Table 15.5: SAR Measurement Variability for Body LTE B7 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
20850	2510	100RB	Bottom	10	1.04	1.03	1.01	/

Table 15.6: SAR Measurement Variability for Body LTE B41 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
39750	2506	1RB_High	Bottom	10	0.853	0.845	1.01	/

Table 15.7: SAR Measurement Variability for Body LTE B66 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
132572	1770	1RB_Low	Front	10	0.921	0.915	1.01	/

16 Measurement Uncertainty

16.1 Measurement Uncertainty for Normal SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	N	1	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521

Combined standard uncertainty	$u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					9.55	9.43	257
Expanded uncertainty (confidence interval of 95 %)	$u_e = 2u_c$					19.1	18.9	

16.2 Measurement Uncertainty for Normal SAR Tests (3~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	∞
2	Isotropy	B	4.7	R	√3	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	√3	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	√3	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	√3	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	√3	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	√3	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	√3	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	√3	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	√3	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.8	R	√3	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	√3	1	1	3.9	3.9	∞
13	Post-processing	B	4.0	R	√3	1	1	2.3	2.3	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	√3	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	√3	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	√3	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity	B	5.0	R	√3	0.6	0.49	1.7	1.4	∞

	(target)									
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$						10.7	10.6	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						21.4	21.1	

16.3 Measurement Uncertainty for Fast SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	7.0	R	$\sqrt{3}$	1	1	4.0	4.0	∞
Test sample related										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞

19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						10.4	10.3	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						20.8	20.6	

16.4 Measurement Uncertainty for Fast SAR Tests (3~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	14.0	R	$\sqrt{3}$	1	1	8.1	8.1	∞
Test sample related										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder	A	3.4	N	1	1	1	3.4	3.4	5

	uncertainty									
17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c' = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						13.5	13.4	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						27.0	26.8	

17 MAIN TEST INSTRUMENTS

Table 17.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	E5071C	MY46110673	January 13, 2017	One year
02	Power meter	NRVD	102083	September 22, 2016	One year
03	Power sensor	NRV-Z5	100595		
04	Signal Generator	E4438C	MY49071430	January 13,2017	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	E5515C	MY50263375	January 16, 2017	One year
07	BTS	CMW500	159890	November 25, 2016	One year
08	E-field Probe	SPEAG EX3DV4	3846	January 13, 2017	One year
09	DAE	SPEAG DAE4	1331	January 19, 2017	One year
10	Dipole Validation Kit	SPEAG D750V3	1017	July 19, 2017	One year
11	Dipole Validation Kit	SPEAG D835V2	4d069	July 19, 2017	One year
12	Dipole Validation Kit	SPEAG D1750V2	1003	July 21, 2017	One year
13	Dipole Validation Kit	SPEAG D1900V2	5d101	July 26, 2017	One year
14	Dipole Validation Kit	SPEAG D2300V2	1018	July 21, 2017	One year
15	Dipole Validation Kit	SPEAG D2450V2	853	July 21, 2017	One year
16	Dipole Validation Kit	SPEAG D2600V2	1012	July 21, 2017	One year
17	Dipole Validation Kit	SPEAG D5GHzV2	1060	July 25, 2017	One year

END OF REPORT BODY

ANNEX A Graph Results

850 Right Cheek Low

Date: 2017-8-8
Electronics: DAE4 Sn1331
Medium: Head 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.889 mho/m; εr = 42.02; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:2.67
Probe: EX3DV4 – SN3846 ConvF(9.33, 9.33, 9.33)

Area Scan (81x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.618 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.729 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.727 W/kg
SAR(1 g) = 0.558 W/kg; SAR(10 g) = 0.434 W/kg
Maximum value of SAR (measured) = 0.604 W/kg

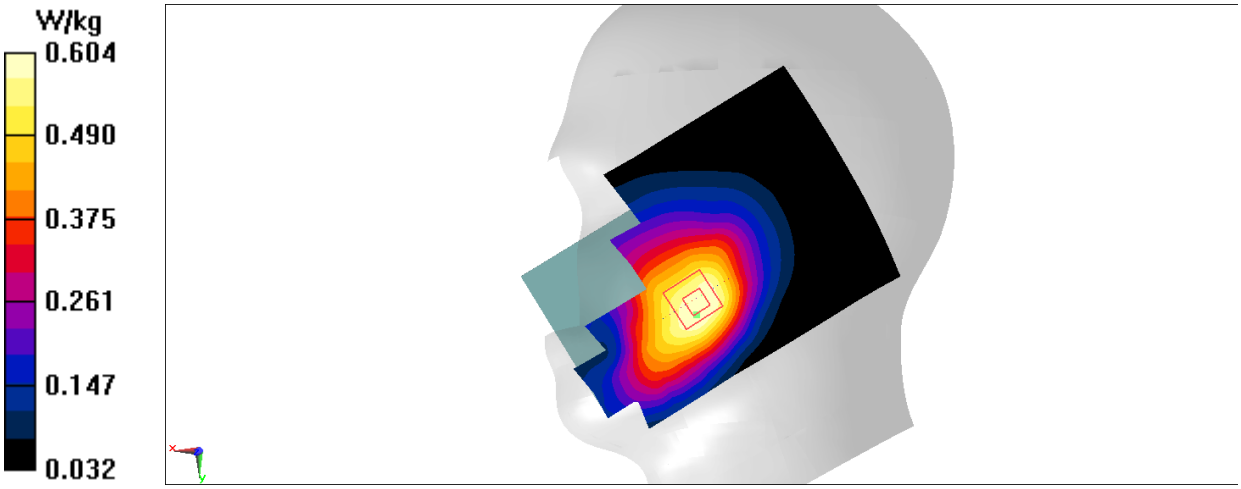

Fig.1 850MHz

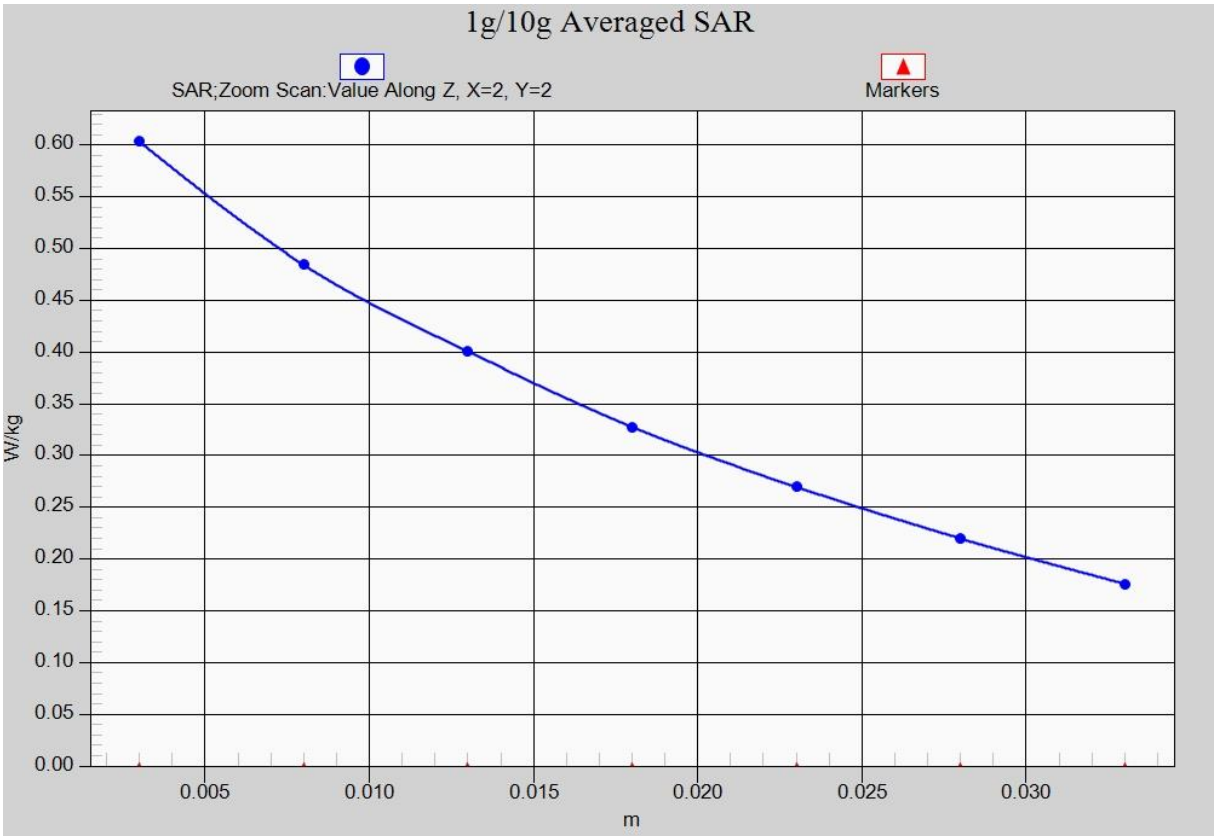

Fig. 1-1 Z-Scan at power reference point (850 MHz)

850 Body Front Low
Date: 2017-8-8
Electronics: DAE4 Sn1331
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.96 mho/m; εr = 56.1; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:2.67
Probe: EX3DV4 – SN3846 ConvF(9.52, 9.52, 9.52)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.21 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.42 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 1.03 W/kg; SAR(10 g) = 0.724 W/kg
Maximum value of SAR (measured) = 1.08 W/kg

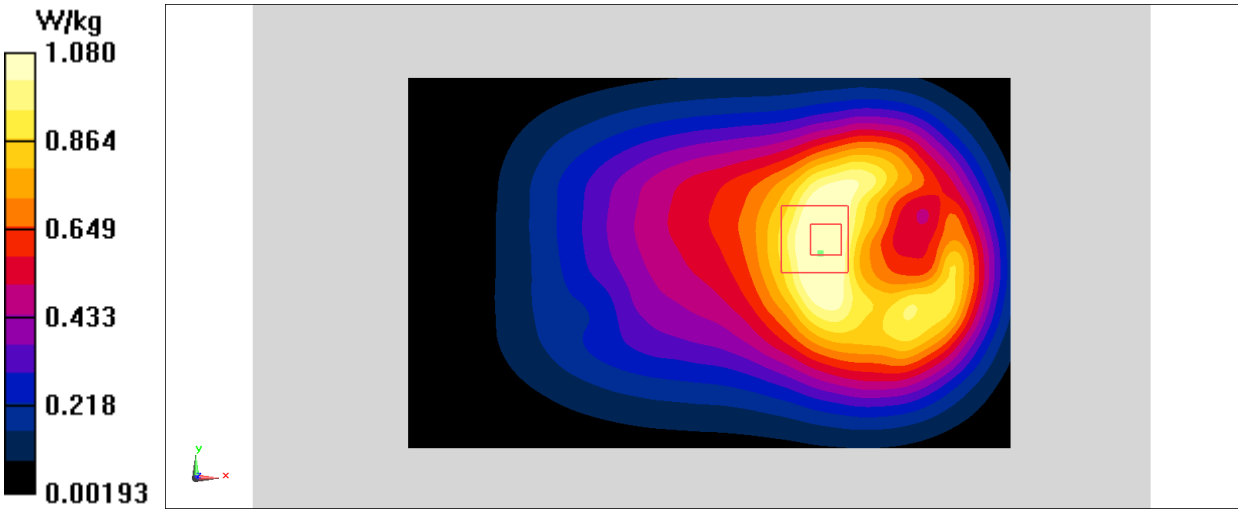

Fig.2 850 MHz

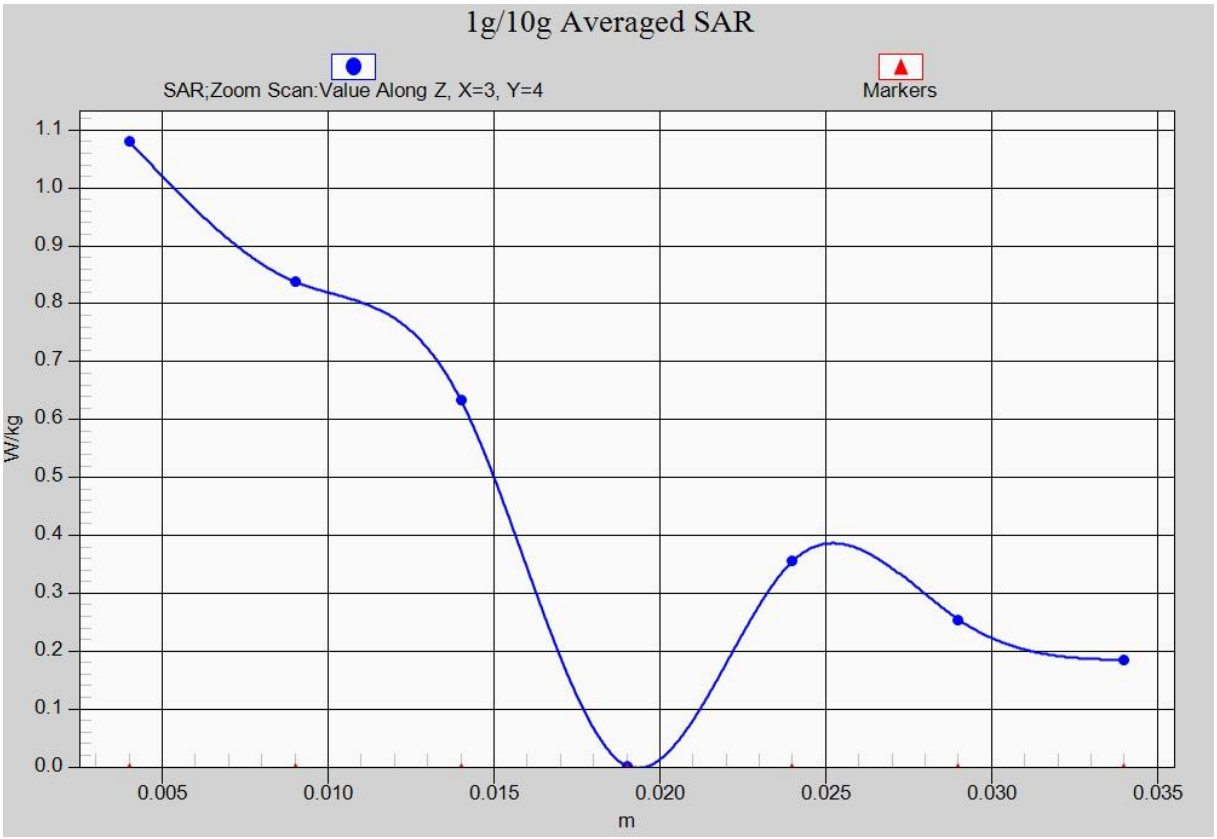

Fig. 2-1 Z-Scan at power reference point (850 MHz)

1900 Left Cheek Low
Date: 2017-8-9
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.399 mho/m; εr = 40.66; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: GSM 1900MHz Frequency: 1850.2 MHz Duty Cycle: 1:2
Probe: EX3DV4– SN3846 ConvF(7.89, 7.89, 7.89)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.373 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.867 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.251 W/kg
SAR(1 g) = 0.178 W/kg; SAR(10 g) = 0.117 W/kg
Maximum value of SAR (measured) = 0.200 W/kg

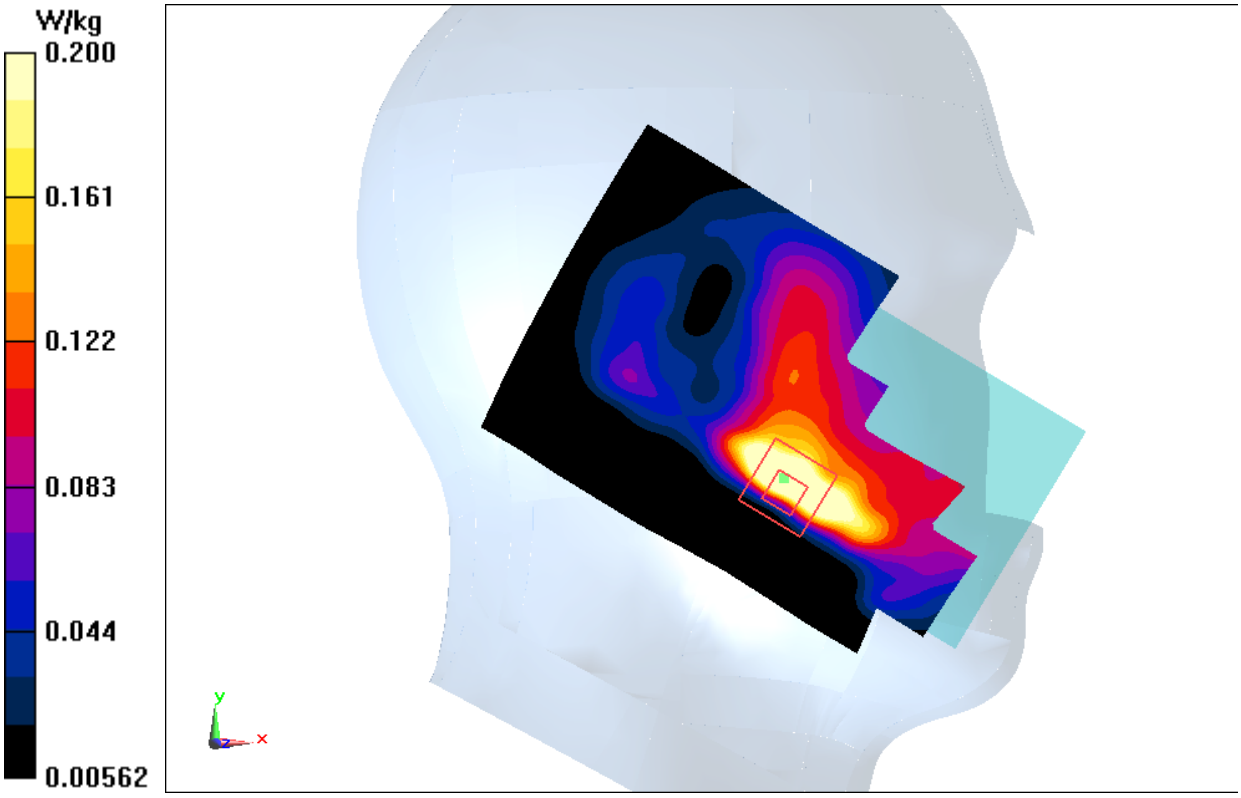

Fig.3 1900 MHz

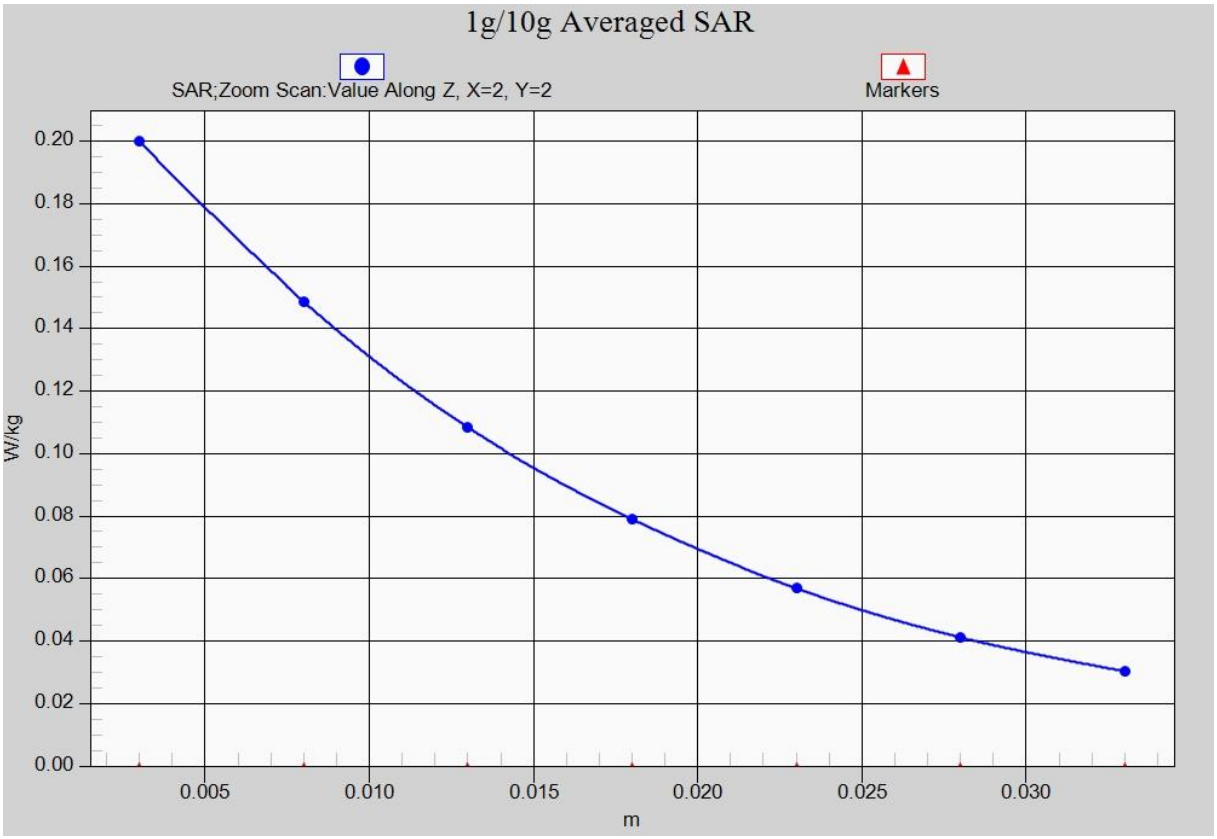

Fig. 3-1 Z-Scan at power reference point (1900 MHz)

1900 Body Front Middle
Date: 2017-8-9
Electronics: DAE4 Sn1331
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ =1.545 mho/m; εr = 52.73; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:2
Probe: EX3DV4– SN3846 ConvF(7.57, 7.57, 7.57)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.22 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.75 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.53 W/kg
SAR(1 g) = 0.936 W/kg; SAR(10 g) = 0.544 W/kg
Maximum value of SAR (measured) = 1.02 W/kg

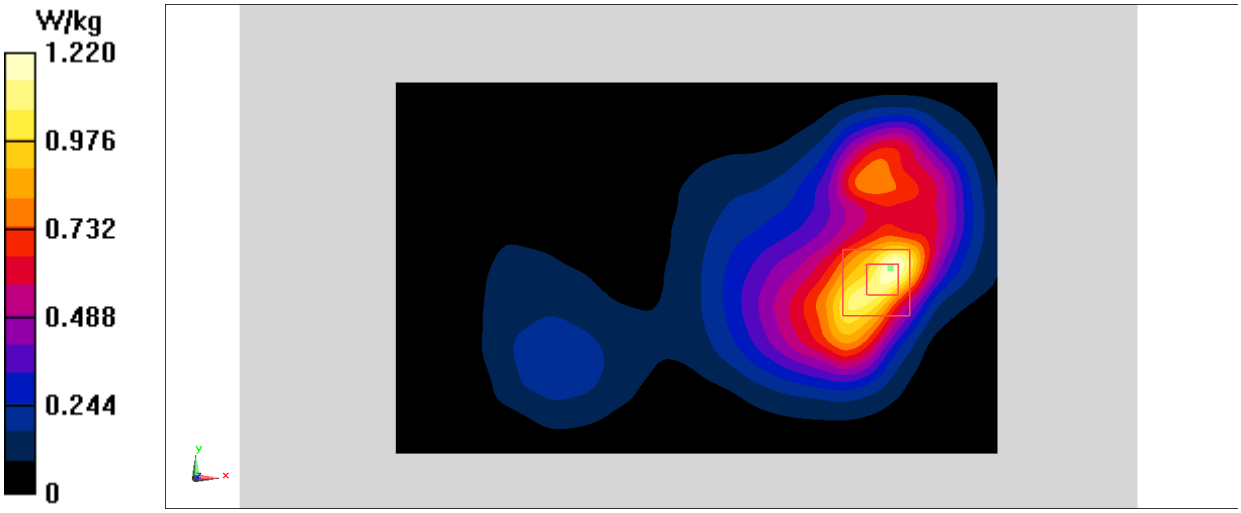

Fig.4 1900 MHz

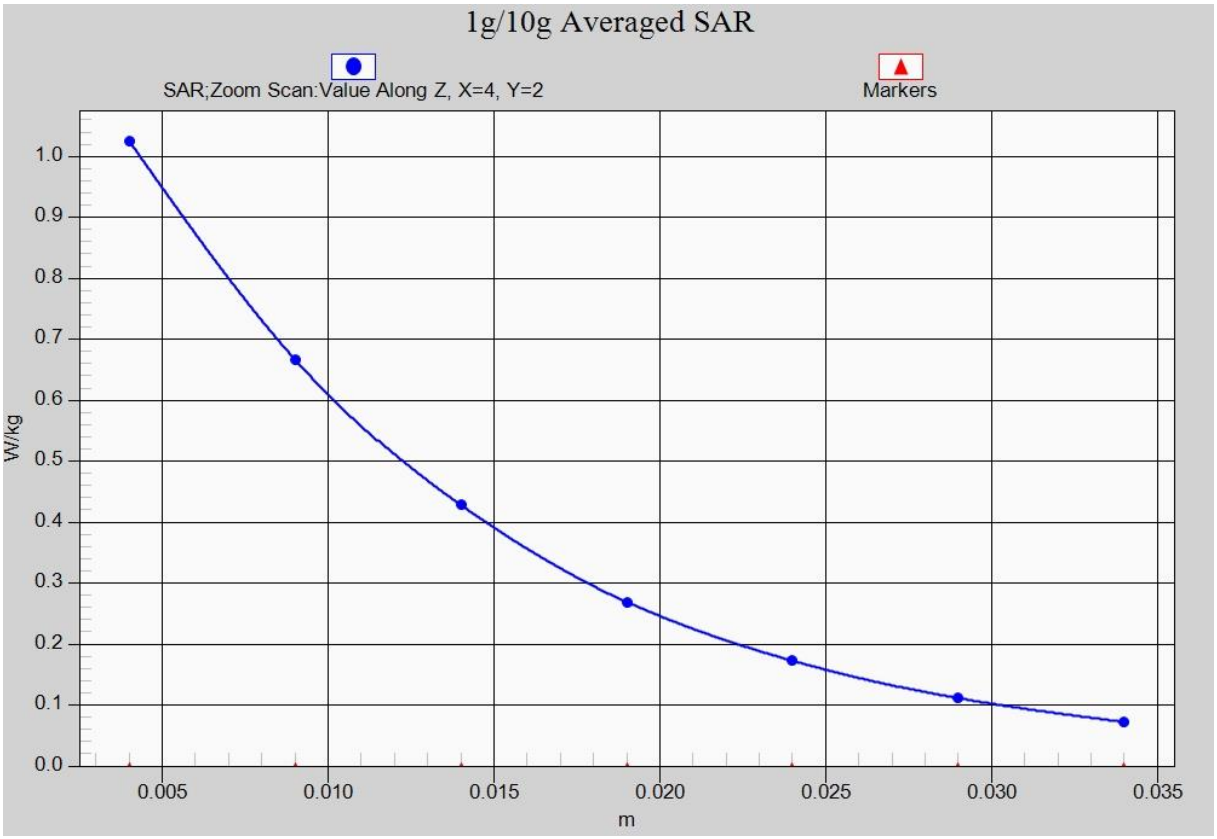

Fig. 4-1 Z-Scan at power reference point (1900 MHz)

WCDMA 850 Right Cheek High

Date: 2017-8-8
Electronics: DAE4 Sn1331
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.909 mho/m; εr = 41.725; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(9.33, 9.33, 9.33)

Area Scan (81x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.378 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.155 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.430 W/kg
SAR(1 g) = 0.329 W/kg; SAR(10 g) = 0.250 W/kg
Maximum value of SAR (measured) = 0.362 W/kg

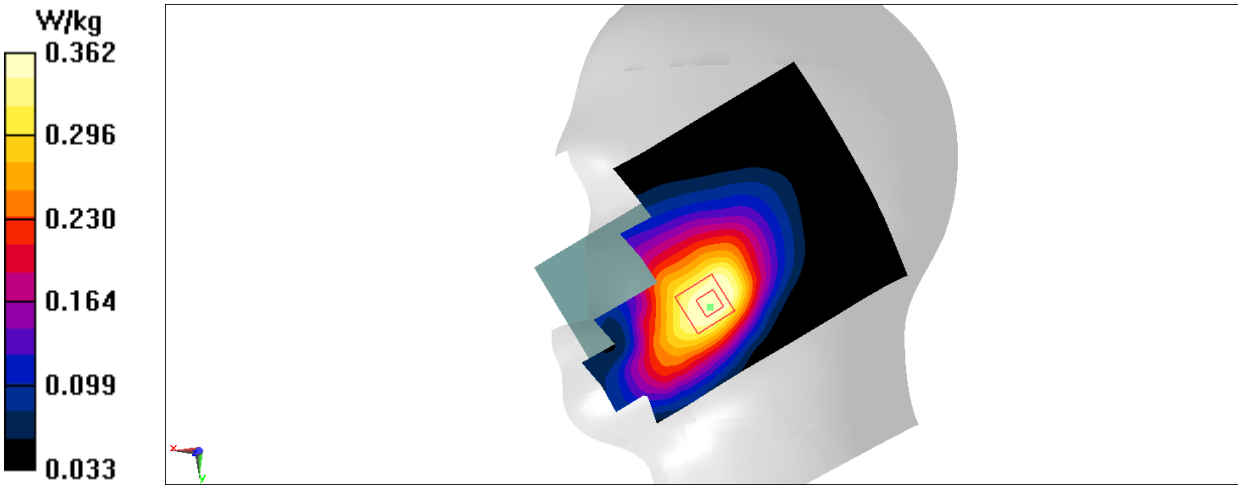

Fig.5 WCDMA 850

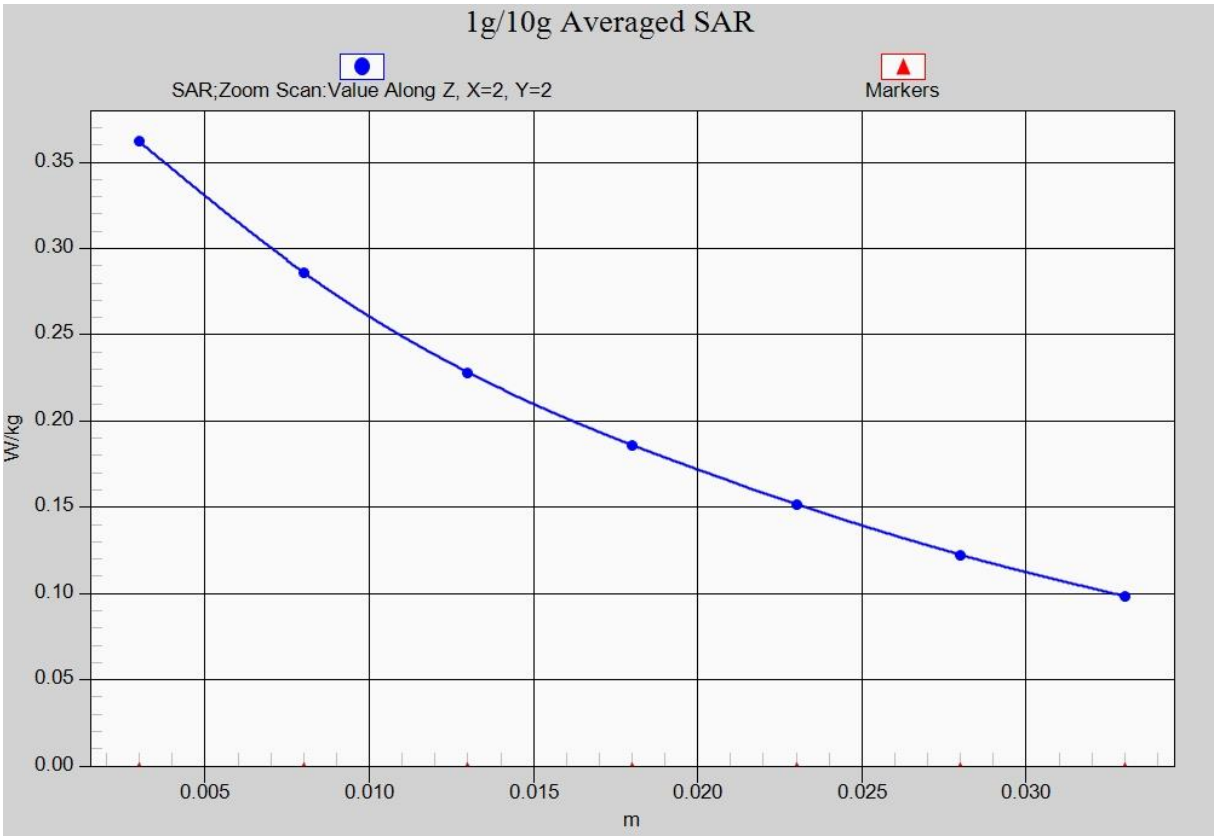

Fig. 5-1 Z-Scan at power reference point (850 MHz)

WCDMA 850 Body Rear High

Date: 2017-8-8
Electronics: DAE4 Sn1331
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.981 mho/m; εr = 55.876; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(9.52, 9.52, 9.52)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.903 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.82 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.758 W/kg; SAR(10 g) = 0.529 W/kg
Maximum value of SAR (measured) = 0.811 W/kg

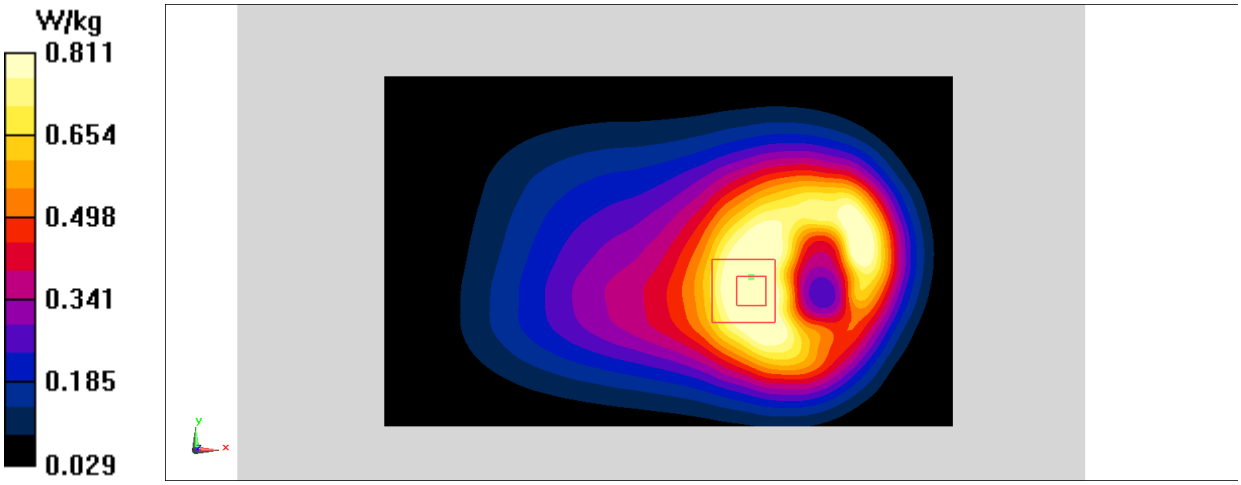

Fig.6 WCDMA 850

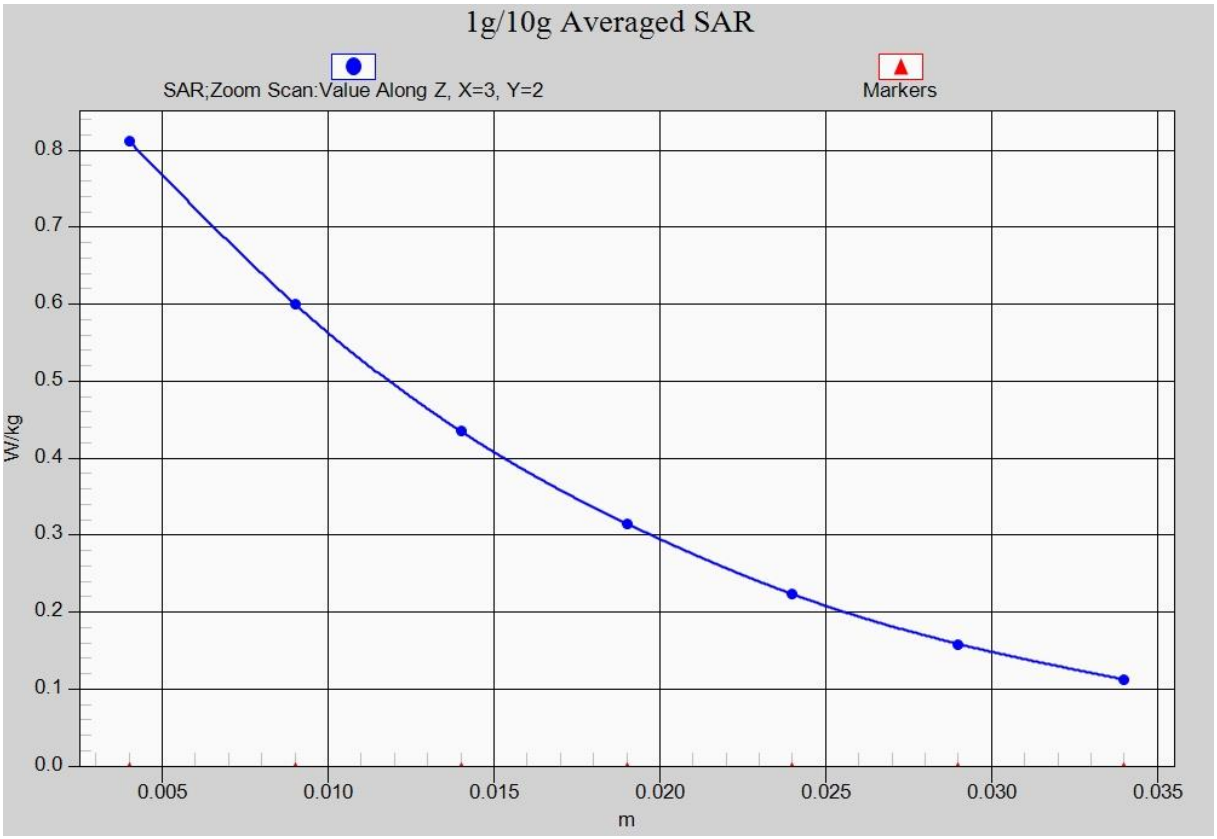

Fig. 6-1 Z-Scan at power reference point (WCDMA850)

WCDMA 1700 Left Cheek Low

Date: 2017-8-13
Electronics: DAE4 Sn1331
Medium: Head 1750 MHz
Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.307 mho/m; εr = 40.677; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: WCDMA 1750 Frequency: 1712.4 MHz Duty Cycle: 1:1
Probe: EX3DV4– SN3846 ConvF(8.16, 8.16, 8.16)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.263 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=5mm
Reference Value = 5.815 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.317 W/kg
SAR(1 g) = 0.237 W/kg; SAR(10 g) = 0.164 W/kg
Maximum value of SAR (measured) = 0.268 W/kg

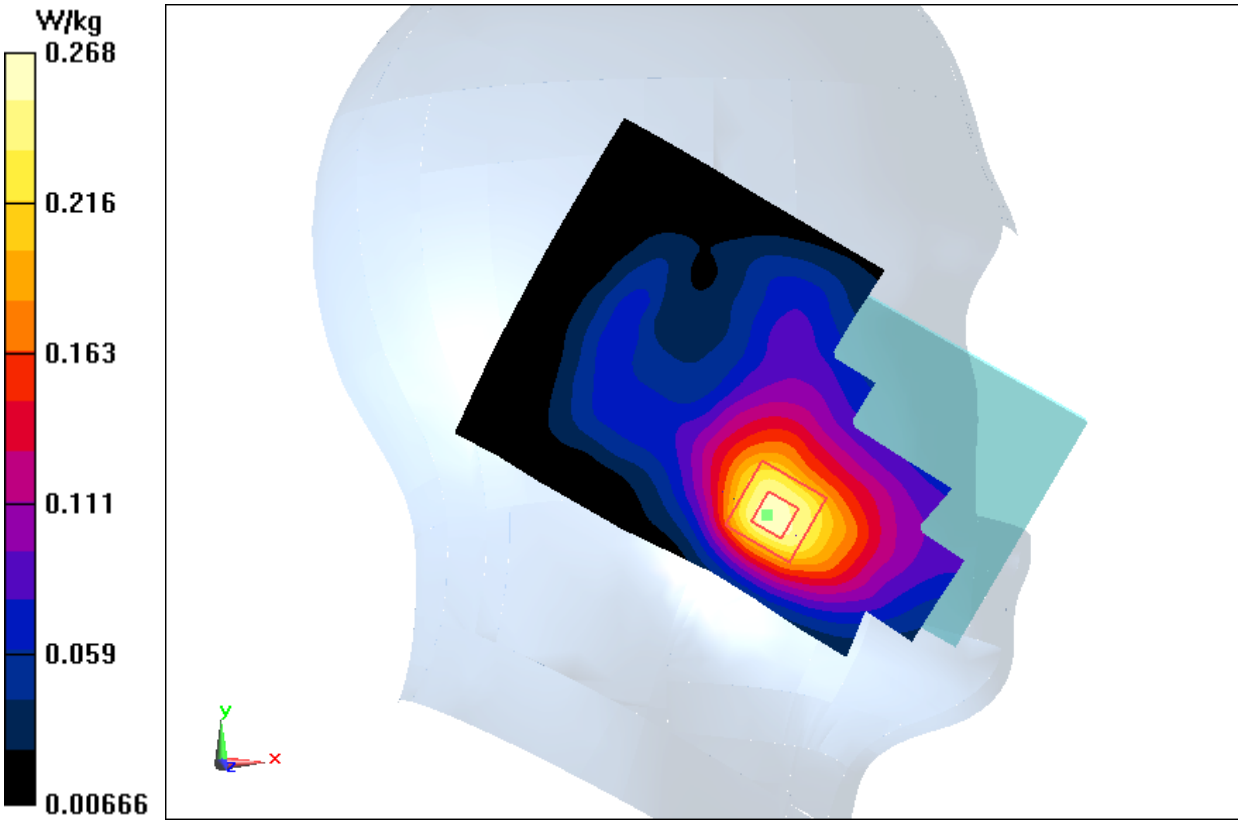

Fig.7 WCDMA1700

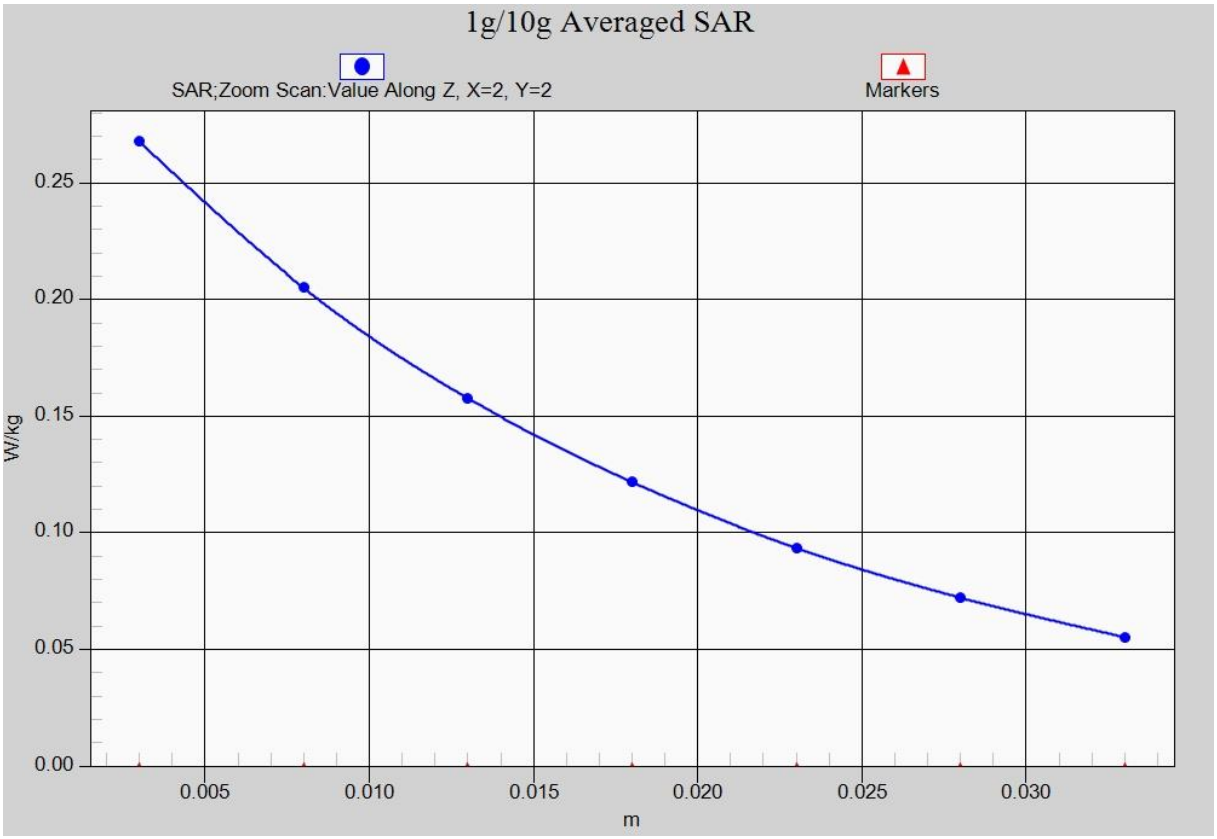

Fig. 7-1 Z-Scan at power reference point (WCDMA1700)

WCDMA 1700 Body Front High – 10mm
Date: 2017-8-13
Electronics: DAE4 Sn1331
Medium: Body 1750 MHz
Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.509 mho/m; εr = 53.718; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: WCDMA 1900 Frequency: 1752.6 MHz Duty Cycle: 1:1
Probe: EX3DV4– SN3846 ConvF(7.90, 7.90, 7.90)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.25 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.901 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 1.54 W/kg
SAR(1 g) = 0.960 W/kg; SAR(10 g) = 0.562 W/kg
Maximum value of SAR (measured) = 1.06 W/kg

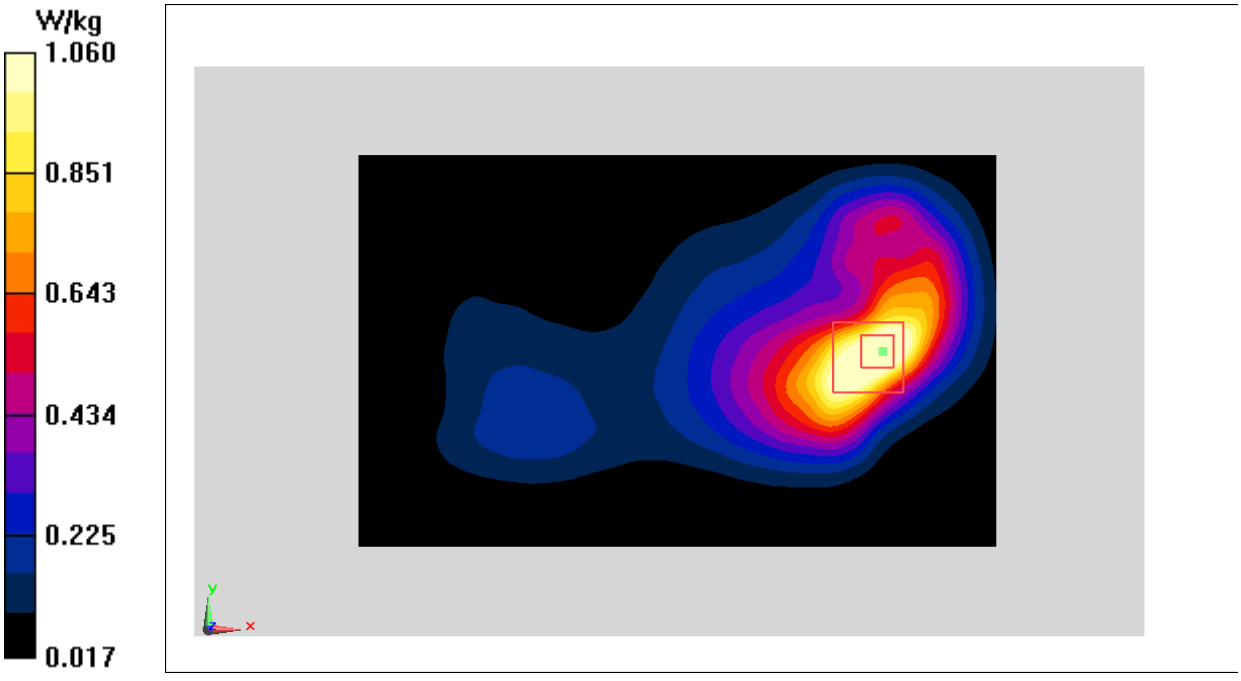

Fig.8 WCDMA1700

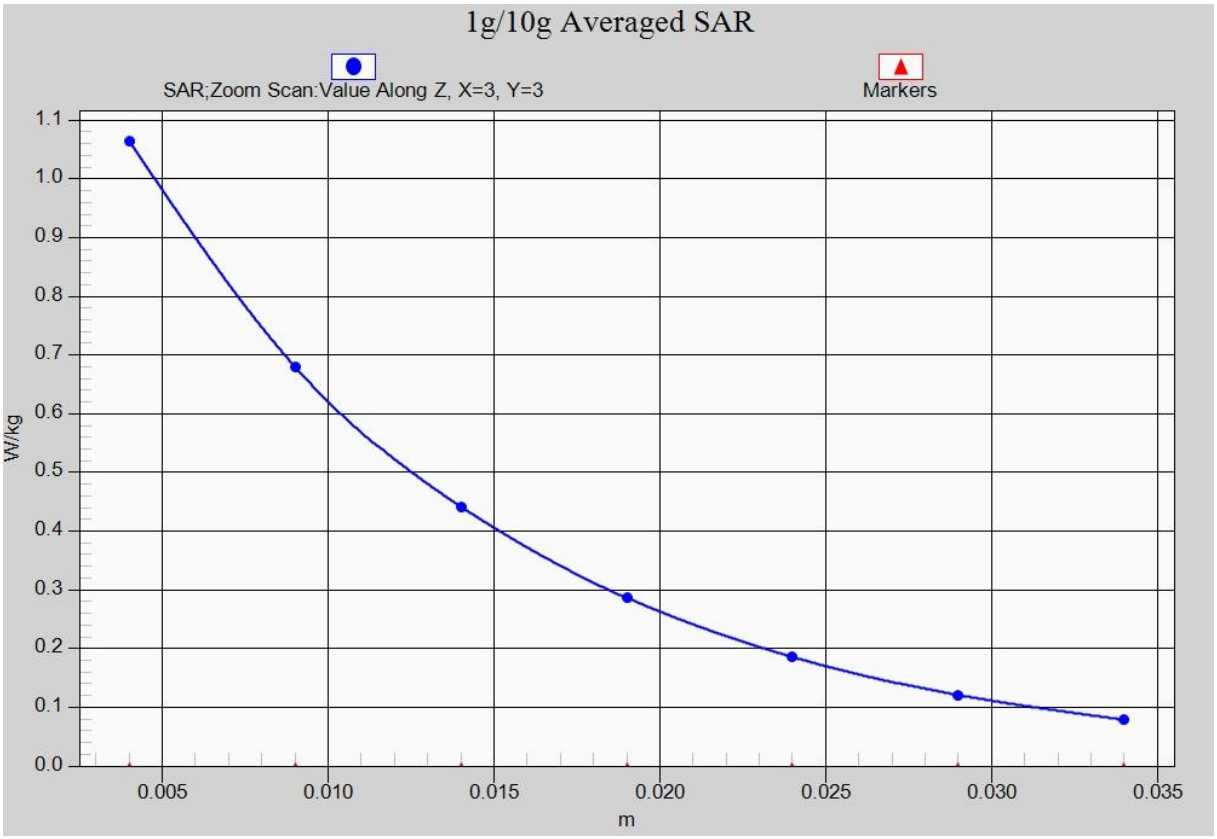

Fig. 8-1 Z-Scan at power reference point (WCDMA1700)

WCDMA 1700 Body Front Low – 15mm
Date: 2017-8-13
Electronics: DAE4 Sn1331
Medium: Body 1750 MHz
Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.481 mho/m; εr = 53.828; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: WCDMA 1900 Frequency: 1712.4 MHz Duty Cycle: 1:1
Probe: EX3DV4– SN3846 ConvF(7.90, 7.90, 7.90)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.991 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.206 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.759 W/kg; SAR(10 g) = 0.468 W/kg
Maximum value of SAR (measured) = 0.831 W/kg

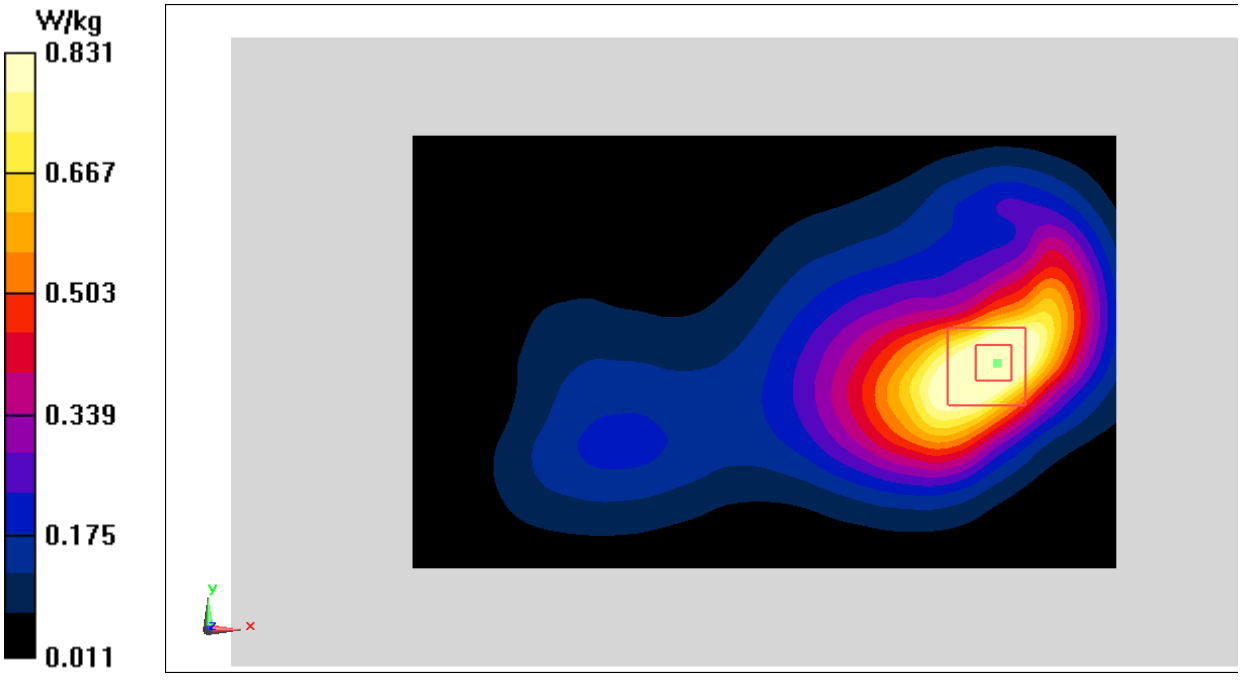

Fig.9 WCDMA1700

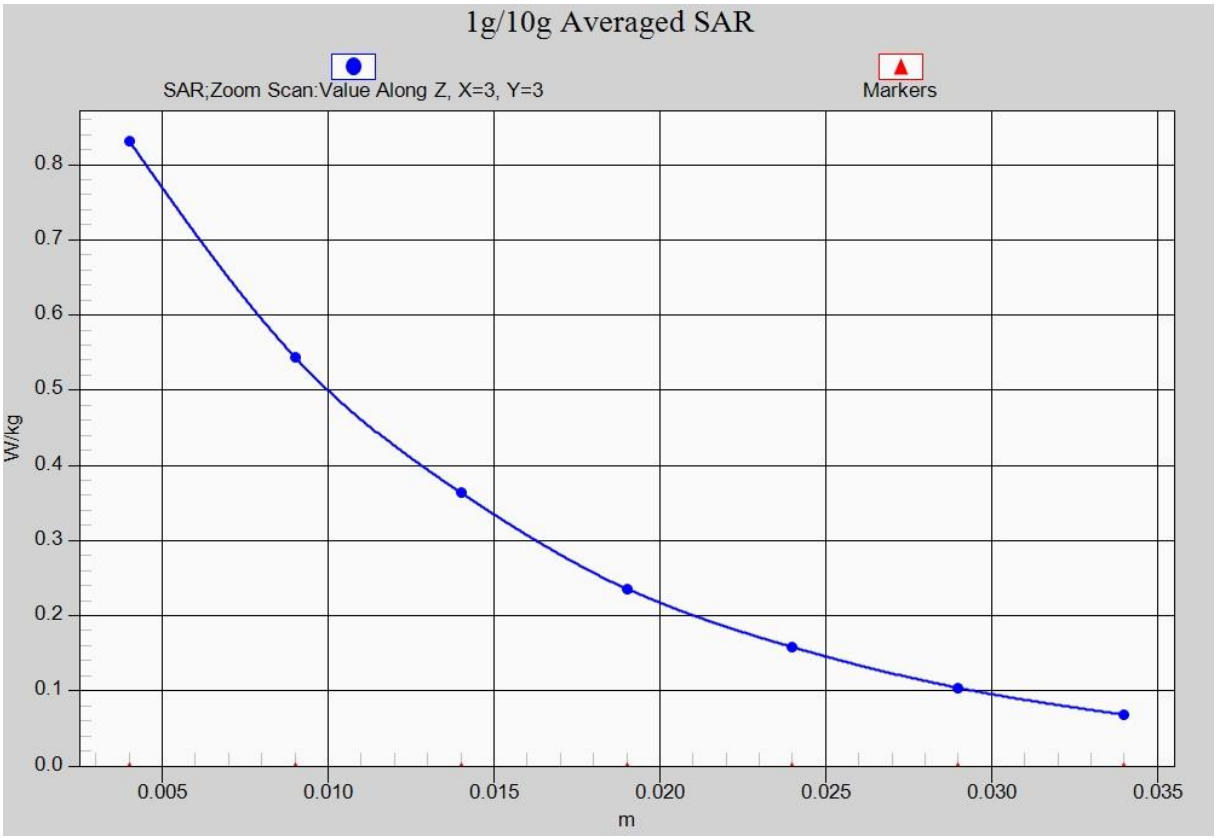

Fig. 9-1 Z-Scan at power reference point (WCDMA1700)

WCDMA 1900 Left Cheek High

Date: 2017-8-9
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.465 mho/m; εr = 40.806; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1
Probe: EX3DV4– SN3846 ConvF(7.89, 7.89, 7.89)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.183 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.674 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.194 W/kg
SAR(1 g) = 0.138 W/kg; SAR(10 g) = 0.095 W/kg
Maximum value of SAR (measured) = 0.157 W/kg

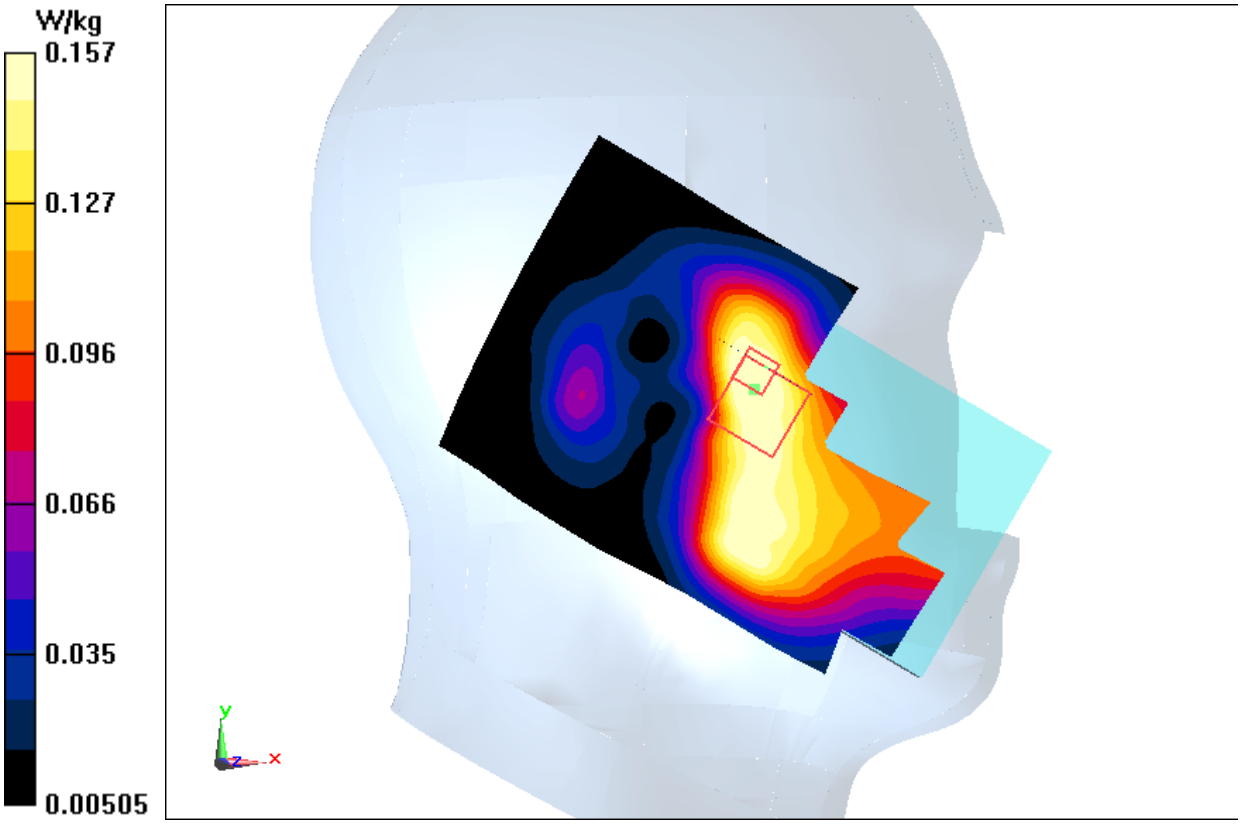

Fig.10 WCDMA1900

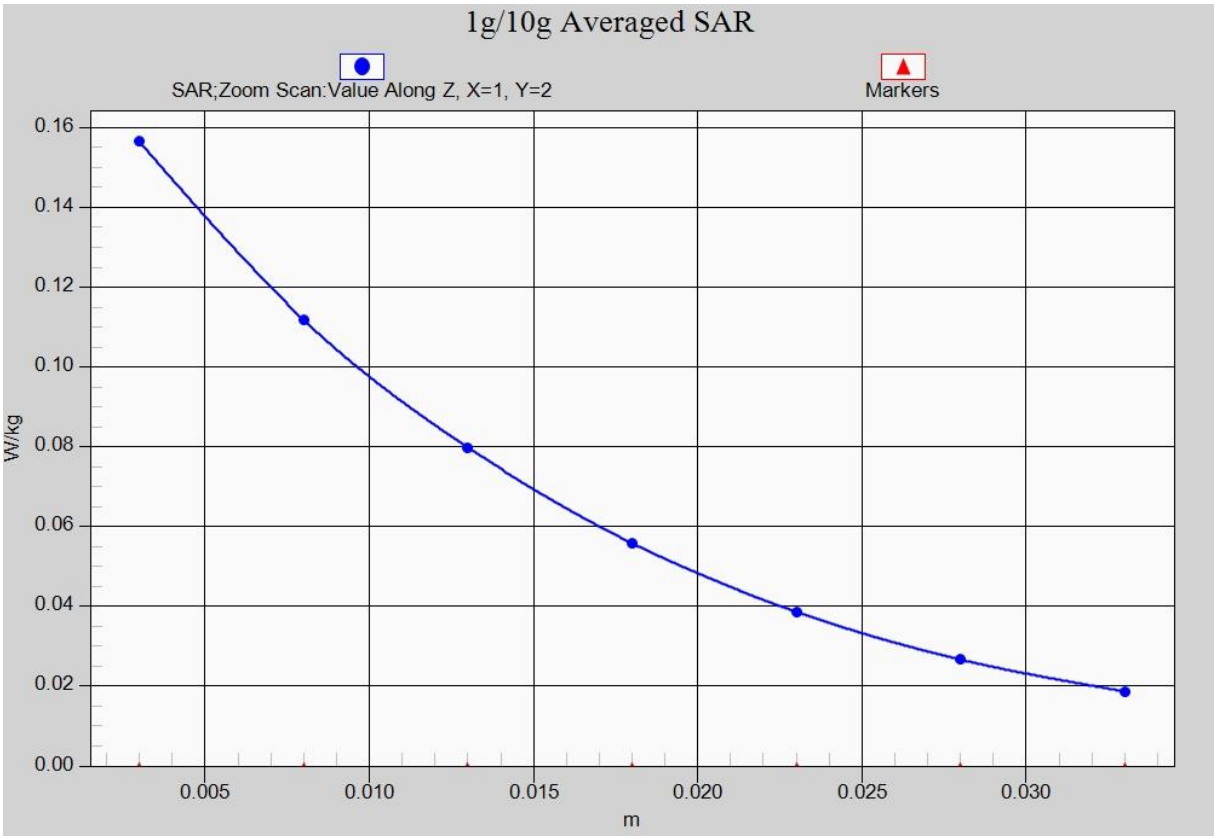

Fig. 10-1 Z-Scan at power reference point (WCDMA1900)

WCDMA 1900 Body Front Low

Date: 2017-8-9

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.501 mho/m; εr = 53.18; ρ = 1000 kg/m^3

Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC

Communication System: WCDMA 1900 Frequency: 1852.4 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN3846 ConvF(7.57, 7.57, 7.57)

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

Maximum value of SAR (interpolated) = 1.69 W/kg

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

Reference Value = 14.14 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 2.03 W/kg

SAR(1 g) = 1.22 W/kg; SAR(10 g) = 0.708 W/kg

Maximum value of SAR (measured) = 1.37 W/kg

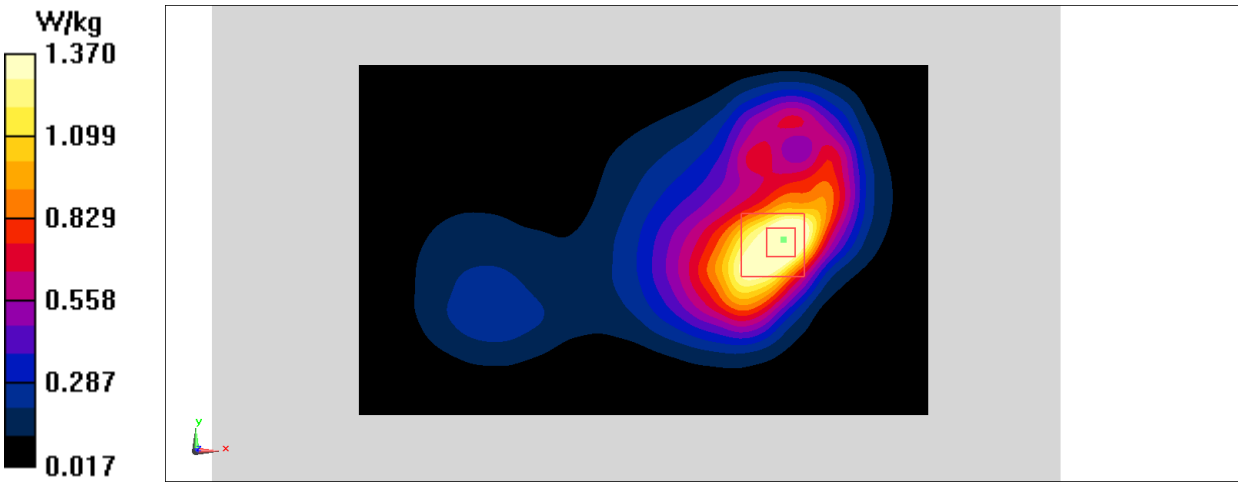

Fig.11 WCDMA1900

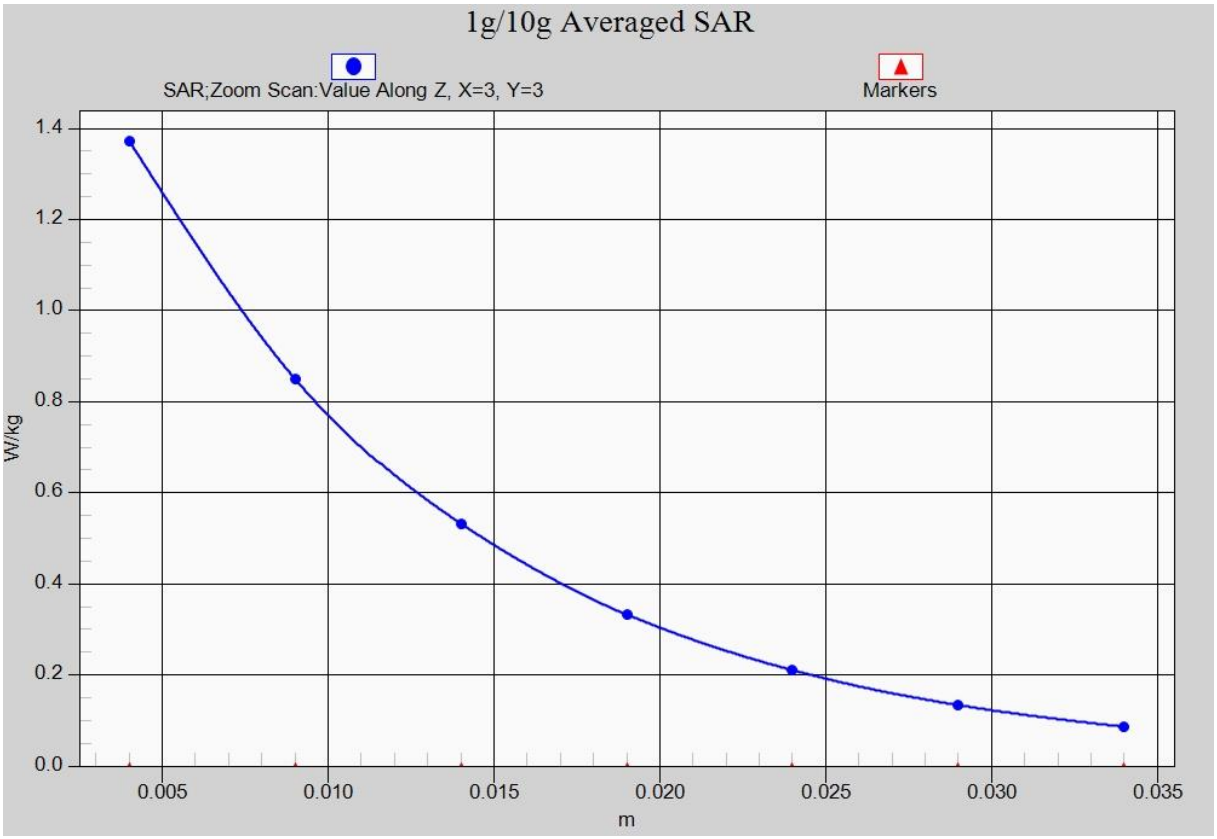

Fig. 11-1 Z-Scan at power reference point (WCDMA1900)

LTE Band2 Left Cheek High with QPSK_20M_1RB_Low
Date: 2017-8-9
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1900 MHz; σ =1.411. mho/m; εr = 40.61; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: LTE Band2 Frequency: 1900 MHz Duty Cycle: 1:1
Probe: EX3DV4– SN3846 ConvF(7.89, 7.89, 7.89)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.216 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.889 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.236 W/kg
SAR(1 g) = 0.163 W/kg; SAR(10 g) = 0.108 W/kg
Maximum value of SAR (measured) = 0.189 W/kg

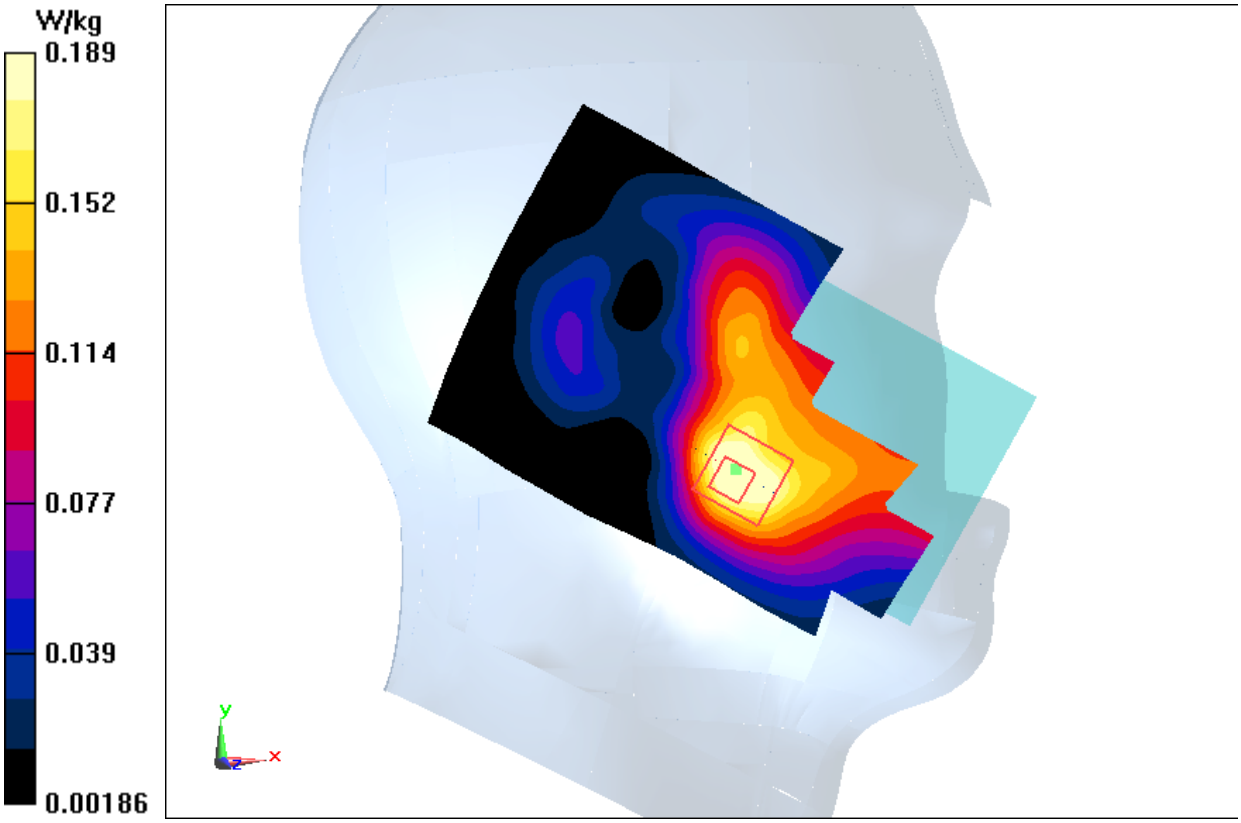

Fig.12 LTE Band2

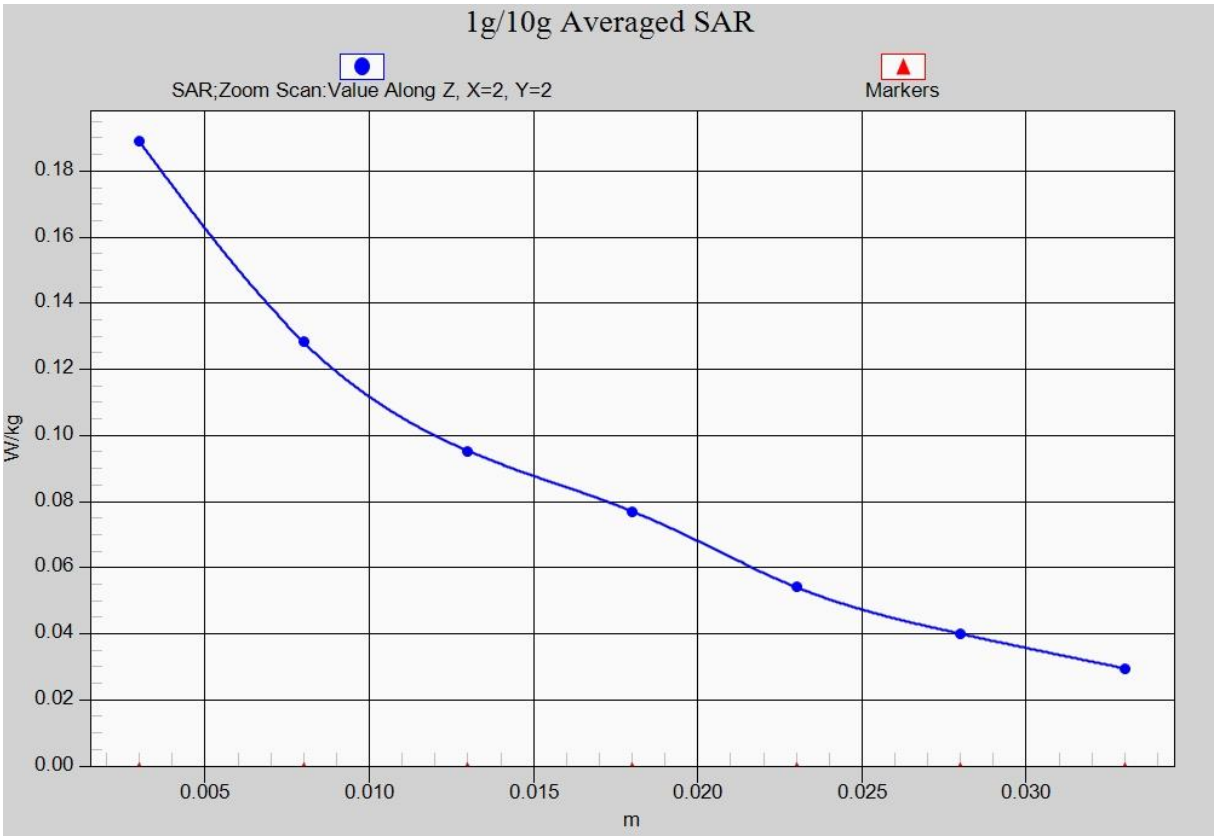

Fig. 12-1 Z-Scan at power reference point (LTE Band2)

LTE Band2 Body Rear High with QPSK_20M_1RB_Low
Date: 2017-8-9
Electronics: DAE4 Sn1331
Medium: Body 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.507 mho/m; εr = 52.71; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: LTE Band2 Frequency: 1900 MHz Duty Cycle: 1:1
Probe: EX3DV4– SN3846 ConvF(7.57, 7.57, 7.57)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.925 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.879 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.761 W/kg; SAR(10 g) = 0.444 W/kg
Maximum value of SAR (measured) = 0.870 W/kg

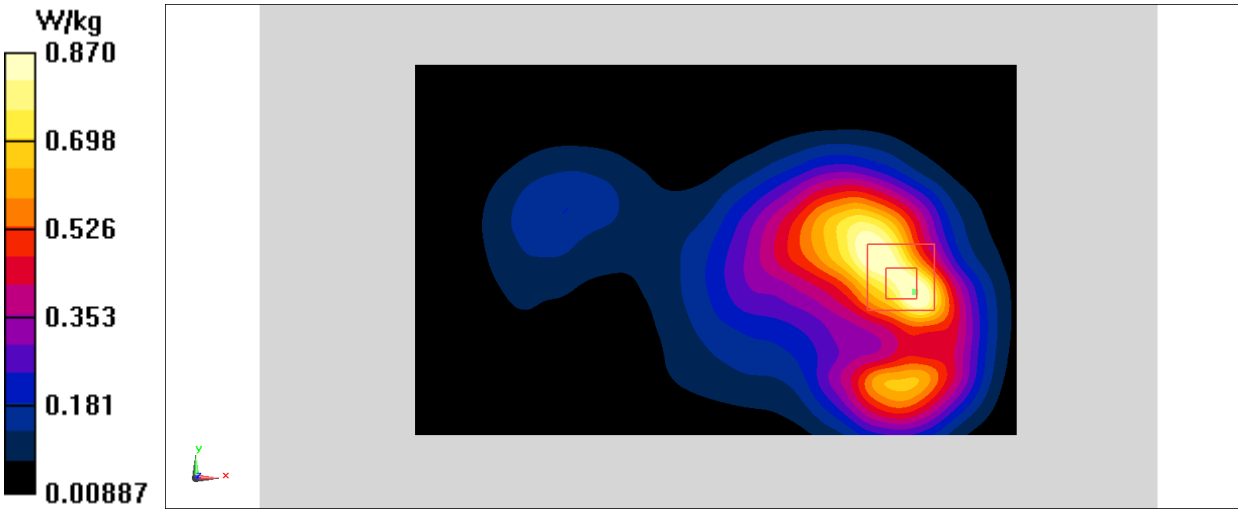

Fig.13 LTE Band2

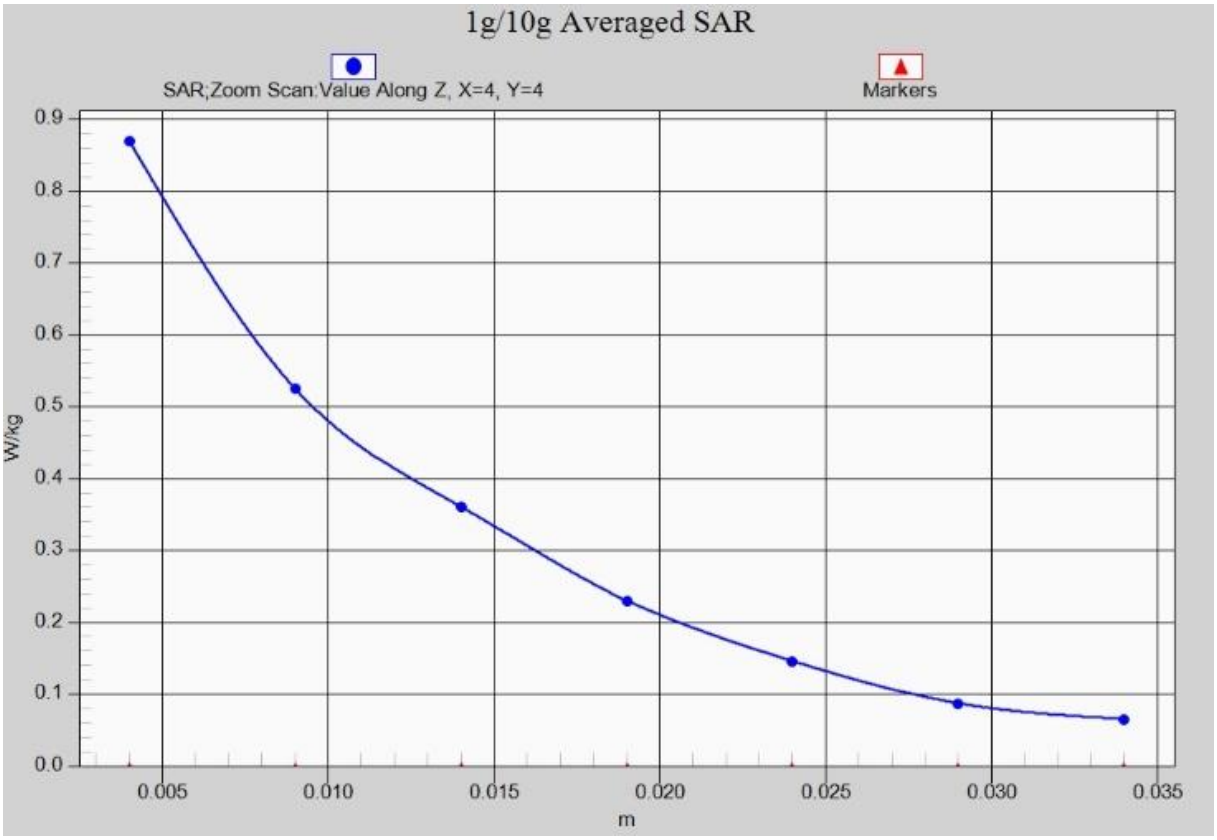

Fig. 13-1 Z-Scan at power reference point (LTE Band2)

LTE Band5 Right Cheek Low with QPSK_10M_1RB_High
Date: 2017-8-8
Electronics: DAE4 Sn1331
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 829 MHz; σ = 0.904 mho/m; εr = 41.851; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: LTE Band5 Frequency: 829 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN3846 ConvF(9.33, 9.33, 9.33)

Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.452 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.428 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.527 W/kg
SAR(1 g) = 0.407 W/kg; SAR(10 g) = 0.310 W/kg
Maximum value of SAR (measured) = 0.444 W/kg

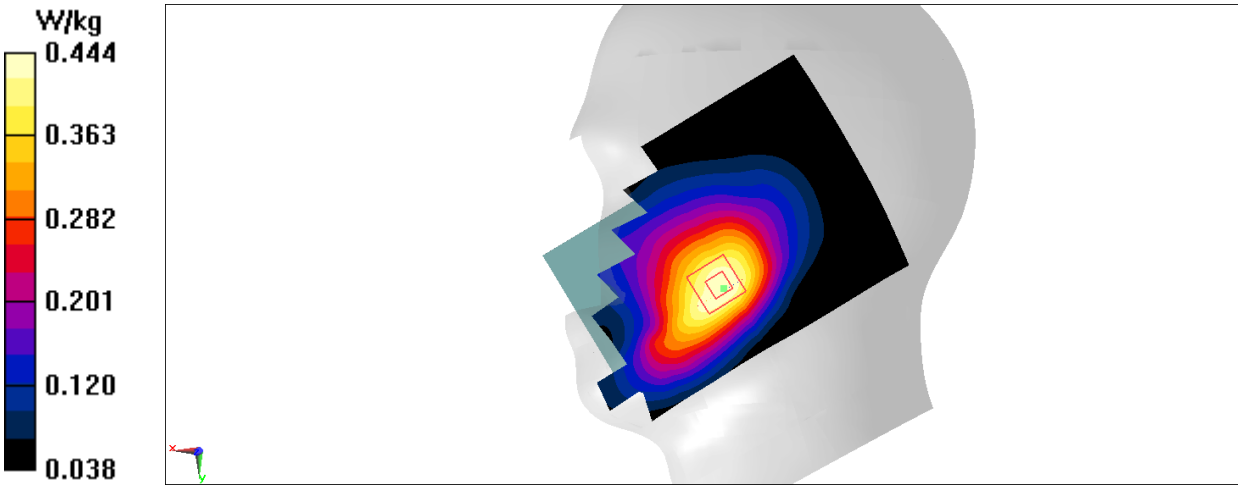

Fig.14 LTE Band5

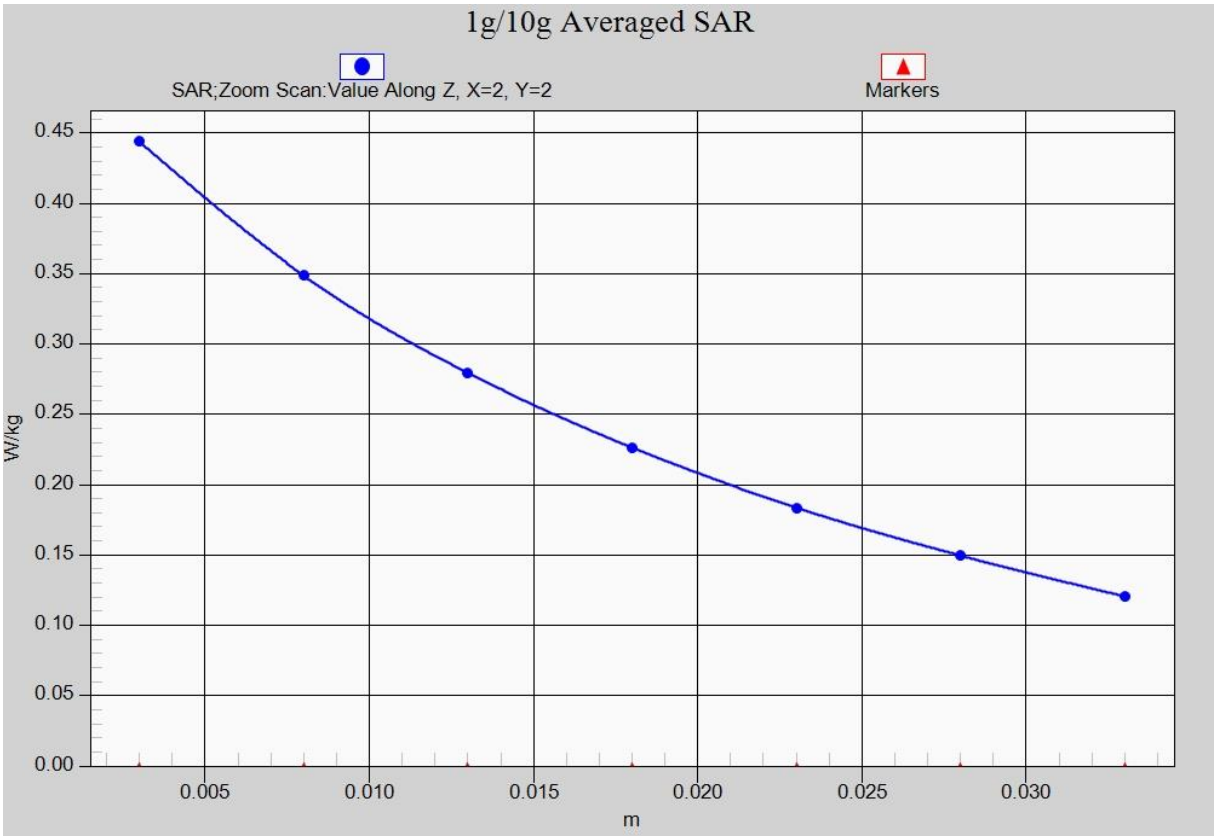

Fig. 14-1 Z-Scan at power reference point (LTE Band5)

LTE Band5 Body Rear Low with QPSK_10M_1RB_High
Date: 2017-8-8
Electronics: DAE4 Sn1331
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 829 MHz; σ = 1.003 mho/m; εr = 55.694; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: LTE Band5 Frequency: 829 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN3846 ConvF(9.52, 9.52, 9.52)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.766 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.71 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.869 W/kg
SAR(1 g) = 0.641 W/kg; SAR(10 g) = 0.461 W/kg
Maximum value of SAR (measured) = 0.683 W/kg

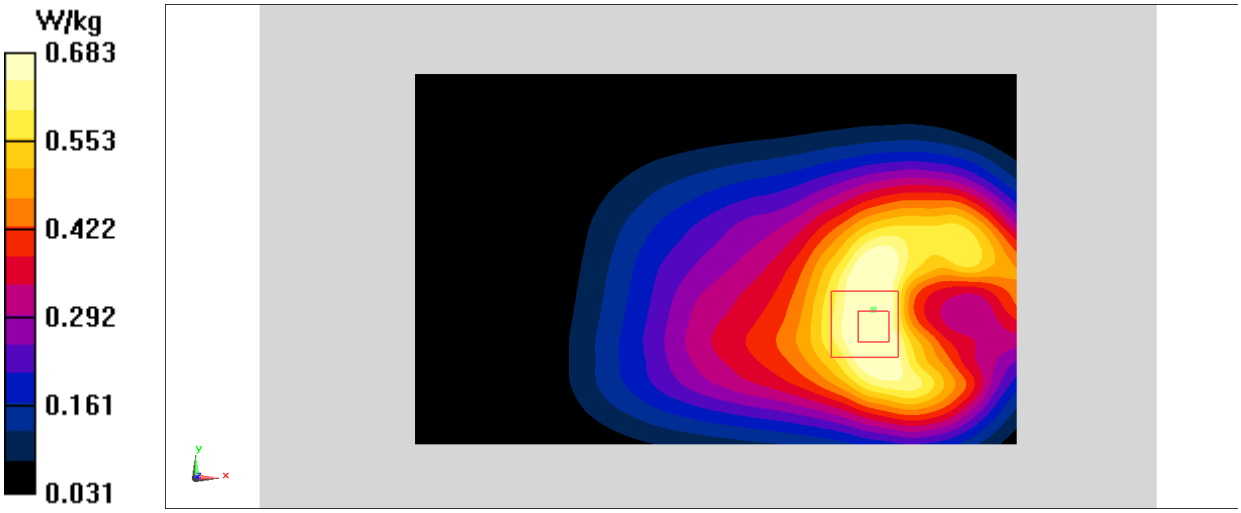

Fig.15 LTE Band5

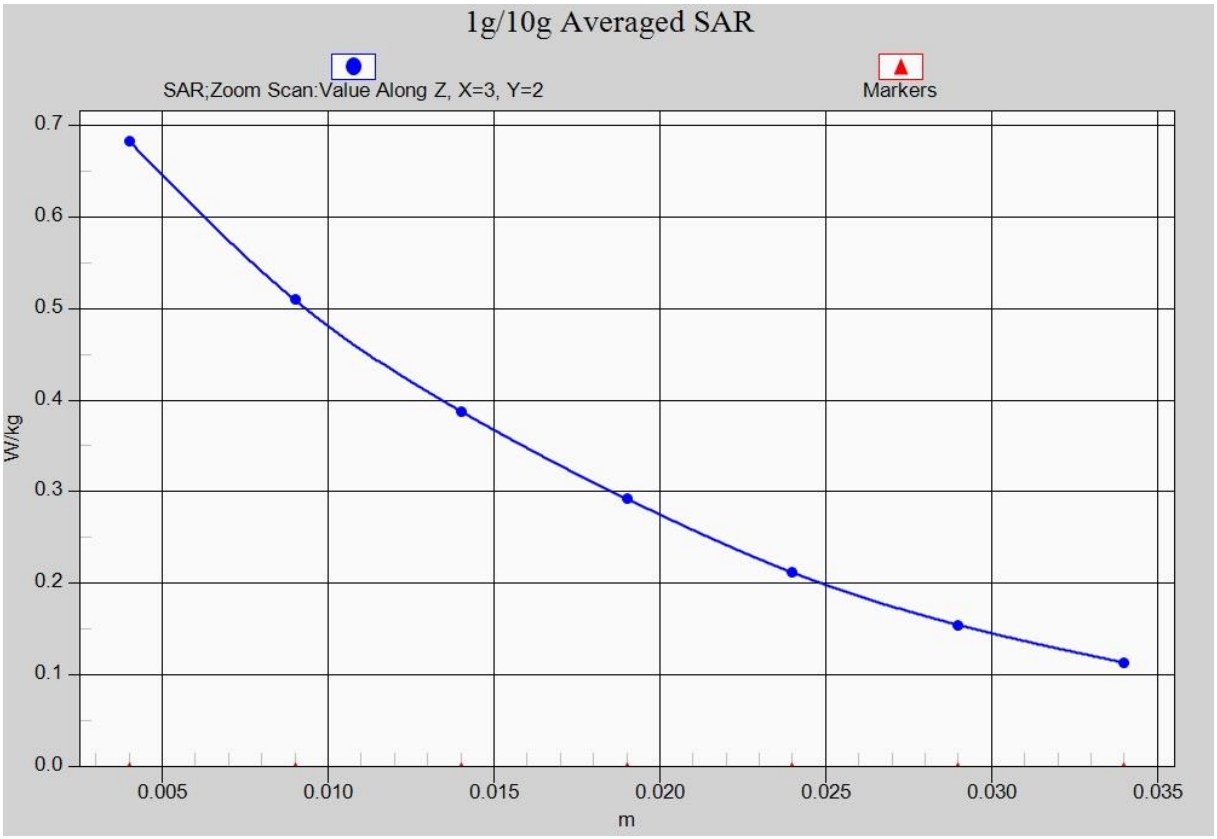

Fig. 15-1 Z-Scan at power reference point (LTE Band5)

LTE Band7 Right Cheek Low with QPSK_20M_1RB_Low
Date: 2017-8-12
Electronics: DAE4 Sn1331
Medium: Head 2600 MHz
Medium parameters used: f = 2510 MHz; σ = 1.925 mho/m; εr = 38.52; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: LTE Band7Frequency: 2510 MHz Duty Cycle: 1:1
Probe: EX3DV4– SN3846 ConvF(7.12, 7.12, 7.12)

Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.498 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.725 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.641 W/kg
SAR(1 g) = 0.347 W/kg; SAR(10 g) = 0.183 W/kg
Maximum value of SAR (measured) = 0.434 W/kg

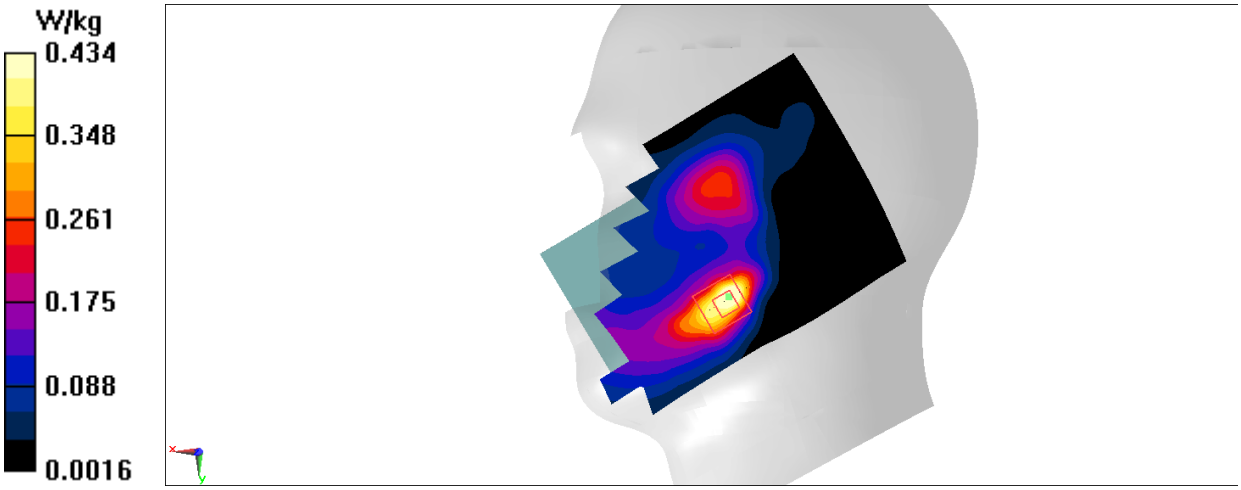

Fig.16 LTE Band7

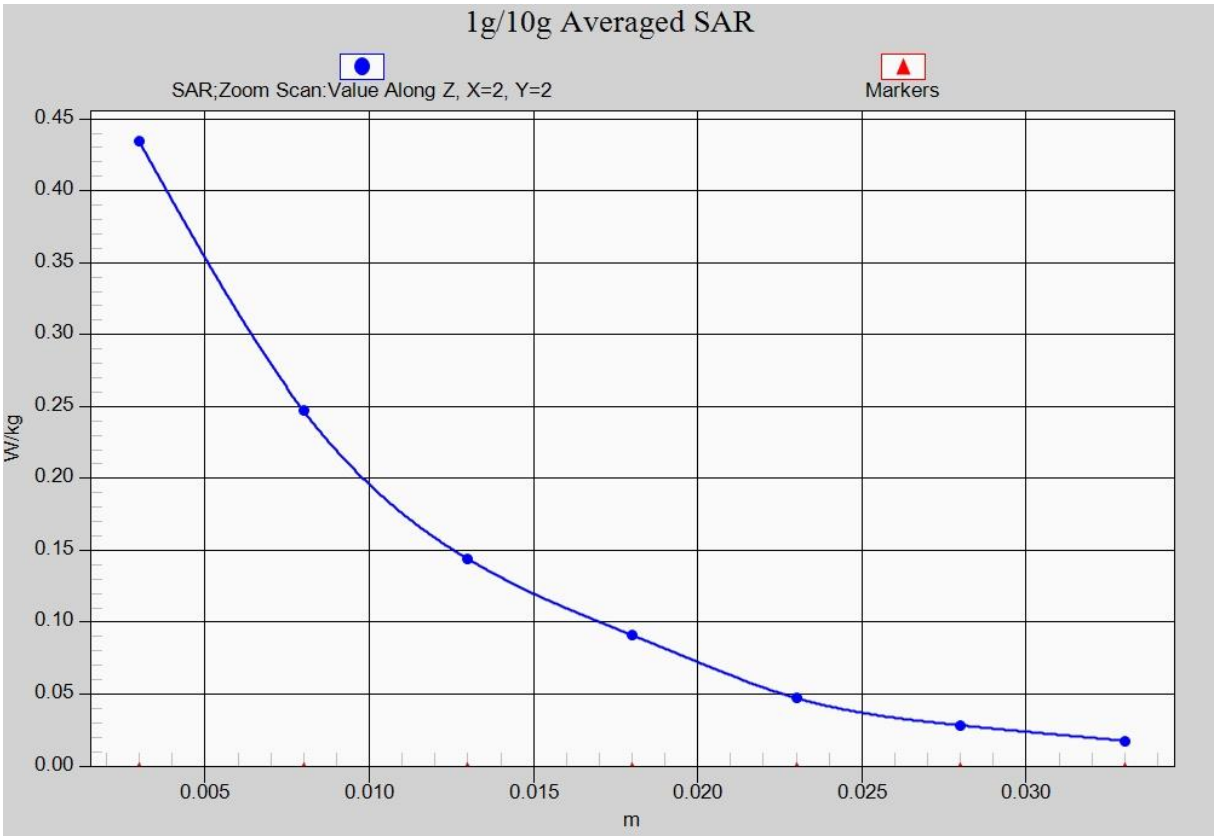

Fig. 16-1 Z-Scan at power reference point (LTE Band7)

LTE Band7 Body Bottom Low with QPSK_20M_100RB – 10mm
Date: 2017-8-12
Electronics: DAE4 Sn1331
Medium: Body 2600 MHz
Medium parameters used: f = 2510 MHz; σ = 2.095 mho/m; εr = 51.85; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: LTE Band7 Frequency: 2510 MHz Duty Cycle: 1:1
Probe: EX3DV4– SN3846 ConvF(7.25, 7.25, 7.25)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.45 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.05 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.87 W/kg
SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.538 W/kg
Maximum value of SAR (measured) = 1.16 W/kg

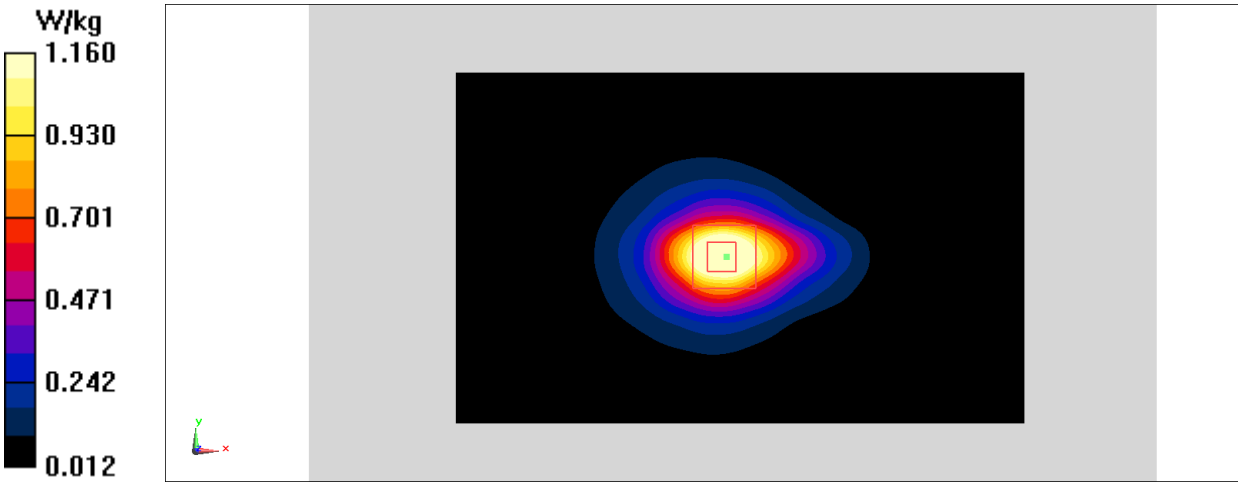

Fig.17 LTE Band7

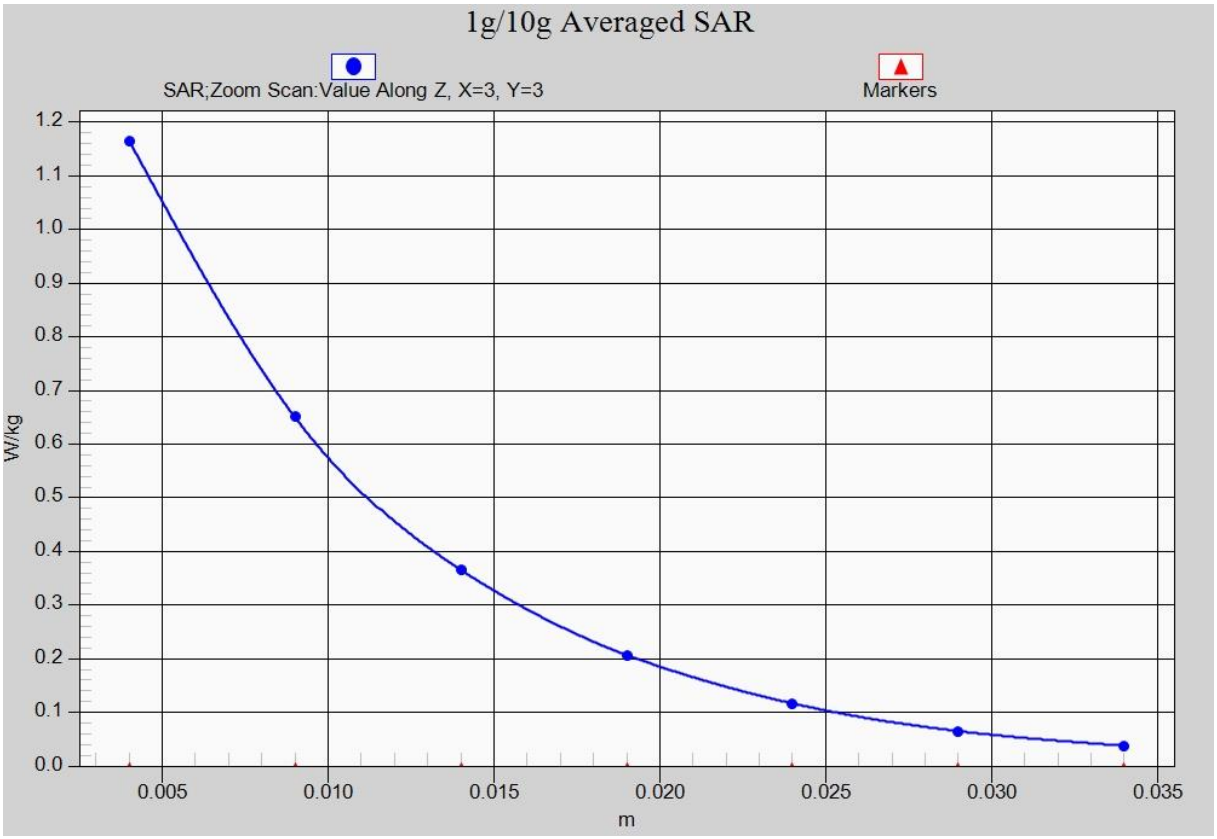

Fig. 17-1 Z-Scan at power reference point (LTE Band7)

LTE Band7 Body Front Low with QPSK_20M_1RB_Low – 15mm
Date: 2017-8-12
Electronics: DAE4 Sn1331
Medium: Body 2600 MHz
Medium parameters used: f = 2510 MHz; σ = 2.095 mho/m; εr = 51.85; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: LTE Band7 Frequency: 2510 MHz Duty Cycle: 1:1
Probe: EX3DV4– SN3846 ConvF(7.25, 7.25, 7.25)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.653 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.752 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.822 W/kg
SAR(1 g) = 0.488 W/kg; SAR(10 g) = 0.278 W/kg
Maximum value of SAR (measured) = 0.529 W/kg

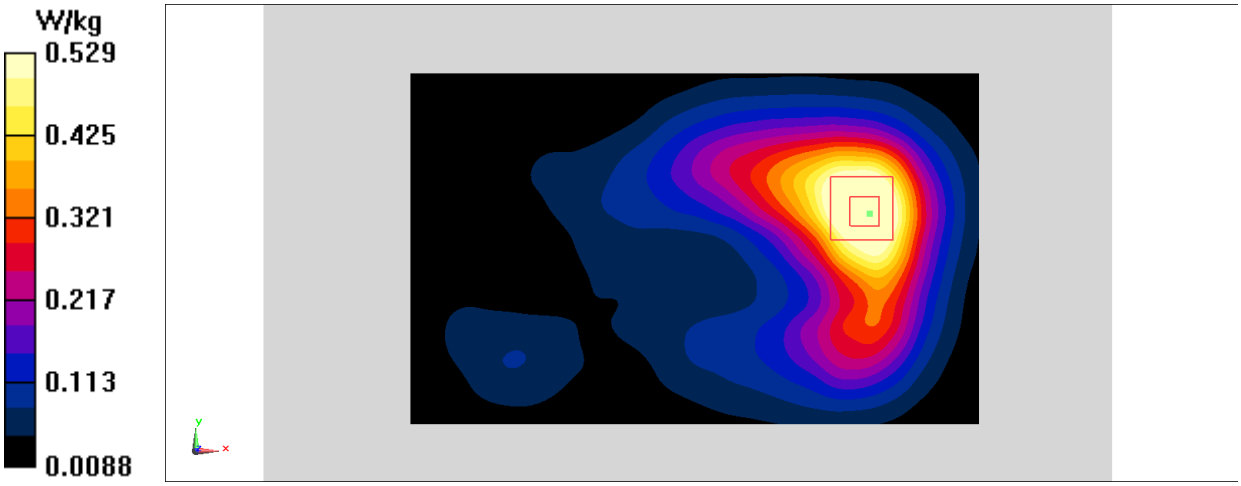

Fig.18 LTE Band7

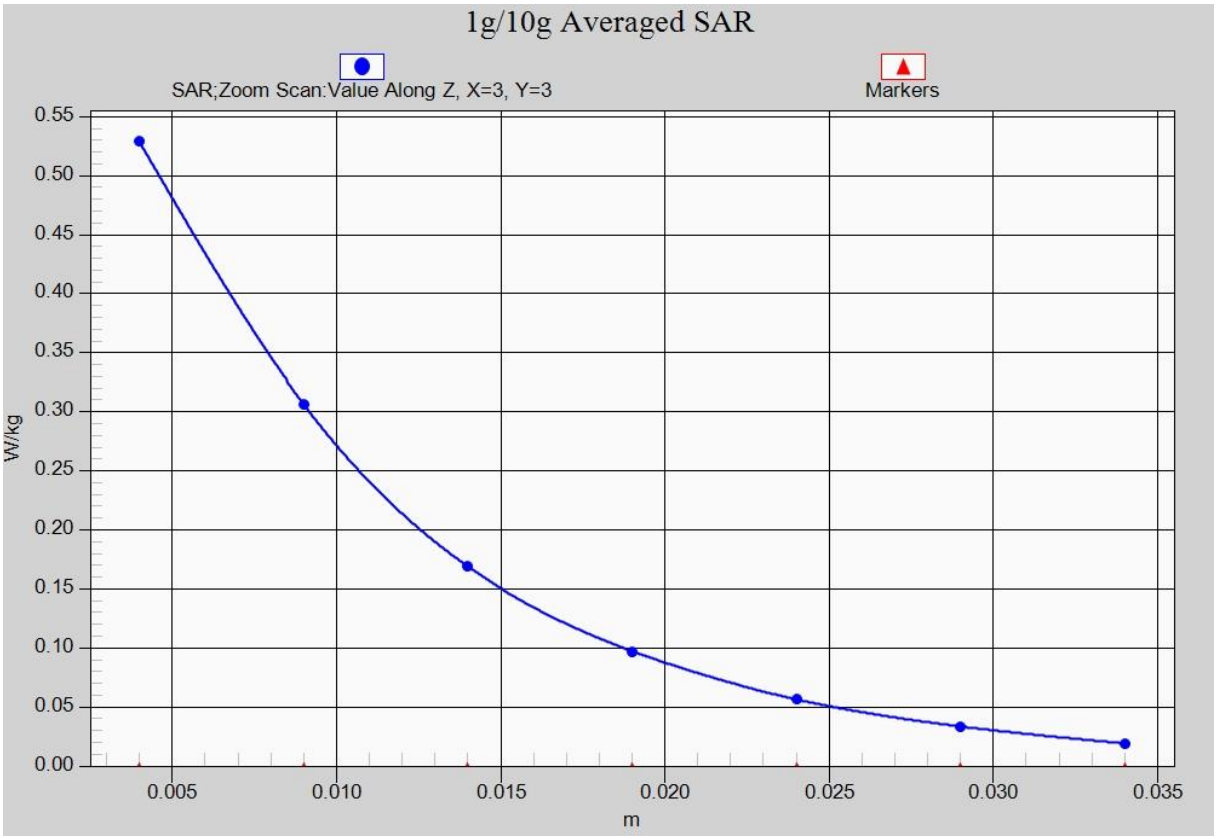

Fig. 18-1 Z-Scan at power reference point (LTE Band7)

LTE Band12 Right Cheek High with QPSK_10M_1RB_HIgh
Date: 2017-8-10
Electronics: DAE4 Sn1331
Medium: Head 750 MHz
Medium parameters used (interpolated): f = 711 MHz; σ = 0.861 mho/m; εr = 42.25; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: LTE Band12Frequency: 711 MHz Duty Cycle: 1:1
Probe: EX3DV4– SN3846 ConvF(10.47,10.47, 10.47)

Area Scan (81x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.169 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.600 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.188 W/kg
SAR(1 g) = 0.147 W/kg; SAR(10 g) = 0.119 W/kg
Maximum value of SAR (measured) = 0.156 W/kg

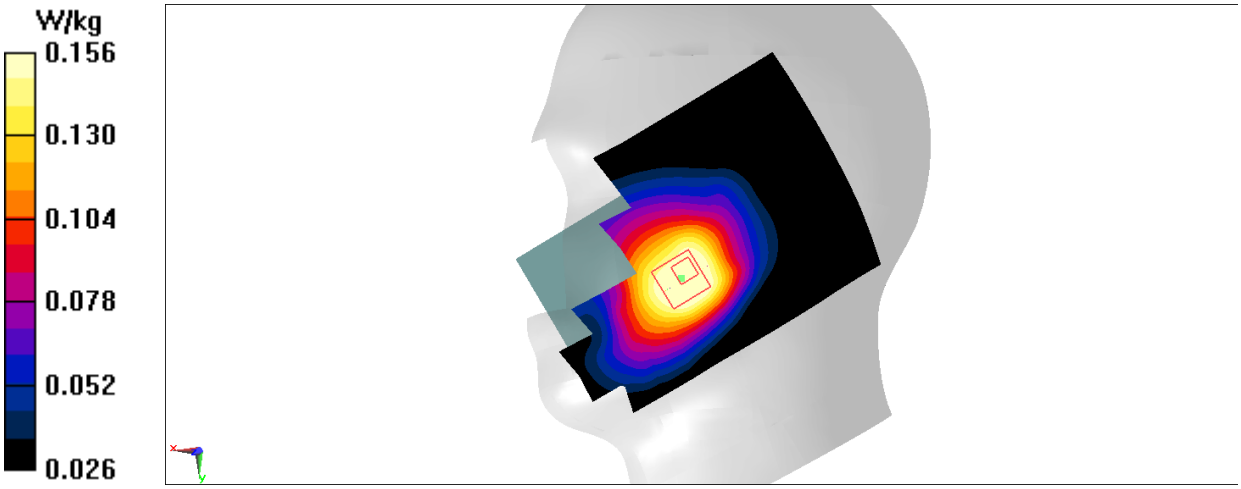

Fig.19 LTE Band12

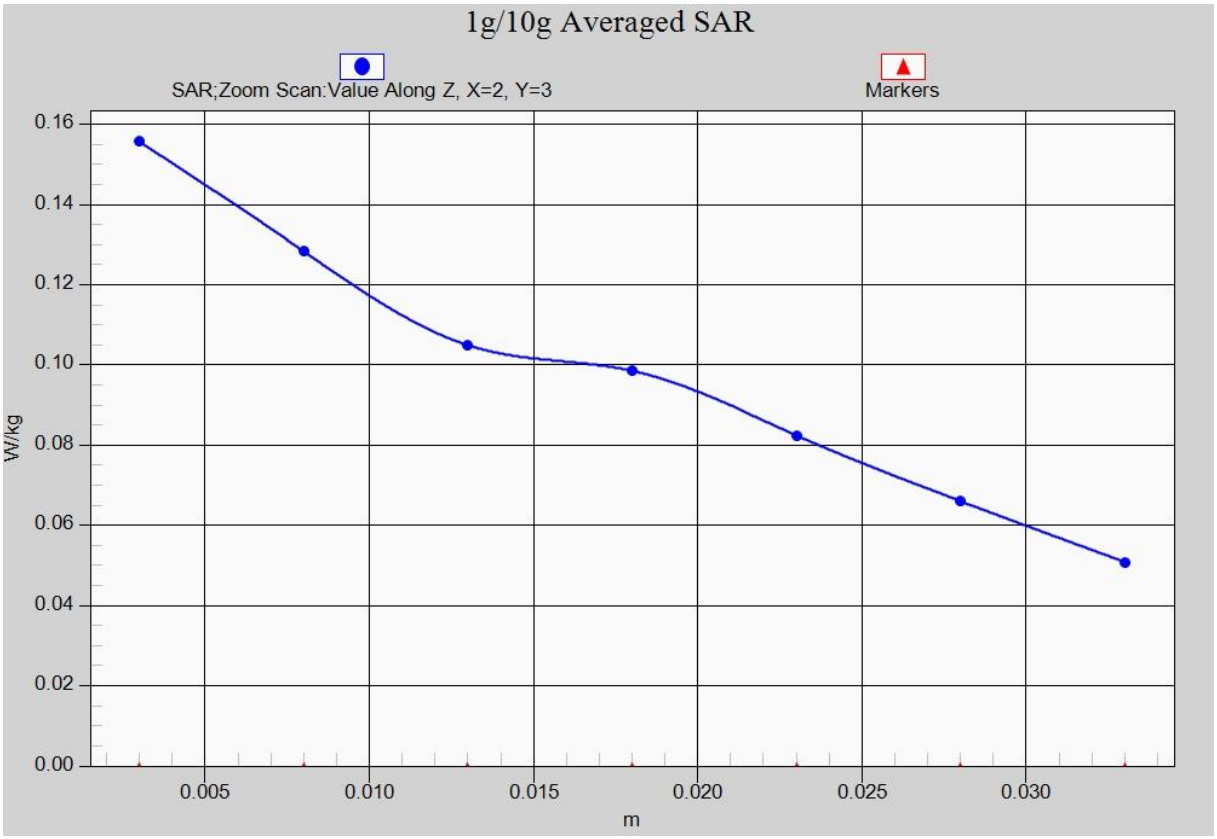

Fig. 19-1 Z-Scan at power reference point (LTE Band12)

LTE Band12 Body Rear High with QPSK_10M_1RB_High
Date: 2017-8-10
Electronics: DAE4 Sn1331
Medium: Body750 MHz
Medium parameters used (interpolated): f = 711 MHz; σ = 0.933 mho/m; εr = 56.45; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: LTE Band12Frequency: 711 MHz Duty Cycle: 1:1
Probe: EX3DV4– SN3846 ConvF(9.96, 9.96, 9.96)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.336 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.17 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.384 W/kg
SAR(1 g) = 0.281 W/kg; SAR(10 g) = 0.200 W/kg
Maximum value of SAR (measured) = 0.304 W/kg

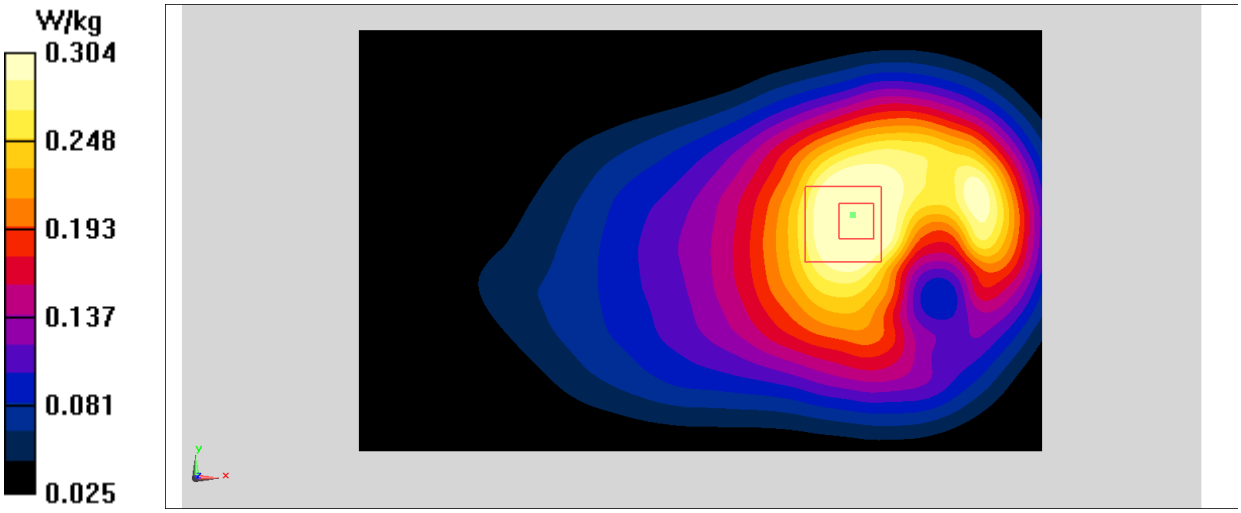

Fig.20 LTE Band12

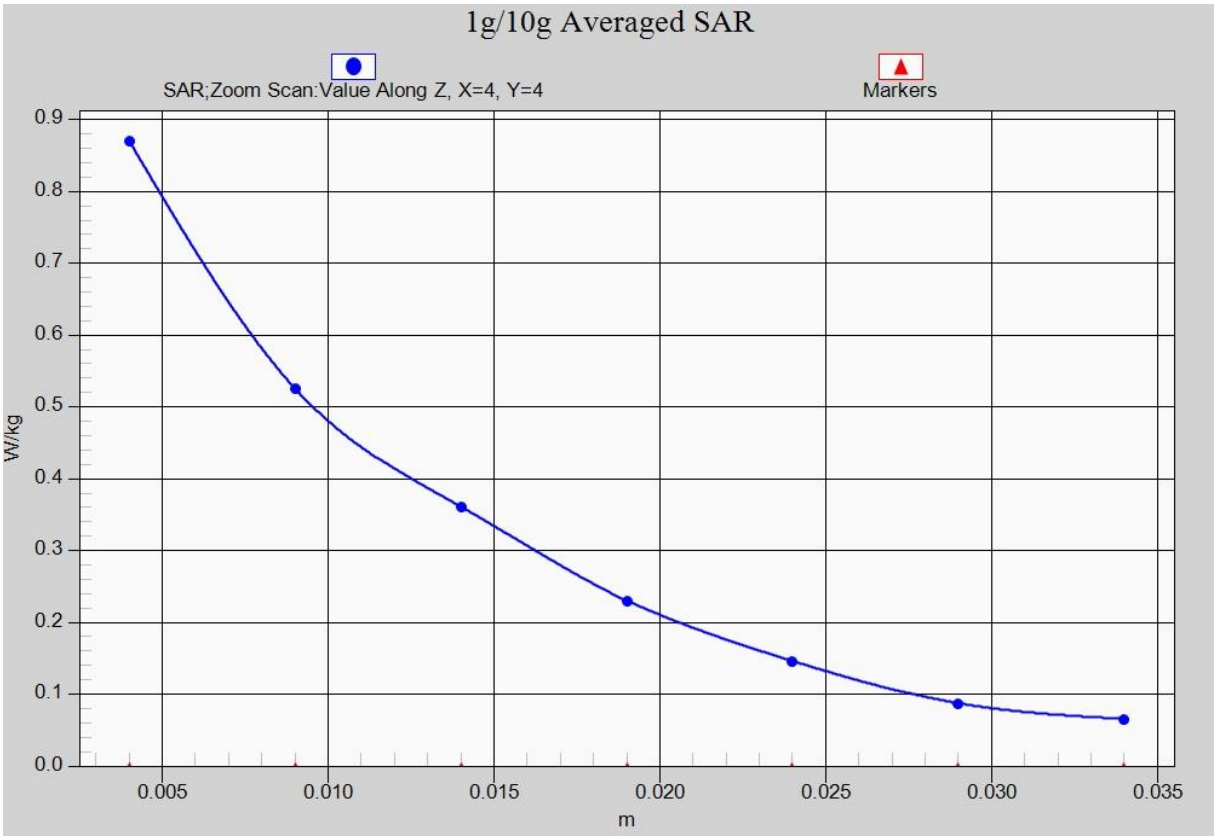

Fig. 20-1 Z-Scan at power reference point (LTE Band12)

LTE Band13 Right Cheek with QPSK_10M_1RB_Low

Date: 2017-8-10
Electronics: DAE4 Sn1331
Medium: Head 750 MHz
Medium parameters used (interpolated): f = 782 MHz; σ = 0.899 mho/m; εr = 42.28; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: LTE Band13Frequency: 782 MHz Duty Cycle: 1:1
Probe: EX3DV4– SN3846 ConvF(9.65, 9.65, 9.65)

Area Scan (81x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.324 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.699 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.420 W/kg
SAR(1 g) = 0.293 W/kg; SAR(10 g) = 0.229 W/kg
Maximum value of SAR (measured) = 0.345 W/kg

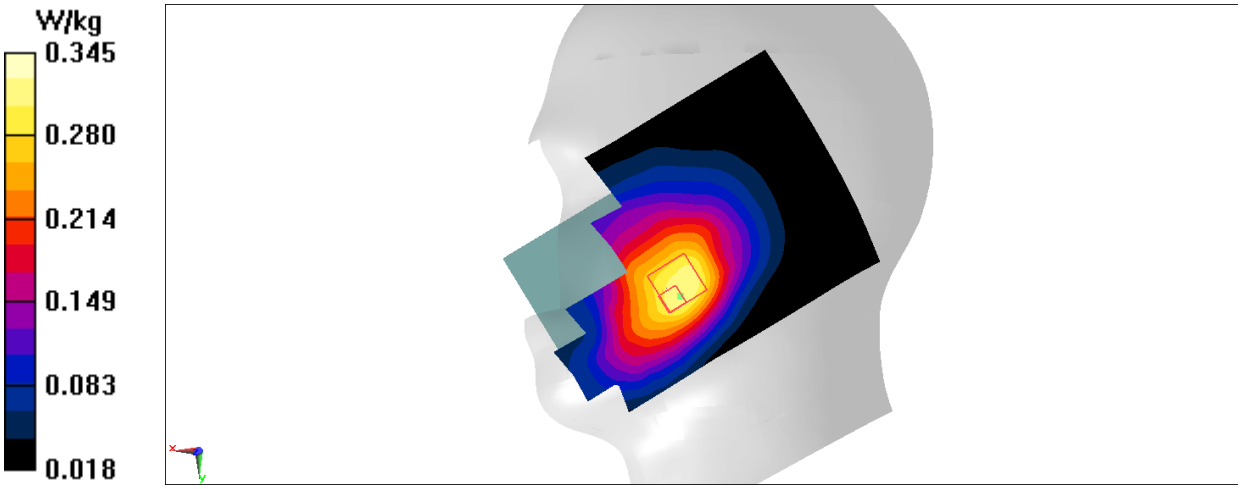

Fig.21 LTE Band13

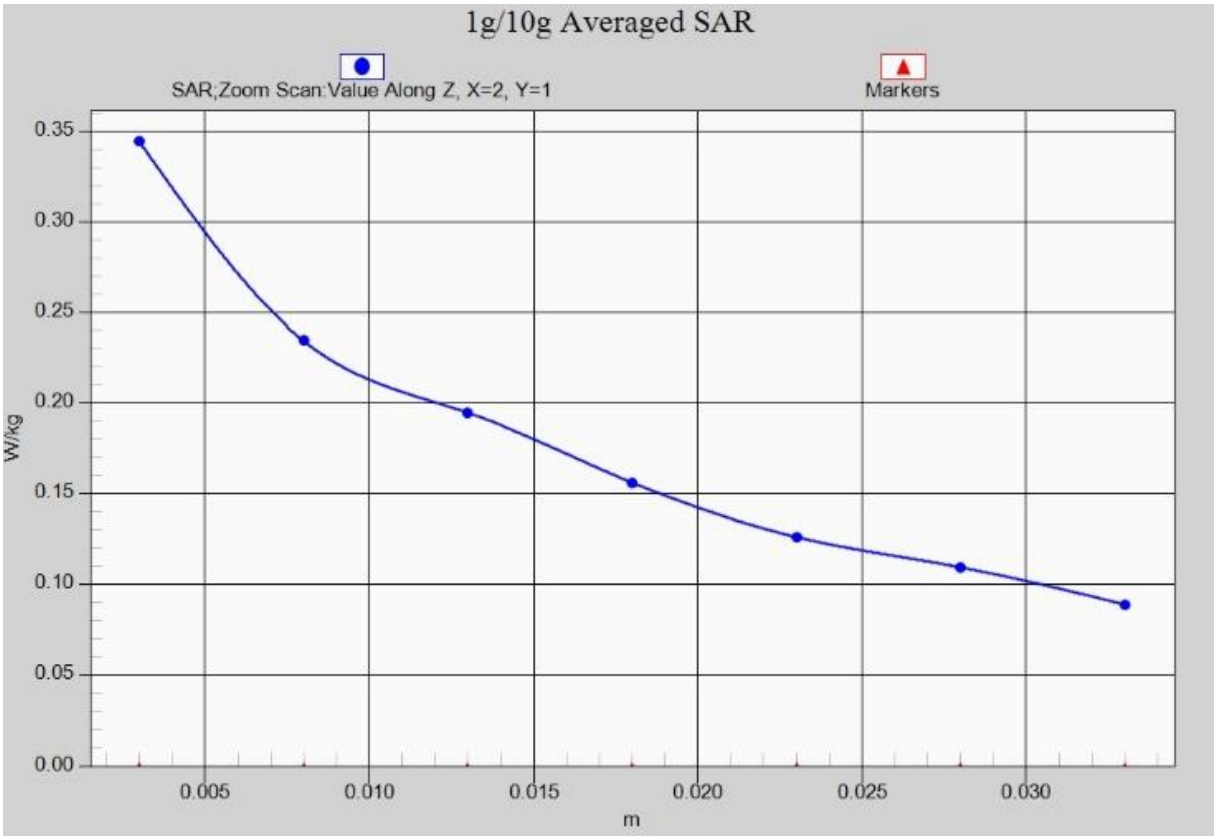

Fig. 21-1 Z-Scan at power reference point (LTE Band13)

LTE Band13 Body Rear with QPSK_10M_1RB_Low
Date: 2017-8-10
Electronics: DAE4 Sn1331
Medium: Body 750 MHz
Medium parameters used (interpolated): f = 782 MHz; σ = 0.96 mho/m; εr = 56.36; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: LTE Band13Frequency: 782 MHz Duty Cycle: 1:1
Probe: EX3DV4– SN3846 ConvF(9.96, 9.96, 9.96)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.676 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.19 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.800 W/kg
SAR(1 g) = 0.446 W/kg; SAR(10 g) = 0.284 W/kg
Maximum value of SAR (measured) = 0.583 W/kg

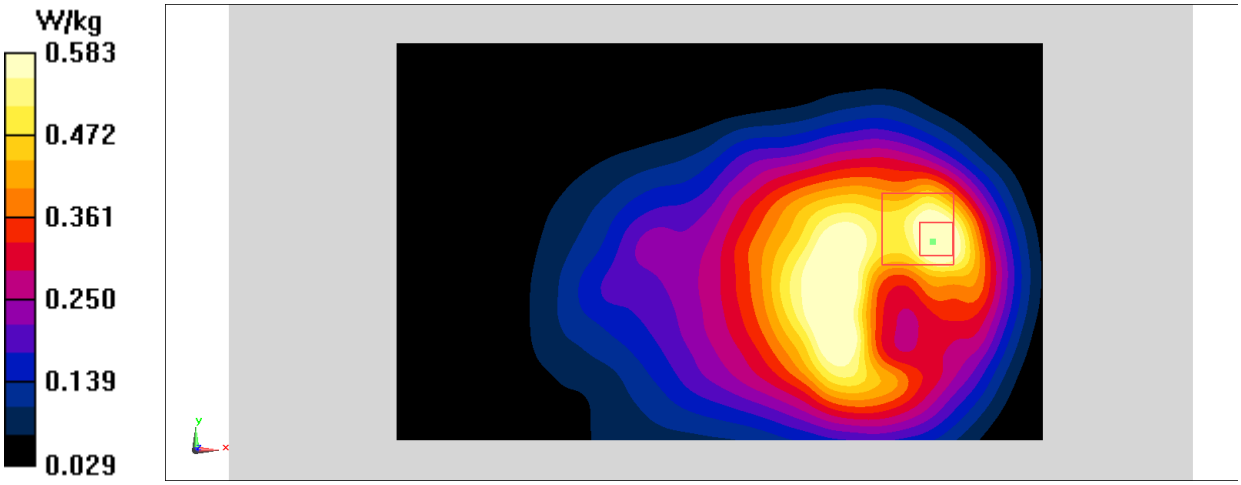

Fig.22 LTE Band13

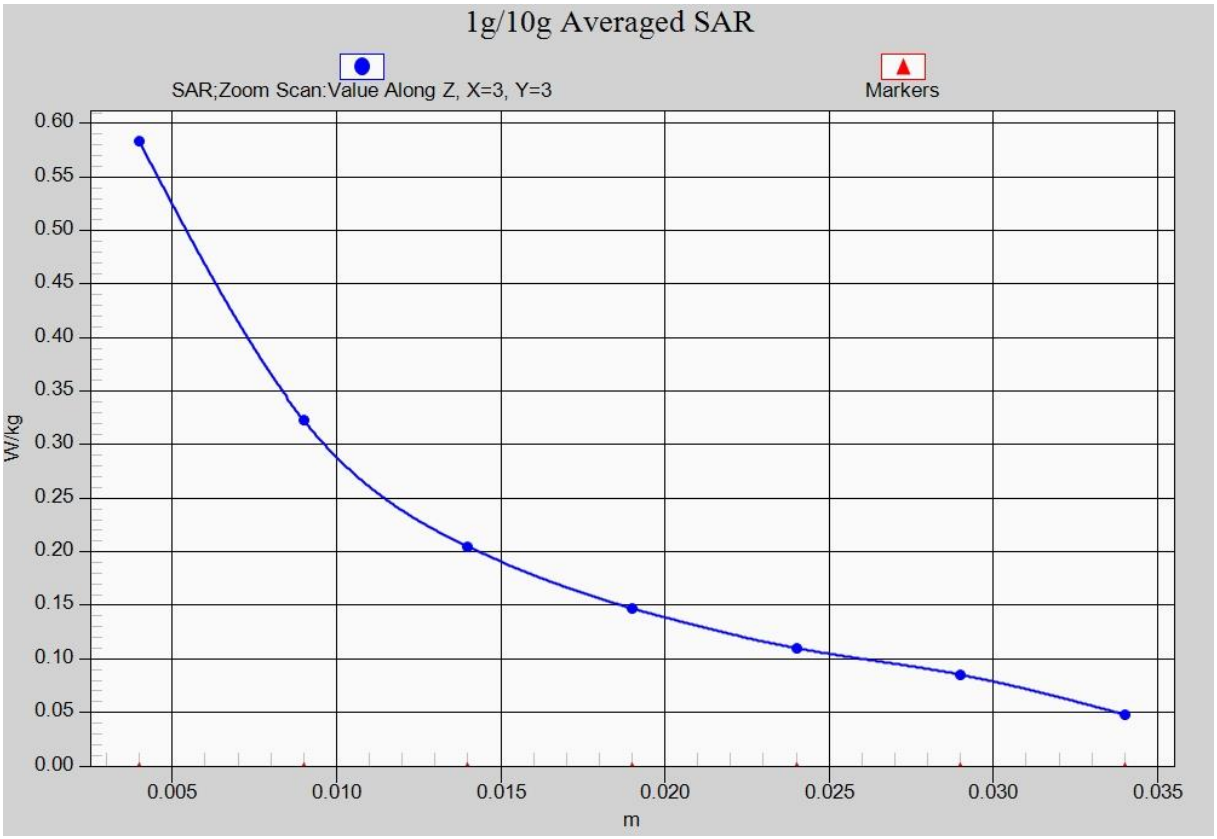

Fig. 22-1 Z-Scan at power reference point (LTE Band13)