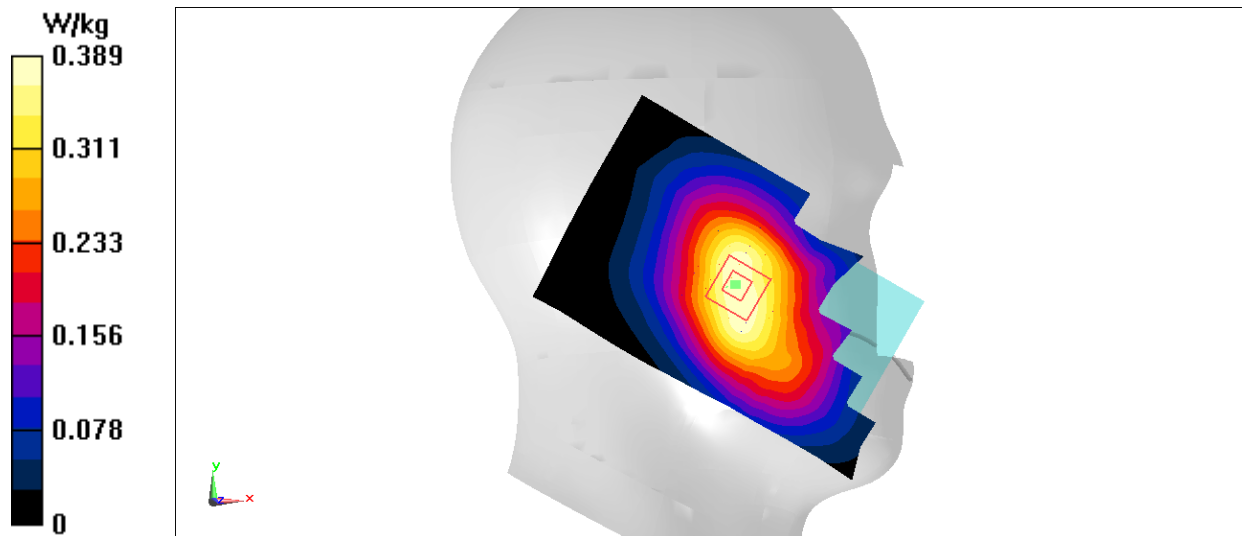


Fig.1 CDMA BC0

### CDMA BC0 Body Rear Low

Date: 2017-2-15

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used:  $f = 824.7$  MHz;  $\sigma = 0.989$  S/m;  $\epsilon_r = 55.92$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C      Liquid Temperature: 22.0°C

Communication System: CDMA BC0 Frequency: 824.7 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(9.83, 9.83, 9.83)

**Area Scan (111x61x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.474 W/kg

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

Reference Value = 20.13 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.569 W/kg

**SAR(1 g) = 0.427 W/kg; SAR(10 g) = 0.322 W/kg**

Maximum value of SAR (measured) = 0.471 W/kg

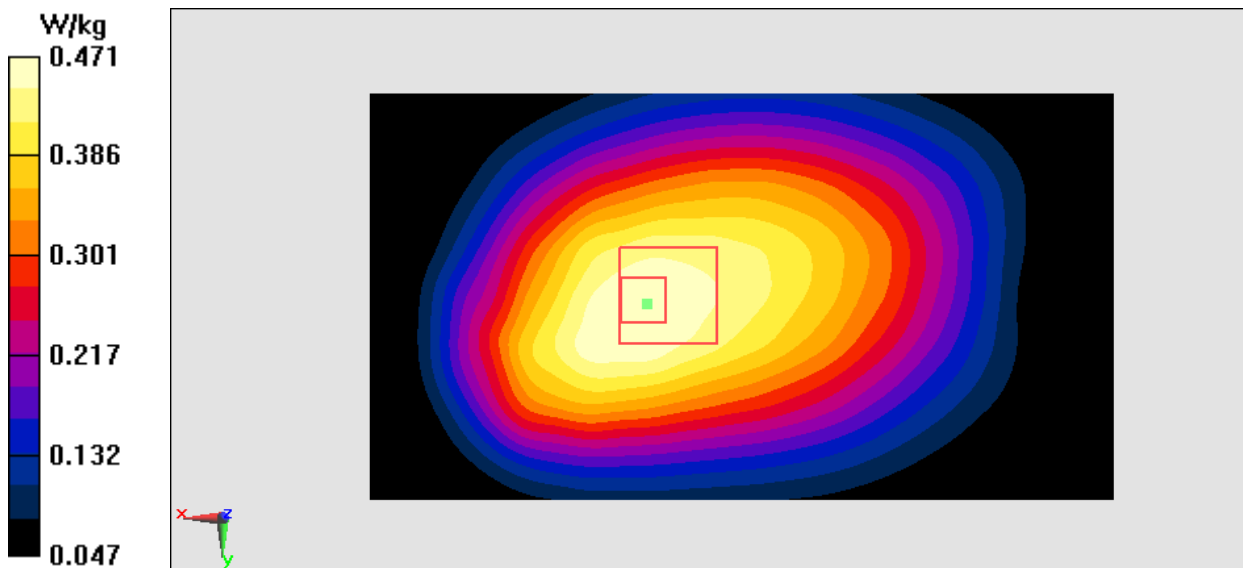


Fig.2 CDMA BC0

### CDMA BC1 Head Left Cheek Low

Date: 2017-2-17

Electronics: DAE4 Sn1331

Medium: Head 1900 MHz

Medium parameters used (interpolated):  $f = 1851.3$  MHz;  $\sigma = 1.428$  mho/m;  $\epsilon_r = 39.71$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C      Liquid Temperature: 22.0°C

Communication System: CDMA BC1 Frequency: 1851.3 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(8.10, 8.10, 8.10)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.639 W/kg

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

Reference Value = 4.776 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.734 W/kg

**SAR(1 g) = 0.489 W/kg; SAR(10 g) = 0.304 W/kg**

Maximum value of SAR (measured) = 0.571 W/kg

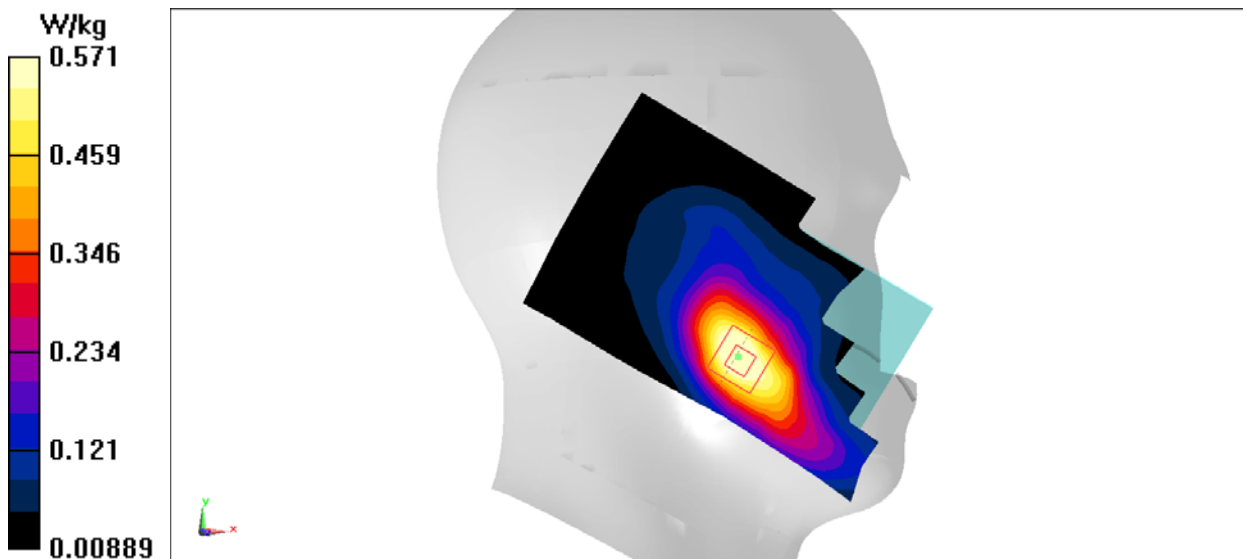


Fig.3 CDMA BC1



### CDMA BC1 Body Bottom High – AP ON

Date: 2017-2-17

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used (interpolated):  $f = 1908.8$  MHz;  $\sigma = 1.517$  mho/m;  $\epsilon_r = 53.07$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C      Liquid Temperature: 22.0°C

Communication System: CDMA BC1 Frequency: 1908.8 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(7.67, 7.67, 7.67)

**Area Scan (121x71x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.09 W/kg

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

Reference Value = 23.33 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.51 W/kg

**SAR(1 g) = 0.938 W/kg; SAR(10 g) = 0.500 W/kg**

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

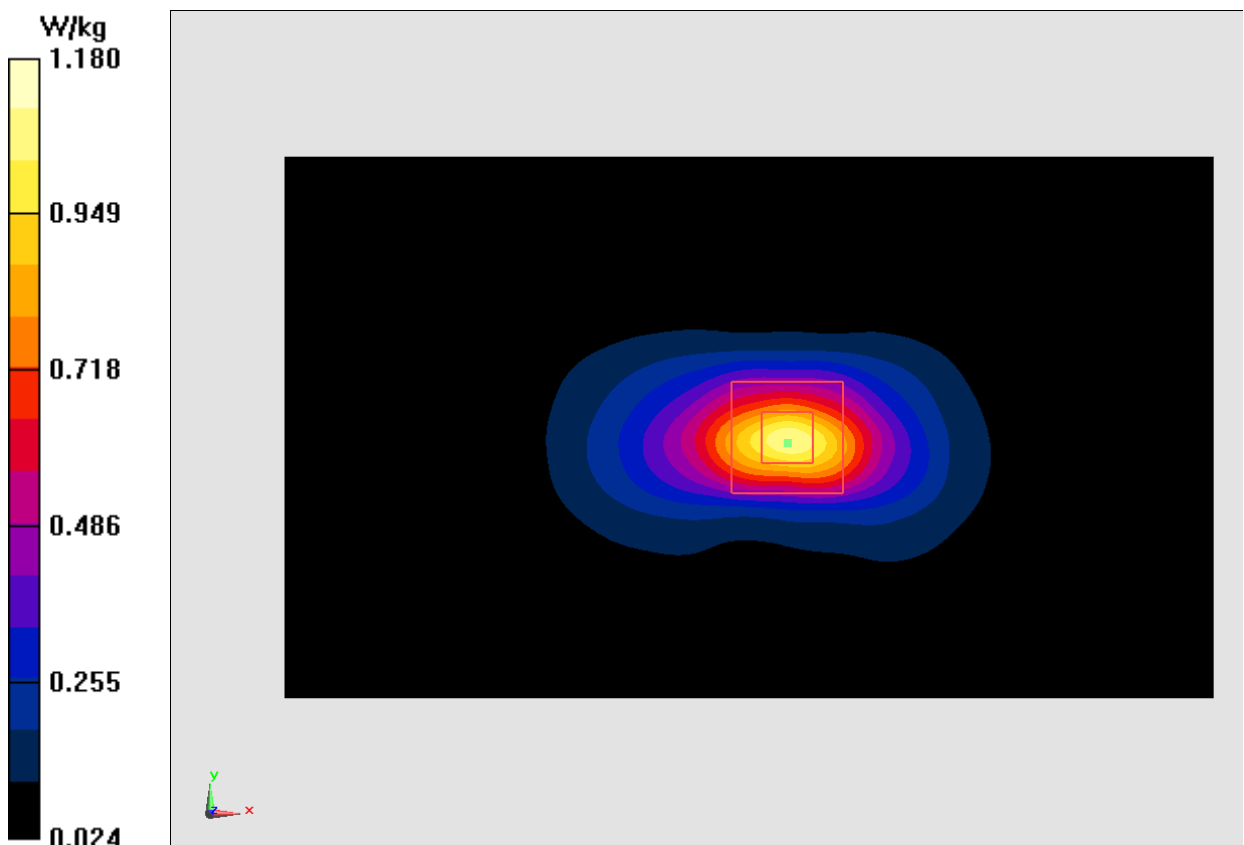


Fig.4 CDMA BC1

### CDMA BC1 Body Rear High – AP OFF

Date: 2017-2-17

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.501$  mho/m;  $\epsilon_r = 53.21$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C      Liquid Temperature: 22.0°C

Communication System: CDMA BC1 Frequency: 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(7.67, 7.67, 7.67)

**Area Scan (121x71x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.864 W/kg

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

Reference Value = 10.72 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.16 W/kg

**SAR(1 g) = 0.775 W/kg; SAR(10 g) = 0.452 W/kg**

Maximum value of SAR (measured) = 0.924 W/kg

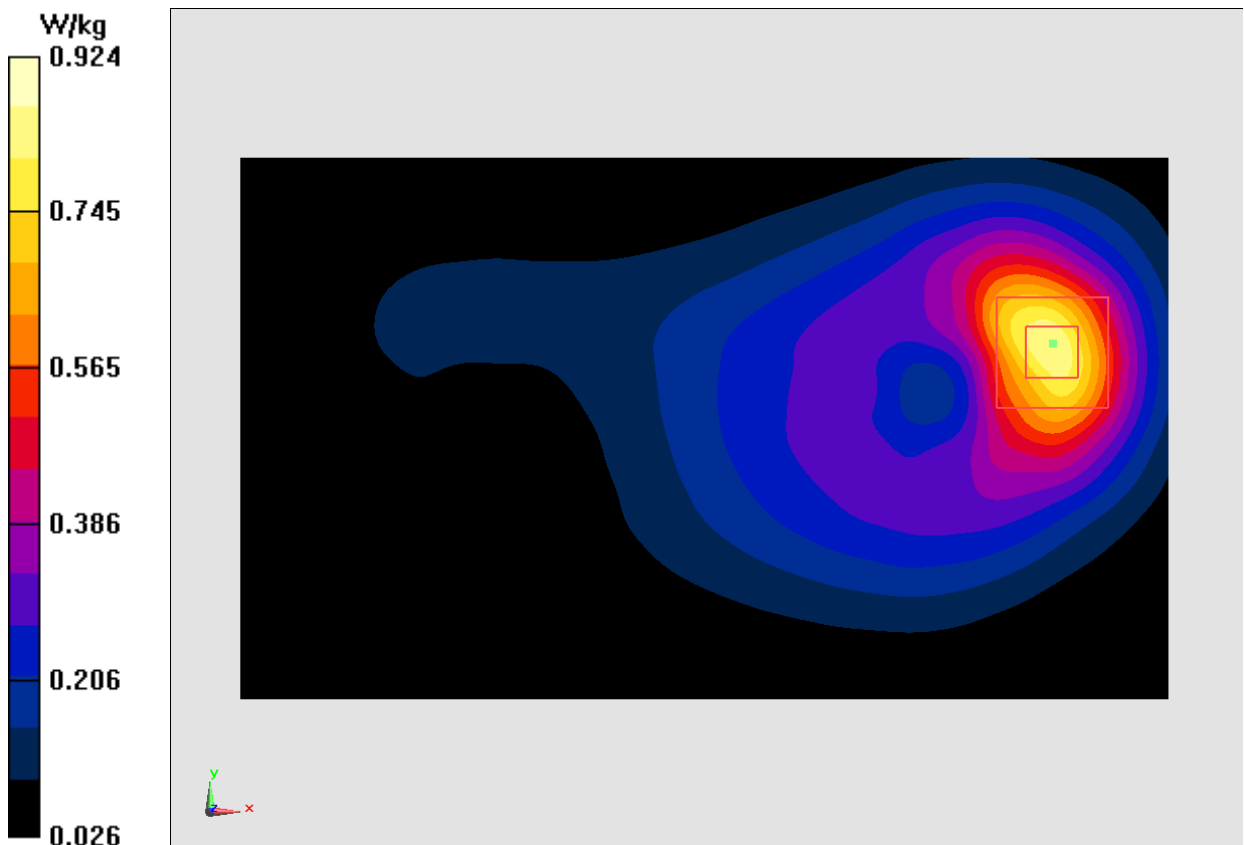


Fig.5 CDMA BC1

### **LTE Band4 Left Cheek Middle with QPSK\_20M\_1RB\_Middle**

Date: 2017-2-16

Electronics: DAE4 Sn1331

Medium: Head 1750 MHz

Medium parameters used:  $f = 1732.5$  MHz;  $\sigma = 1.351$  mho/m;  $\epsilon_r = 39.41$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C      Liquid Temperature: 22.0°C

Communication System: LTE Band4 Frequency: 1732.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(8.37, 8.37, 8.37)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.629 W/kg

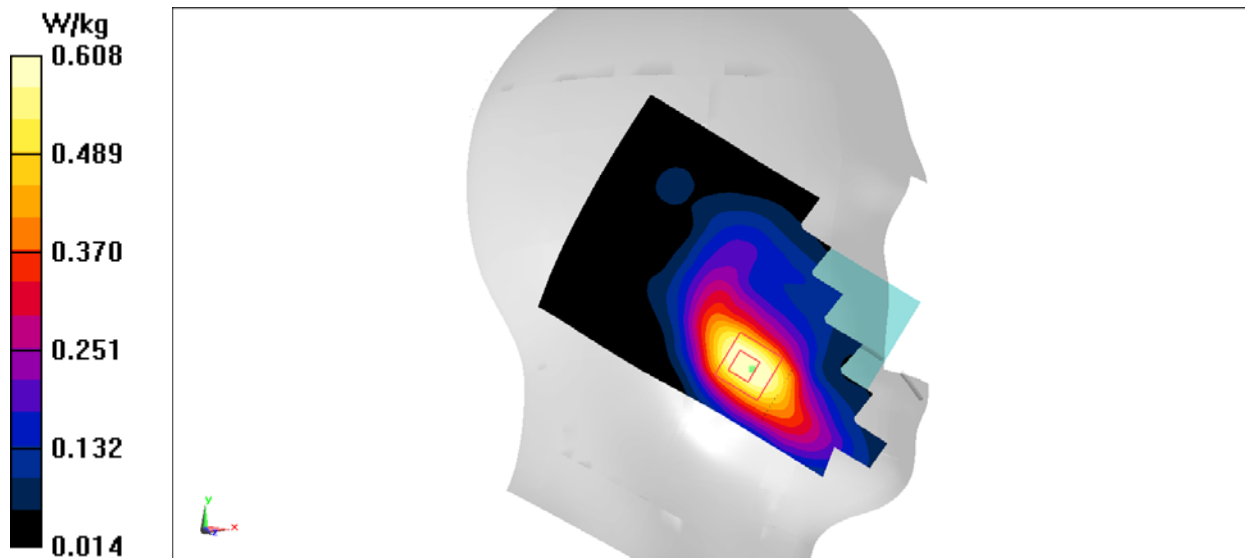
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 4.922 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.774 W/kg

**SAR(1 g) = 0.523 W/kg; SAR(10 g) = 0.339 W/kg**

Maximum value of SAR (measured) = 0.608 W/kg



**Fig.6 LTE Band4**

### LTE Band4 Body Front High with QPSK\_20M\_1RB\_Low AP ON

Date: 2017-2-16

Electronics: DAE4 Sn1331

Medium: Body 1750 MHz

Medium parameters used:  $f = 1745$  MHz;  $\sigma = 1.485$  mho/m;  $\epsilon_r = 53.12$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: LTE Band4 Frequency: 1745 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(8.10, 8.10, 8.10)

**Area Scan (121x71x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.978 W/kg

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

Reference Value = 11.95 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.27 W/kg

**SAR(1 g) = 0.815 W/kg; SAR(10 g) = 0.465 W/kg**

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

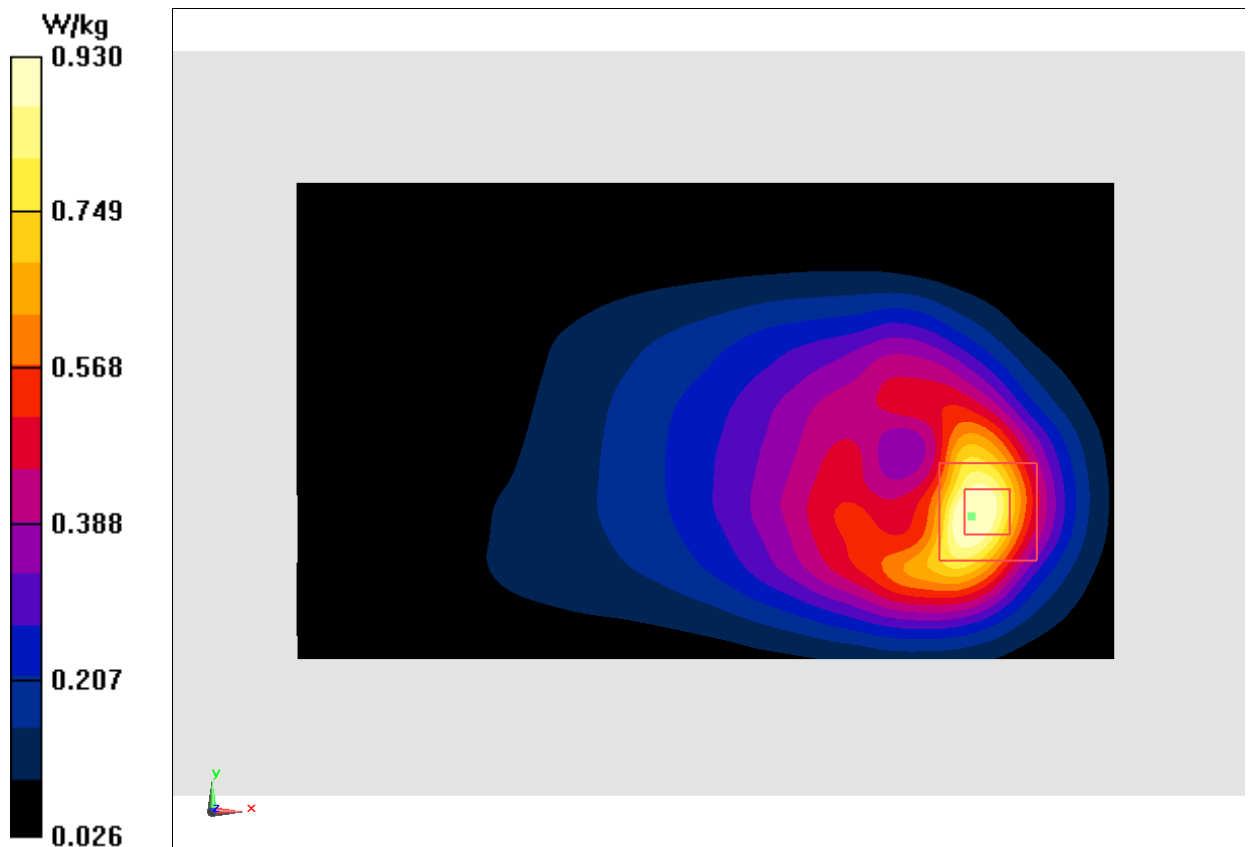


Fig.7 LTE Band4

### **LTE Band4 Body Rear Middle with QPSK\_20M\_1RB\_Middle AP OFF**

Date: 2017-2-16

Electronics: DAE4 Sn1331

Medium: Body 1750 MHz

Medium parameters used:  $f = 1732.5$  MHz;  $\sigma = 1.449$  mho/m;  $\epsilon_r = 53.27$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C      Liquid Temperature: 22.0°C

Communication System: LTE Band4 Frequency: 1732.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(8.10, 8.10, 8.10)

**Area Scan (121x71x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.515 W/kg

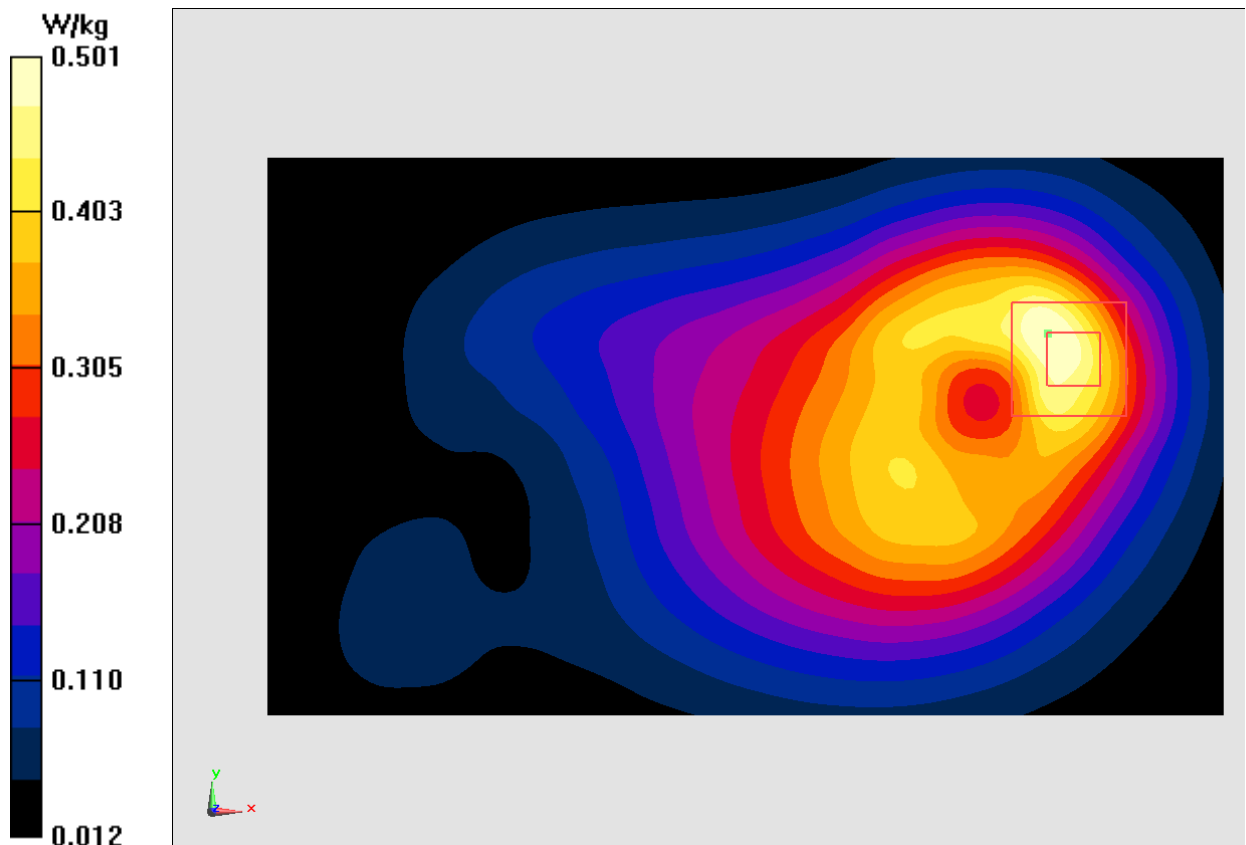
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 12.10 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.628 W/kg

**SAR(1 g) = 0.422 W/kg; SAR(10 g) = 0.260 W/kg**

Maximum value of SAR (measured) = 0.501 W/kg



**Fig.8 LTE Band4**

### LTE Band 13 Left Cheek with QPSK\_10M\_1RB\_Middle

Date: 2017-2-14

Electronics: DAE4 Sn1331

Medium: Head 750 MHz

Medium parameters used (interpolated):  $f = 782$  MHz;  $\sigma = 0.852$  mho/m;  $\epsilon_r = 41.89$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C      Liquid Temperature: 22.0°C

Communication System: LTE Band13 Frequency: 782 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(10.47, 10.47, 10.47)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.243 W/kg

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

Reference Value = 4.530 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.282 W/kg

**SAR(1 g) = 0.229 W/kg; SAR(10 g) = 0.179 W/kg**

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

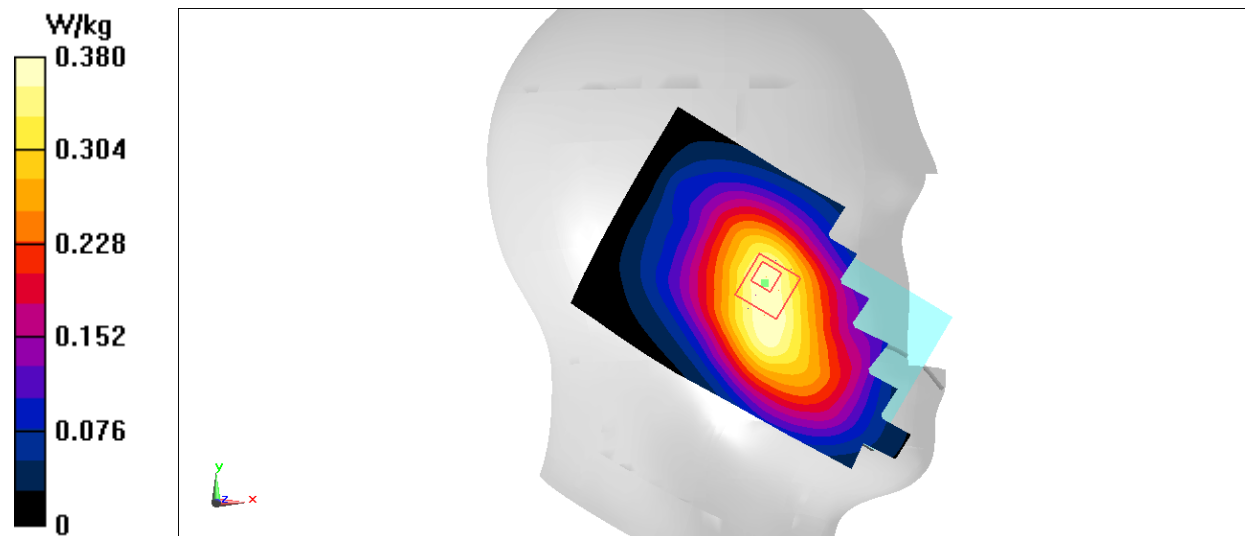


Fig.9 LTE Band 13

### LTE Band 13 Body Rear Middle with QPSK\_10M\_1RB\_Middle

Date: 2017-2-14

Electronics: DAE4 Sn1331

Medium: Body 750 MHz

Medium parameters used (interpolated):  $f = 782$  MHz;  $\sigma = 0.931$  mho/m;  $\epsilon_r = 55.16$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C      Liquid Temperature: 22.0°C

Communication System: LTE Band13 Frequency: 782 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(9.93, 9.93, 9.93)

**Area Scan (111x61x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.511 W/kg

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

Reference Value = 20.54 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.609 W/kg

**SAR(1 g) = 0.459 W/kg; SAR(10 g) = 0.348 W/kg**

Maximum value of SAR (measured) = 0.508 W/kg

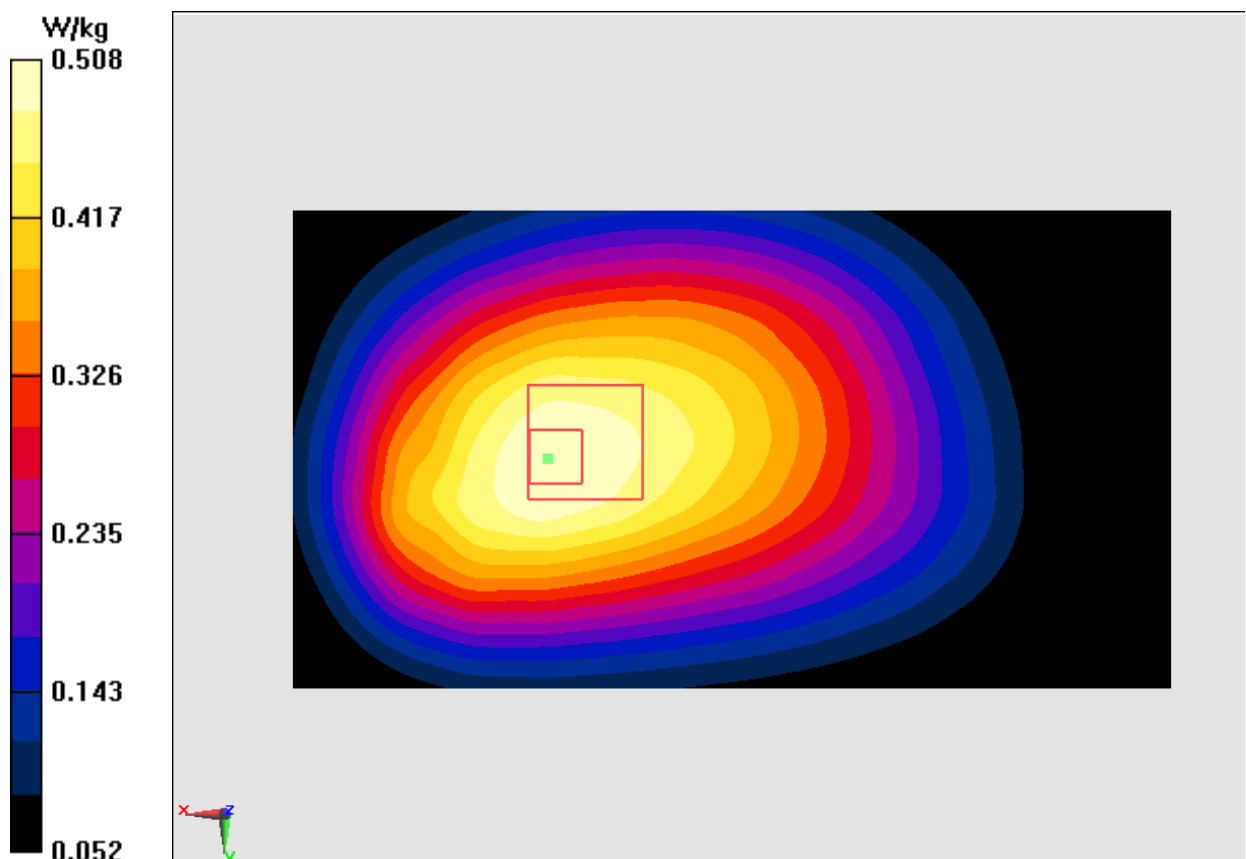


Fig.10 LTE Band 13

### Wifi 802.11b Left Cheek Channel 6

Date: 2017-2-18

Electronics: DAE4 Sn1331

Medium: Head 2450 MHz

Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 1.847$  S/m;  $\epsilon_r = 38.74$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C      Liquid Temperature: 22.0°C

Communication System: Wlan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(8.37, 8.37, 8.37)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 1.05 W/kg

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

Reference Value = 12.15 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.64 W/kg

**SAR(1 g) = 0.714 W/kg; SAR(10 g) = 0.334 W/kg**

Maximum value of SAR (measured) = 0.892 W/kg

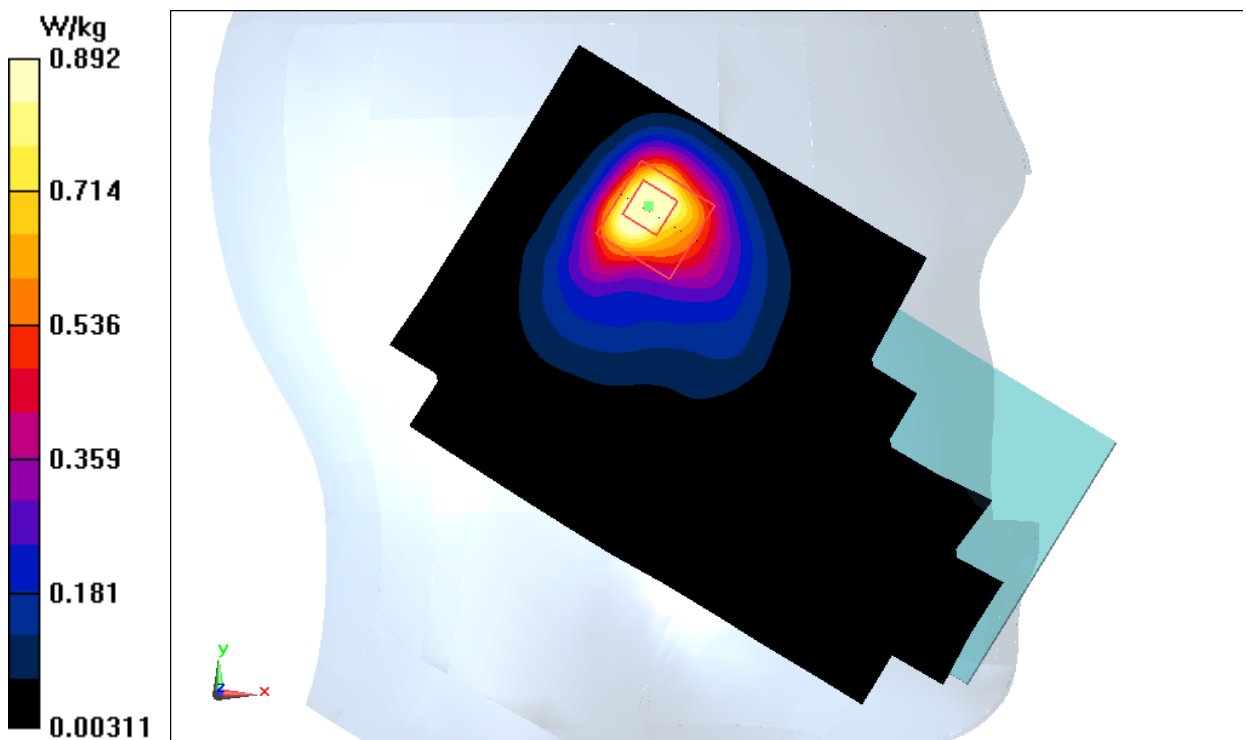


Fig.11 2450 MHz



### Wifi 802.11n HT40 Left Cheek Channel 3

Date: 2017-2-18

Electronics: DAE4 Sn1331

Medium: Head 2450 MHz

Medium parameters used (interpolated):  $f = 2422$  MHz;  $\sigma = 1.852$  S/m;  $\epsilon_r = 38.63$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C      Liquid Temperature: 22.0°C

Communication System: Wlan 2450 Frequency: 2422 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(8.37, 8.37, 8.37)

**Area Scan (71x121x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 1.30 W/kg

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

Reference Value = 13.66 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 2.04 W/kg

**SAR(1 g) = 0.889 W/kg; SAR(10 g) = 0.416 W/kg**

Maximum value of SAR (measured) = 1.11 W/kg

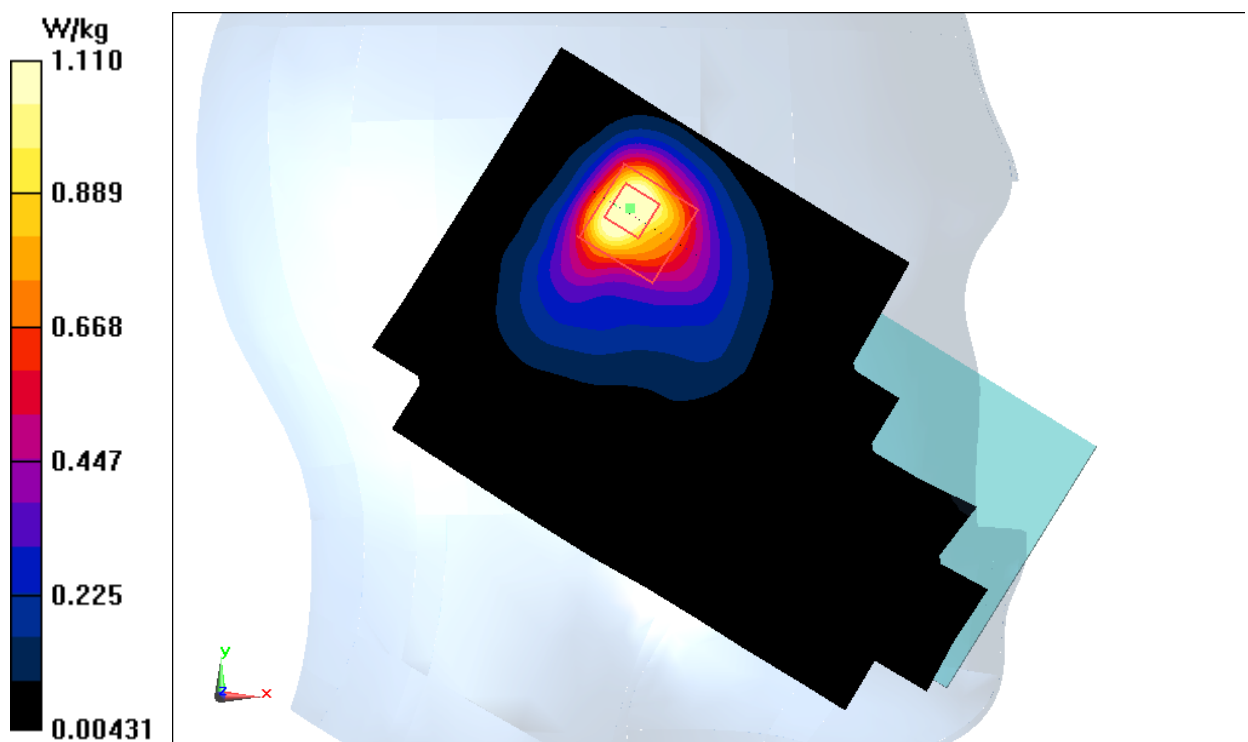


Fig.12 2450 MHz

### Wifi 802.11b Body Front Channel 1

Date: 2017-2-18

Electronics: DAE4 Sn1331

Medium: Body 2450 MHz

Medium parameters used (interpolated):  $f = 2412$  MHz;  $\sigma = 1.942$  S/m;  $\epsilon_r = 52.14$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C      Liquid Temperature: 22.0°C

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

Probe: EX3DV4 – SN7307 ConvF(7.36, 7.36, 7.36)

**Area Scan (141x81x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.186 W/kg

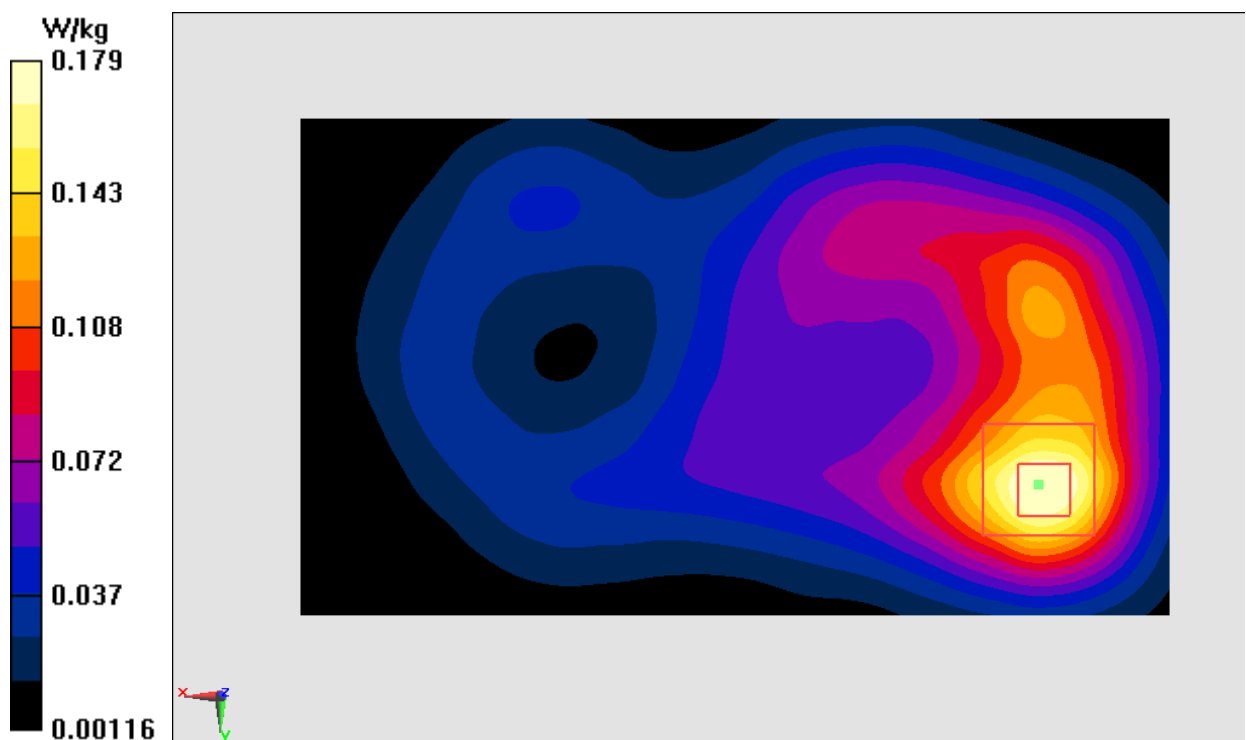
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 5.066 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.272 W/kg

**SAR(1 g) = 0.146 W/kg; SAR(10 g) = 0.079 W/kg**

Maximum value of SAR (measured) = 0.179 W/kg



**Fig.13 2450 MHz**

## ANNEX J Accreditation Certificate



**China National Accreditation Service for Conformity Assessment**  
**LABORATORY ACCREDITATION CERTIFICATE**  
(Registration No. CNAS L0570 )

**Telecommunication Technology Labs,**  
**Academy of Telecommunication Research, MIIT**  
No.52, Huayuan North Road, Haidian District, Beijing, China  
No.51, Xueyuan Road, Haidian District, Beijing, China  
TCL International E City, No. 1001 Zhongshanyuan Road, Nanshan  
District, Shenzhen, Guangdong Province

*is accredited in accordance with ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence to undertake testing and calibration service as described in the schedule attached to this certificate.*

*The scope of accreditation is detailed in the attached schedule bearing the same registration number as above. The schedule form an integral part of this certificate.*

Date of Issue: 2015-11-13  
Date of Expiry: 2017-06-19  
Date of Initial Accreditation: 1998-07-03

Signed on behalf of China National Accreditation Service for Conformity Assessment 

China National Accreditation Service for Conformity Assessment(CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment. CNAS is a signatory of the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC MRA) and the Asia Pacific Laboratory Accreditation Cooperation Mutual Recognition Arrangement (APLAC MRA). The validity of the certificate can be checked on CNAS website at <http://www.cnas.org.cn/english/findanaccreditedbody/index.shtml>