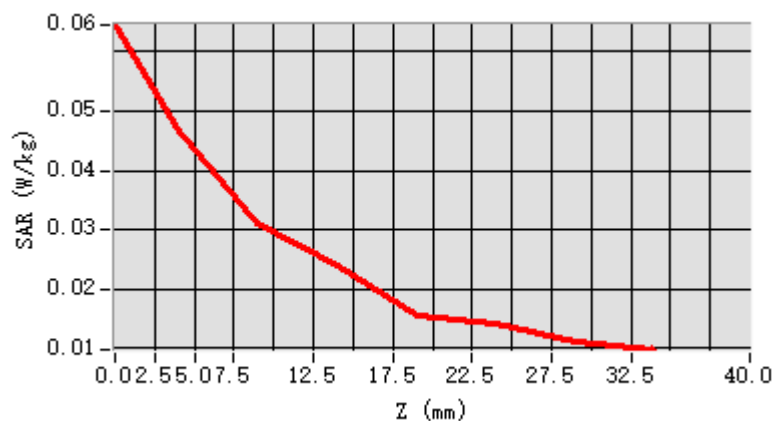
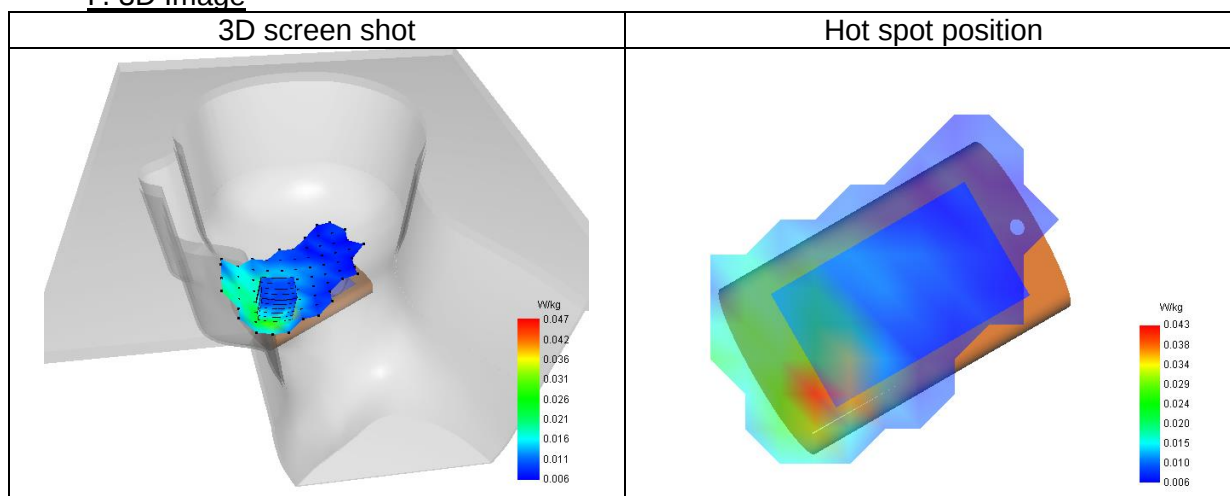




F. 3D Image



4# SAR Measurement at GPRS1900 (Body, Validation Plane)

Date of measurement: 3/9/2025

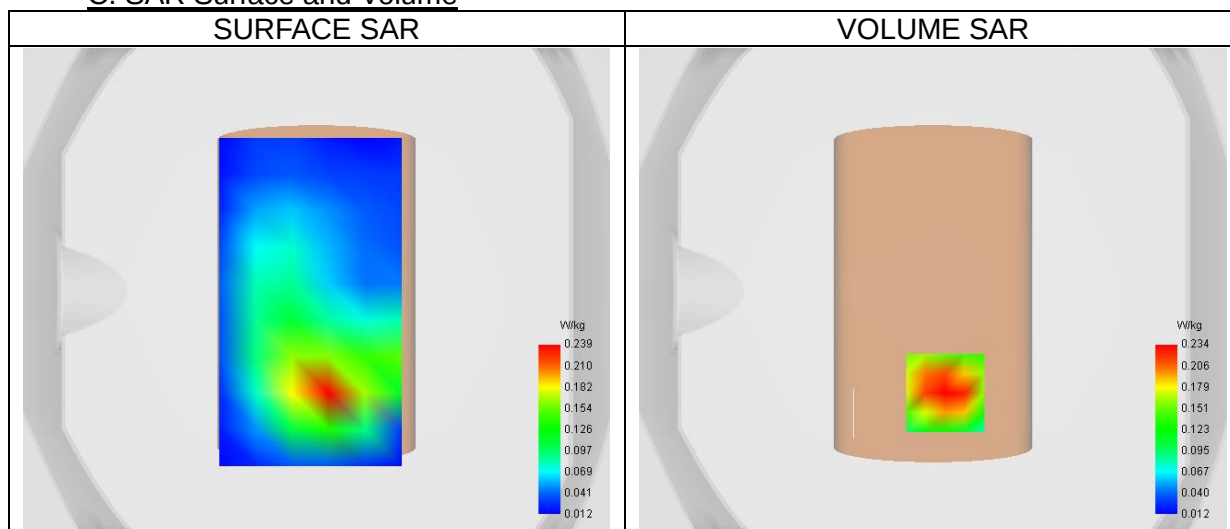
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.58
Area Scan	dx=15mm dy=15mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Signal	TDMA (GPRS)
Channels/Frequency	Middle (661)/ frequency 1880.00 Mhz
Modulation	GMSK (CS-4)
TX-slots	4

B. Permittivity

Middle TX Frequency (MHz)	1880.00
Relative permittivity (real part)	38.17
Relative permittivity (imaginary part)	13.36
Conductivity (S/m)	1.40

C. SAR Surface and Volume



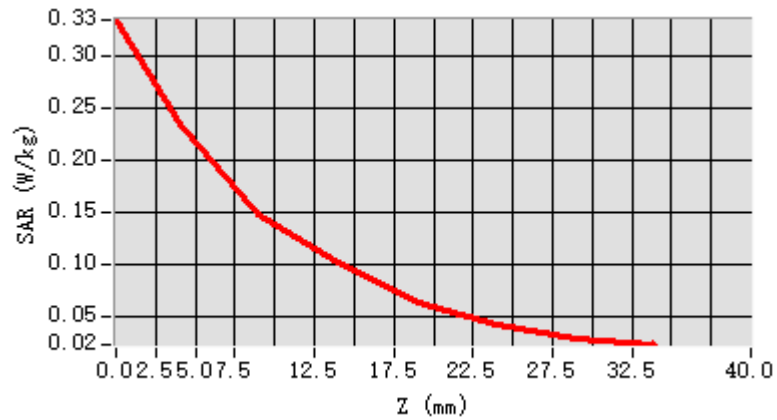
Maximum location: X=5.00, Y=-42.00 ; SAR Peak: 0.35 W/kg

D. SAR 1g & 10g

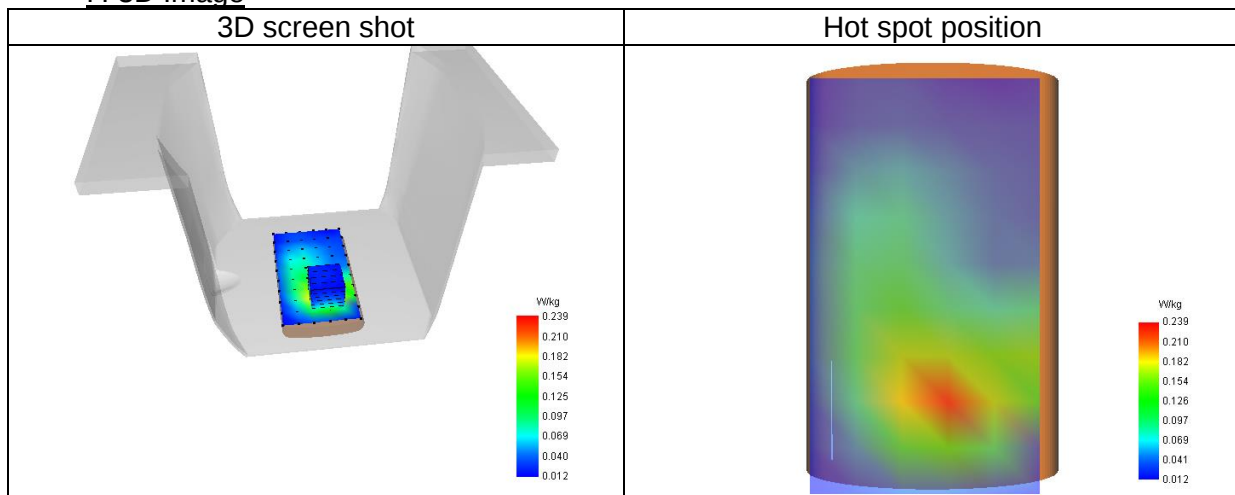
SAR 10g (W/Kg)	0.133
SAR 1g (W/Kg)	0.226
Variation (%)	2.74
Horizontal validation criteria: minimum distance (mm)	17.89
Vertical validation criteria: SAR ratio M2/M1 (%)	63.56

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.334	0.234	0.149	0.102	0.064	0.043	0.030



F. 3D Image



5# SAR Measurement at Band 2 (1900) (Cheek, Right)

Date of measurement: 3/9/2025

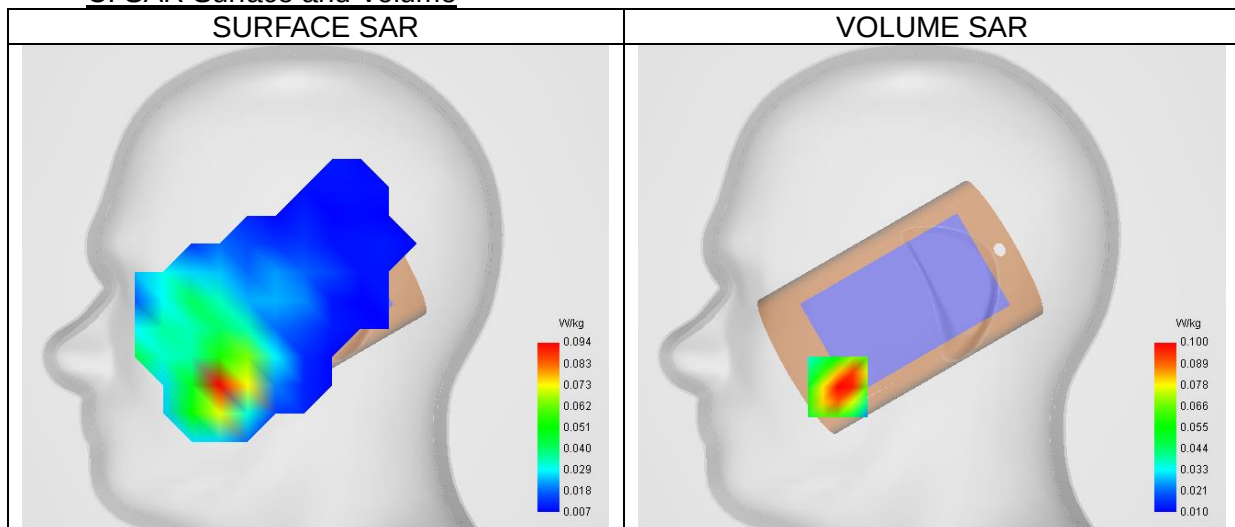
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.58
Area Scan	dx=15mm dy=15mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Right head
Device Position	Cheek
Band	Band 2 (1900)
Signal	WCDMA
Channels/Frequency	Middle (9400)/ frequency 1880.00 Mhz
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Middle TX Frequency (MHz)	1880.00
Relative permittivity (real part)	38.17
Relative permittivity (imaginary part)	13.36
Conductivity (S/m)	1.40

C. SAR Surface and Volume



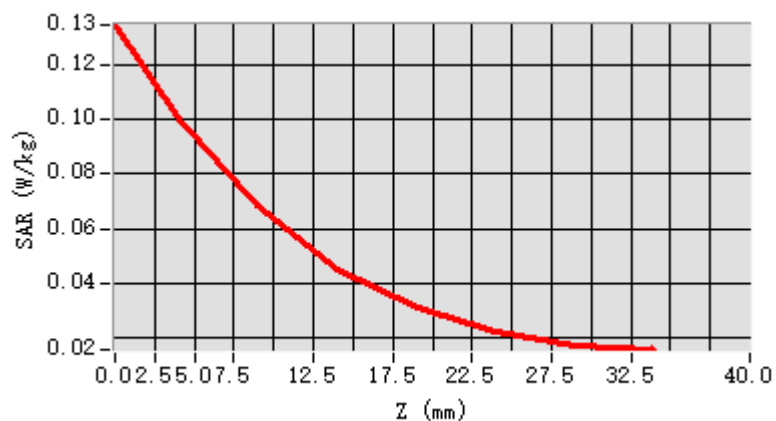
Maximum location: X=-50.00, Y=-52.00 ; SAR Peak: 0.14 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.058
SAR 1g (W/Kg)	0.097
Variation (%)	3.13
Horizontal validation criteria: minimum distance (mm)	17.89
Vertical validation criteria: SAR ratio M2/M1 (%)	68.26

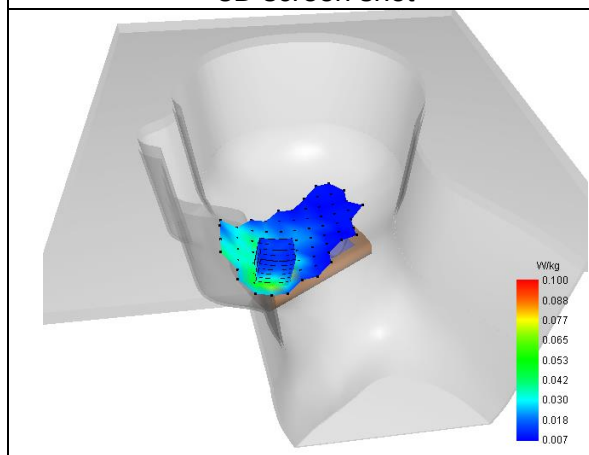
E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.135	0.100	0.068	0.045	0.031	0.022	0.017

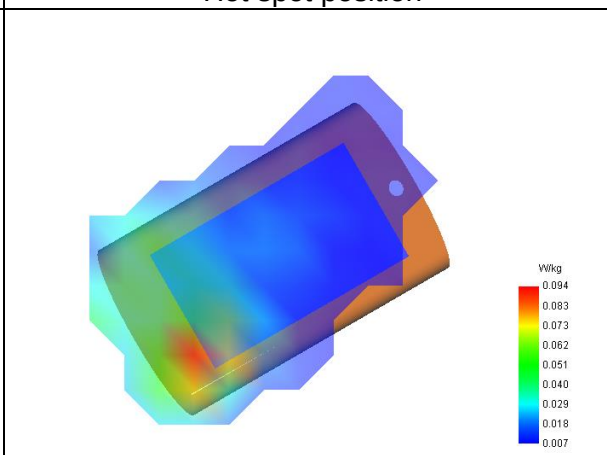


F. 3D Image

3D screen shot



Hot spot position



6# SAR Measurement at Band 2 (1900) (Body, Validation Plane)

Date of measurement: 3/9/2025

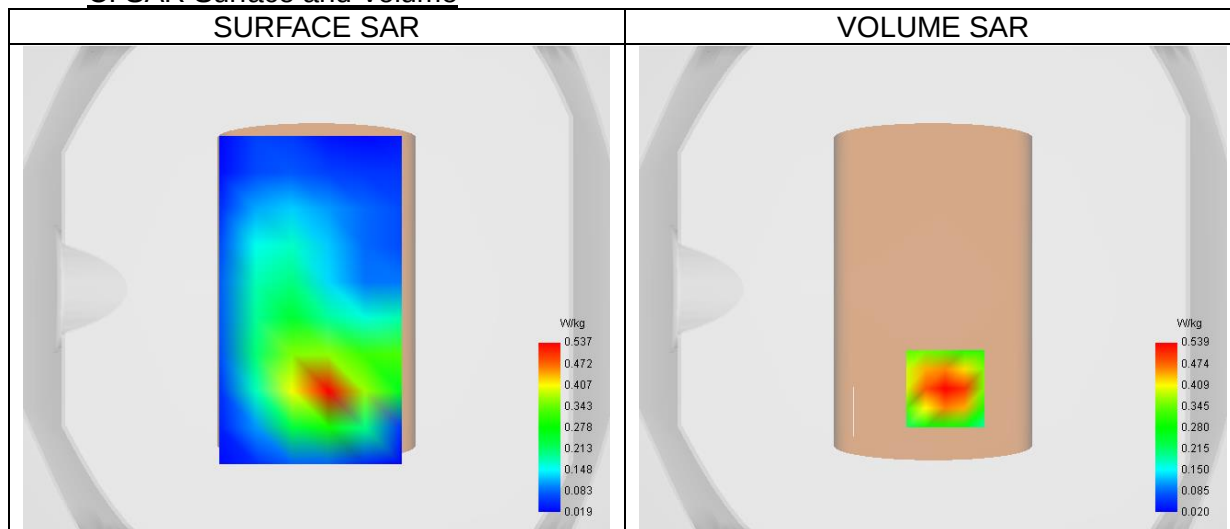
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.58
Area Scan	dx=15mm dy=15mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	Band 2 (1900)
Signal	WCDMA
Channels/Frequency	Middle (9400)/ frequency 1880.00 Mhz
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Middle TX Frequency (MHz)	1880.00
Relative permittivity (real part)	38.17
Relative permittivity (imaginary part)	13.36
Conductivity (S/m)	1.40

C. SAR Surface and Volume



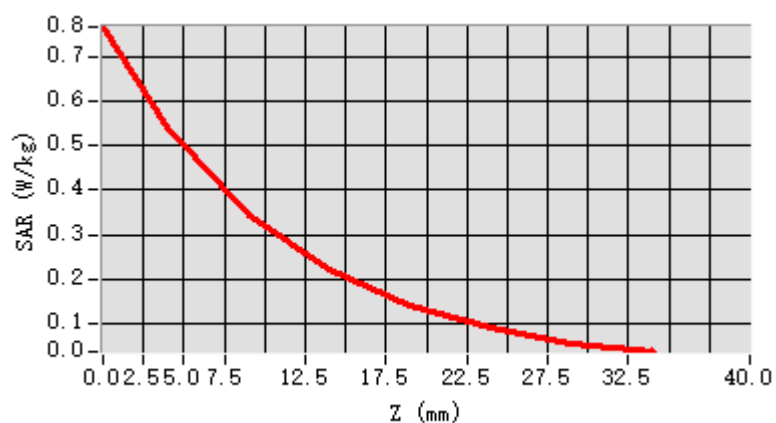
Maximum location: X=5.00, Y=-41.00 ; SAR Peak: 0.78 W/kg

D. SAR 1g & 10g

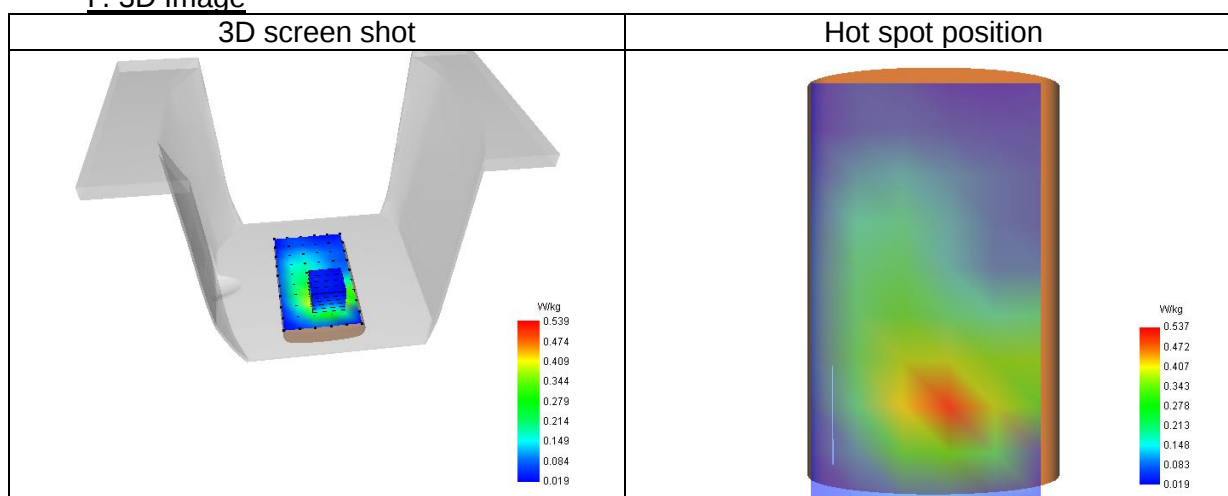
SAR 10g (W/Kg)	0.301
SAR 1g (W/Kg)	0.516
Variation (%)	-0.89
Horizontal validation criteria: minimum distance (mm)	17.89
Vertical validation criteria: SAR ratio M2/M1 (%)	63.83

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.765	0.539	0.344	0.222	0.140	0.092	0.057



F. 3D Image



7# SAR Measurement at Band 5 (850) (Cheek, Right)

Date of measurement: 2/9/2025

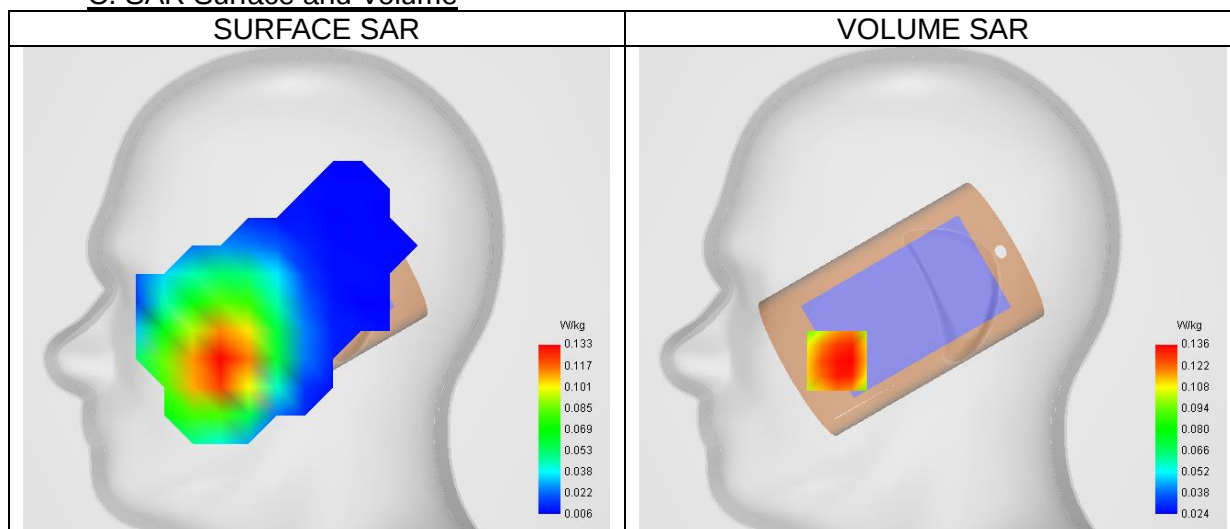
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.32
Area Scan	dx=15mm dy=15mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Right head
Device Position	Cheek
Band	Band 5 (850)
Signal	WCDMA
Channels/Frequency	Middle (4182)/ frequency 836.40 Mhz
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Middle TX Frequency (MHz)	836.40
Relative permittivity (real part)	41.69
Relative permittivity (imaginary part)	19.64
Conductivity (S/m)	0.91

C. SAR Surface and Volume



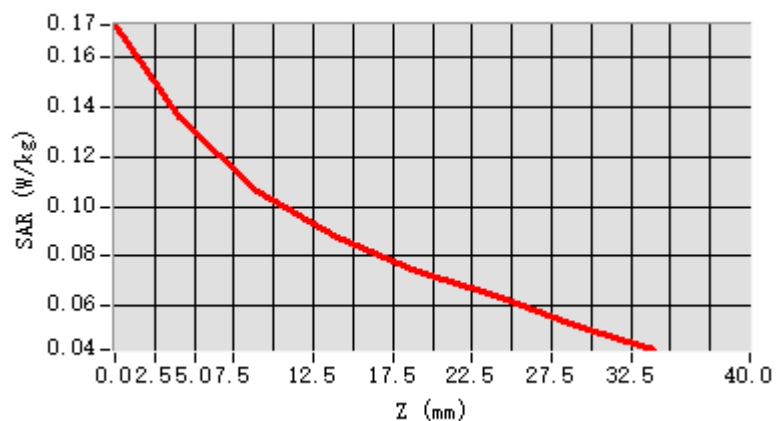
Maximum location: X=-51.00, Y=-37.00 ; SAR Peak: 0.17 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.103
SAR 1g (W/Kg)	0.134
Variation (%)	2.11
Horizontal validation criteria: minimum distance (mm)	0.00
Vertical validation criteria: SAR ratio M2/M1 (%)	0.00

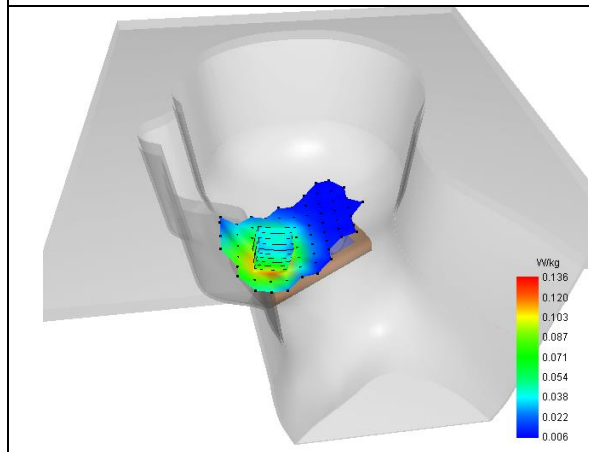
E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.173	0.136	0.106	0.088	0.074	0.064	0.052

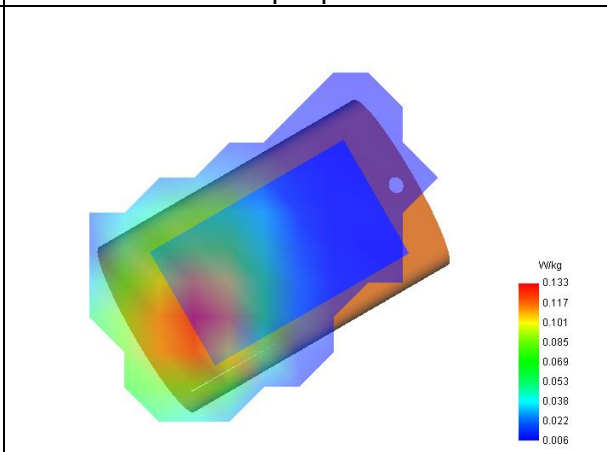


F. 3D Image

3D screen shot



Hot spot position



8# SAR Measurement at Band 5 (850) (Body, Validation Plane)

Date of measurement: 2/9/2025

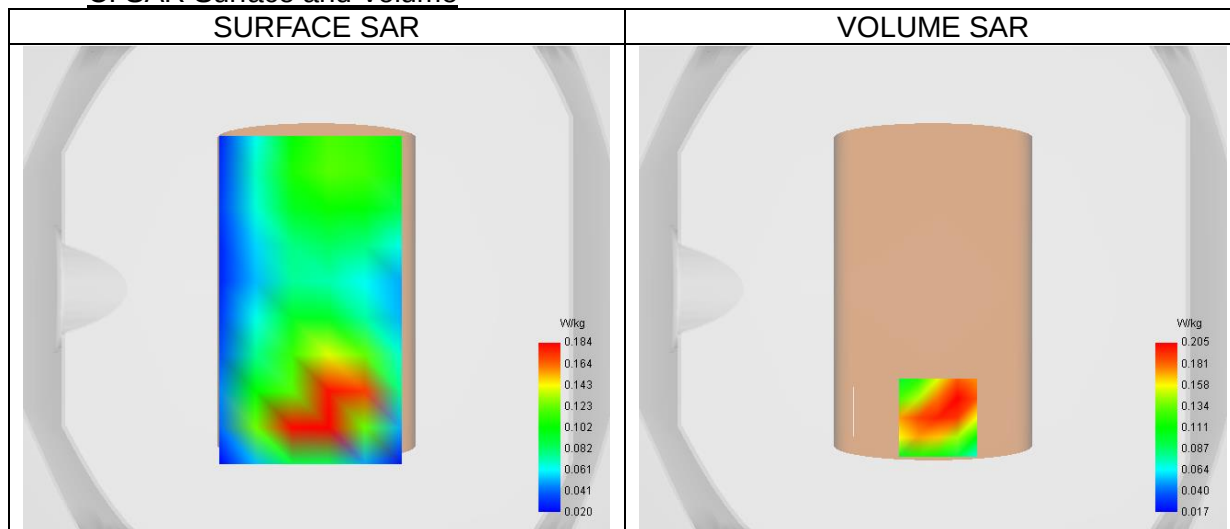
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.32
Area Scan	dx=15mm dy=15mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	Band 5 (850)
Signal	WCDMA
Channels/Frequency	Middle (4182)/ frequency 836.40 Mhz
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Middle TX Frequency (MHz)	836.40
Relative permittivity (real part)	41.69
Relative permittivity (imaginary part)	19.64
Conductivity (S/m)	0.91

C. SAR Surface and Volume



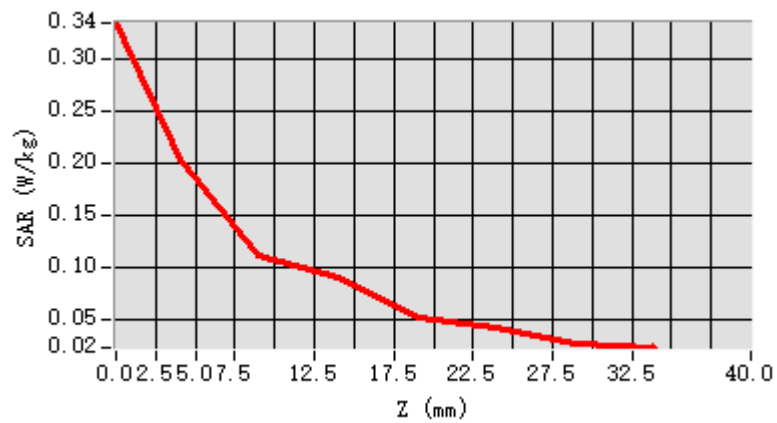
Maximum location: X=2.00, Y=-53.00 ; SAR Peak: 0.29 W/kg

D. SAR 1g & 10g

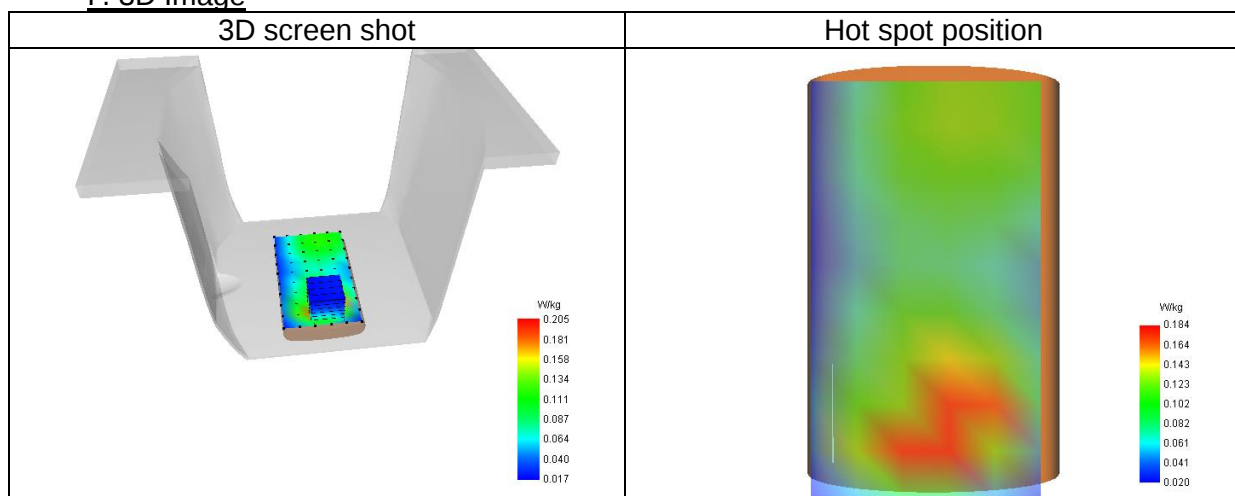
SAR 10g (W/Kg)	0.119
SAR 1g (W/Kg)	0.195
Variation (%)	-1.40
Horizontal validation criteria: minimum distance (mm)	24.00
Vertical validation criteria: SAR ratio M2/M1 (%)	65.28

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.335	0.205	0.112	0.090	0.052	0.043	0.027



F. 3D Image



9# SAR Measurement at ISM (Cheek, Left)

Date of measurement: 1/9/2025

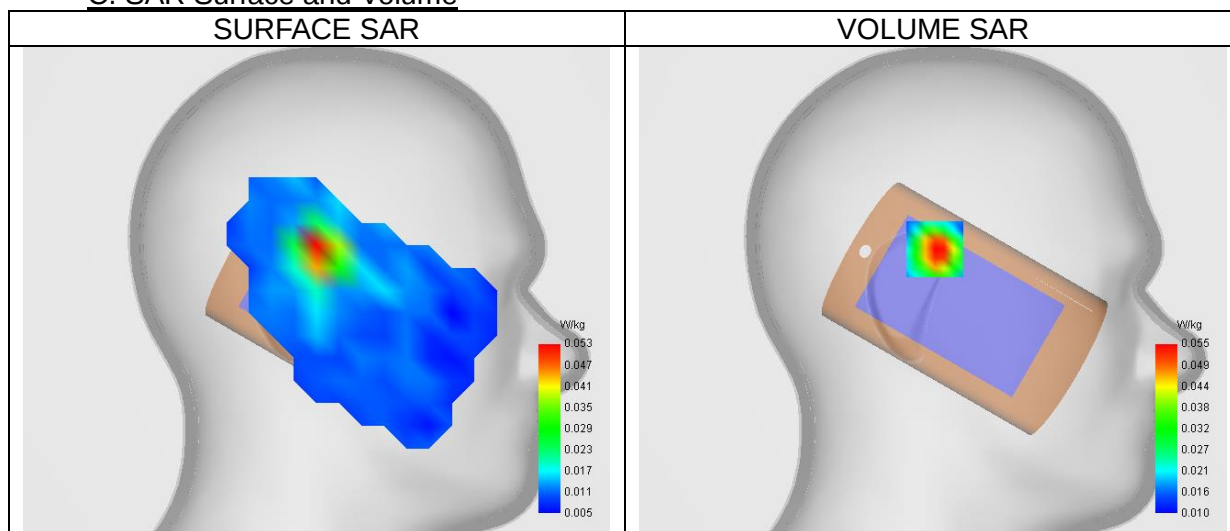
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.63
Area Scan	dx=12mm dy=12mm, Complete
Zoom Scan	7x7x7,dx=5mm dy=5mm dz=5.0mm,Complete
Phantom	Left head
Device Position	Cheek
Band	ISM
Signal	IEEE 802.11 b
Channels/Frequency	Middle (6)/ frequency 2437.00 Mhz

B. Permittivity

Middle TX Frequency (MHz)	2437.00
Relative permittivity (real part)	37.97
Relative permittivity (imaginary part)	13.01
Conductivity (S/m)	1.76

C. SAR Surface and Volume



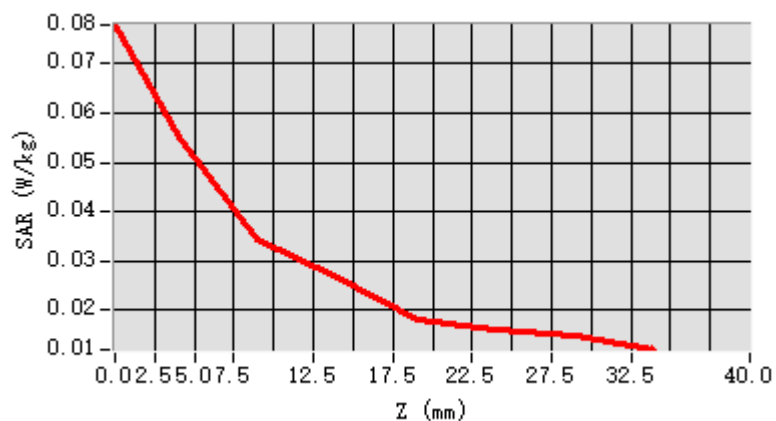
Maximum location: X=-1.00, Y=22.00 ; SAR Peak: 0.08 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.028
SAR 1g (W/Kg)	0.049
Variation (%)	1.68
Horizontal validation criteria: minimum distance (mm)	14.14
Vertical validation criteria: SAR ratio M2/M1 (%)	65.40

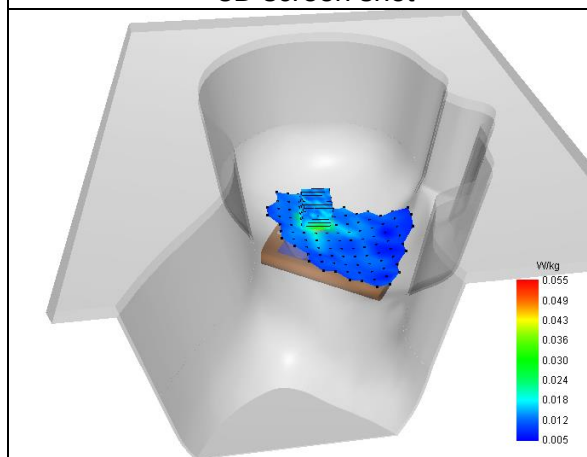
E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.078	0.055	0.034	0.027	0.018	0.016	0.015

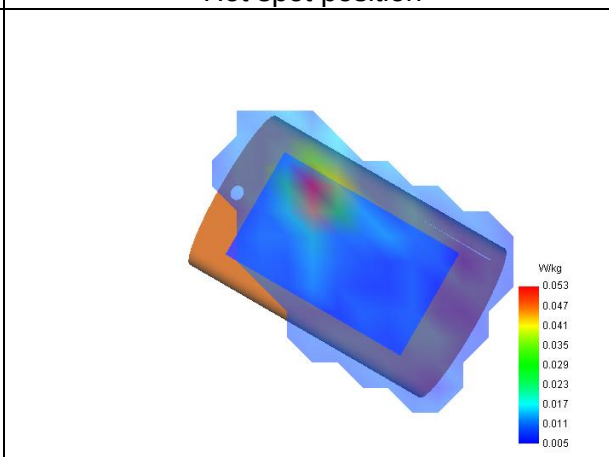


F. 3D Image

3D screen shot



Hot spot position



10# SAR Measurement at ISM (Body, Validation Plane)

Date of measurement: 1/9/2025

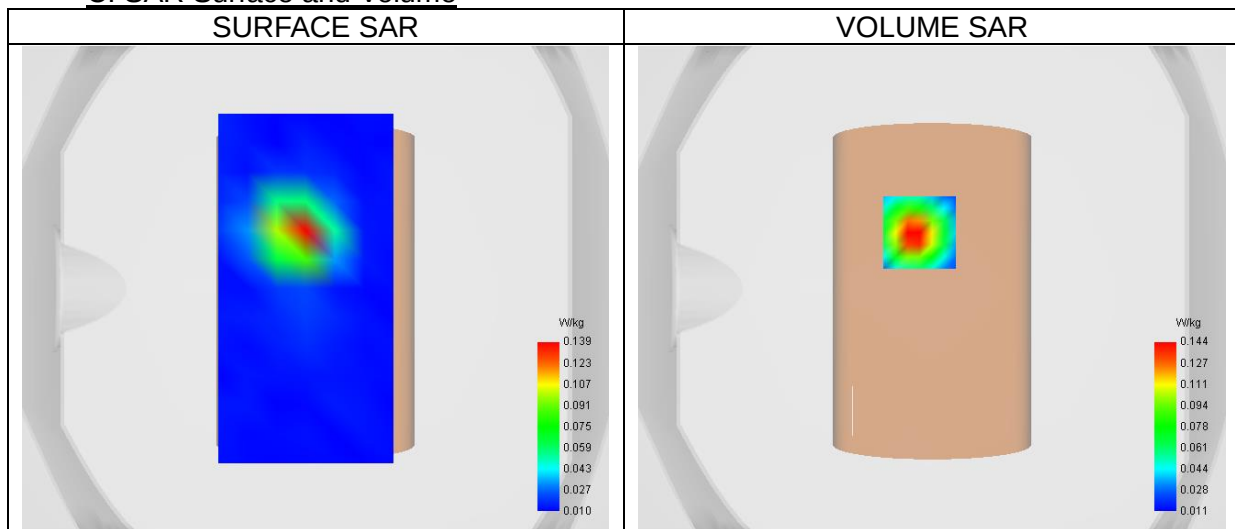
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.63
Area Scan	dx=12mm dy=12mm, Complete
Zoom Scan	7x7x7,dx=5mm dy=5mm dz=5.0mm,Complete
Phantom	Validation plane
Device Position	Body
Band	ISM
Signal	IEEE 802.11 b
Channels/Frequency	Middle (6)/ frequency 2437.00 Mhz

B. Permittivity

Middle TX Frequency (MHz)	2437.00
Relative permittivity (real part)	37.97
Relative permittivity (imaginary part)	13.01
Conductivity (S/m)	1.76

C. SAR Surface and Volume



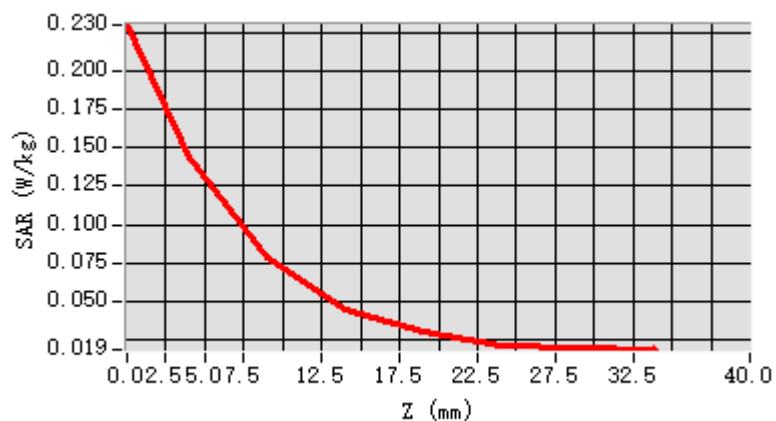
Maximum location: X=-5.00, Y=23.00 ; SAR Peak: 0.24 W/kg

D. SAR 1g & 10g

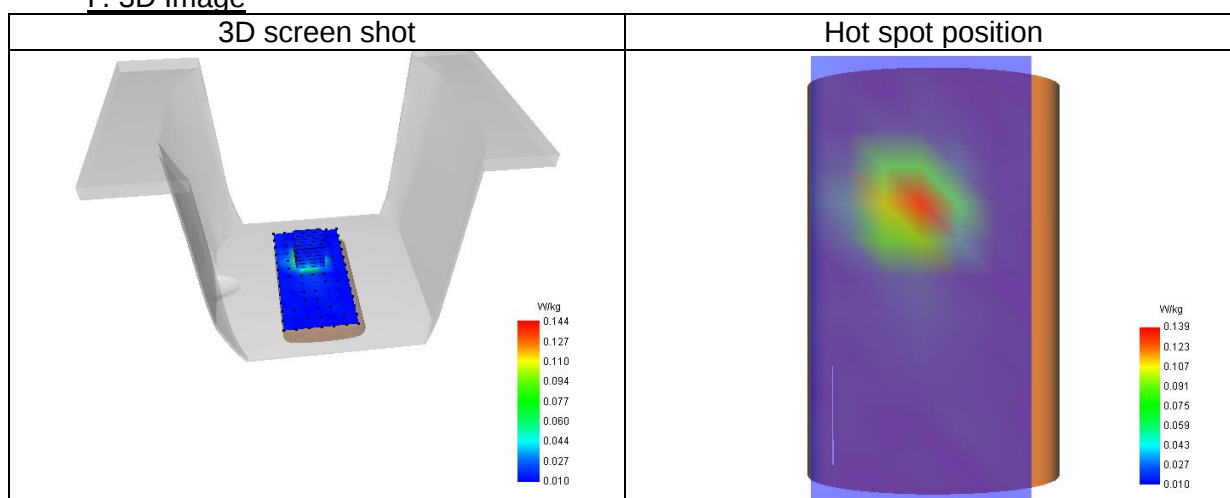
SAR 10g (W/Kg)	0.066
SAR 1g (W/Kg)	0.134
Variation (%)	-3.68
Horizontal validation criteria: minimum distance (mm)	10.00
Vertical validation criteria: SAR ratio M2/M1 (%)	57.15

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.230	0.144	0.079	0.045	0.030	0.022	0.020



F. 3D Image



11# SAR Measurement at LTE band 2 (Cheek, Right)

Date of measurement: 3/9/2025

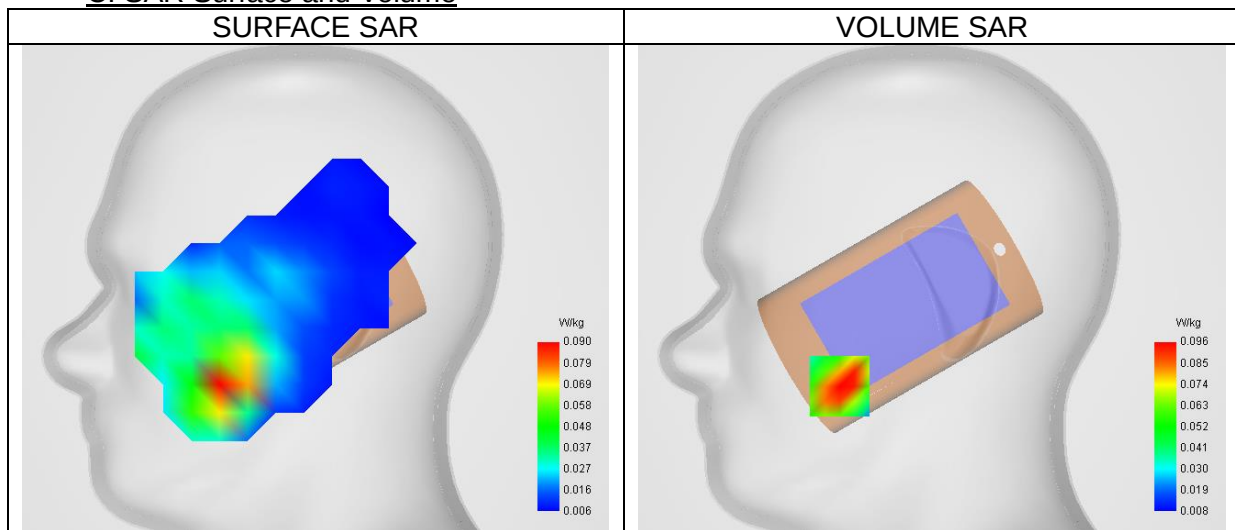
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.58
Area Scan	dx=15mm dy=15mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Right head
Device Position	Cheek
Band	LTE band 2
Signal	LTE FDD
Channel Center [EARFCN] / Channel Center [MHz]	Middle (18900)/ frequency 1880.00 Mhz
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
Middle TX Frequency (MHz)	1880.00

B. Permittivity

Middle TX Frequency (MHz)	1880.00
Relative permittivity (real part)	38.17
Relative permittivity (imaginary part)	13.36
Conductivity (S/m)	1.40

C. SAR Surface and Volume



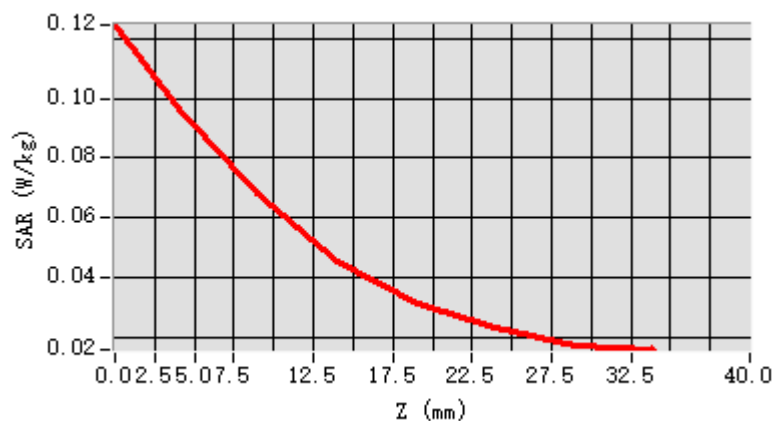
Maximum location: X=-49.00, Y=-52.00 ; SAR Peak: 0.13 W/kg

D. SAR 1g & 10g

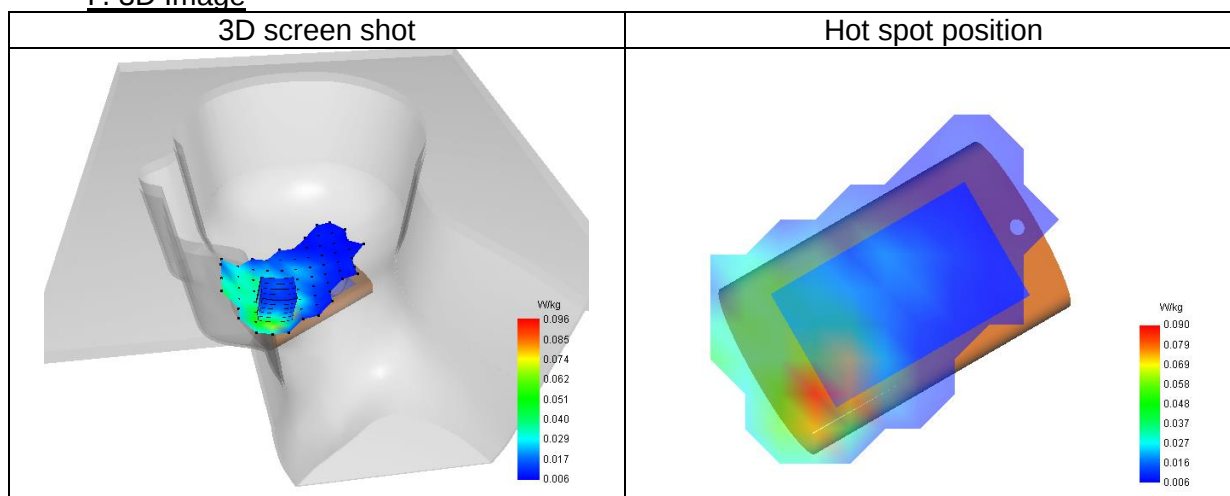
SAR 10g (W/Kg)	0.056
SAR 1g (W/Kg)	0.091
Variation (%)	1.76
Horizontal validation criteria: minimum distance (mm)	17.89
Vertical validation criteria: SAR ratio M2/M1 (%)	70.93

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.125	0.096	0.068	0.045	0.031	0.023	0.017



F. 3D Image



12# SAR Measurement at LTE band 2 (Body, Validation Plane)

Date of measurement: 3/9/2025

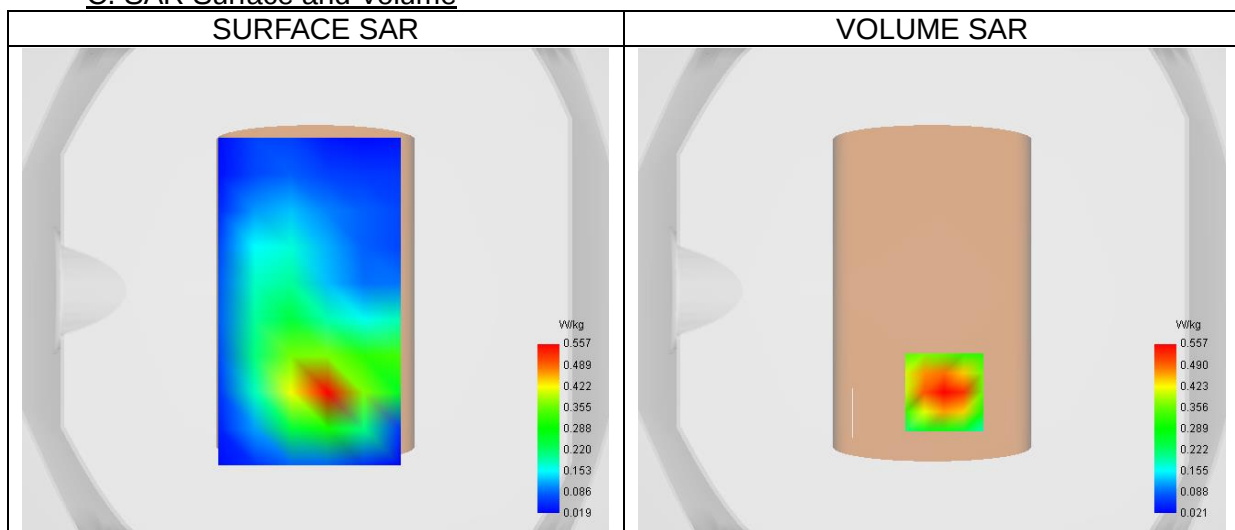
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.58
Area Scan	dx=15mm dy=15mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 2
Signal	LTE FDD
Channel Center [EARFCN] / Channel Center [MHz]	Middle (18900)/ frequency 1880.00 Mhz
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
Middle TX Frequency (MHz)	1880.00

B. Permittivity

Middle TX Frequency (MHz)	1880.00
Relative permittivity (real part)	38.17
Relative permittivity (imaginary part)	13.36
Conductivity (S/m)	1.40

C. SAR Surface and Volume



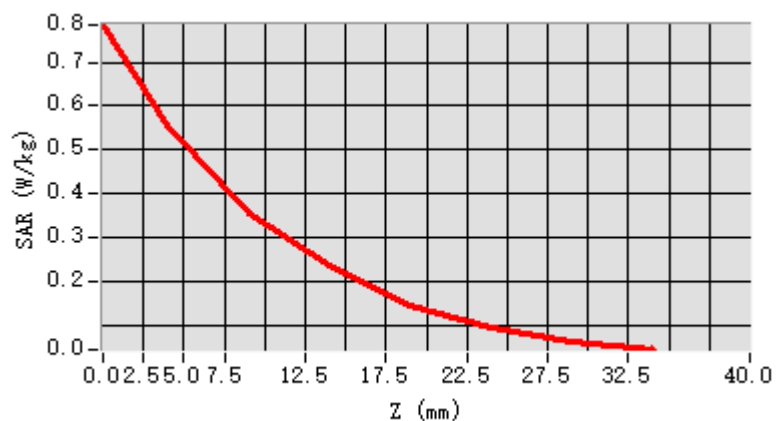
Maximum location: X=5.00, Y=-42.00 ; SAR Peak: 0.80 W/kg

D. SAR 1g & 10g

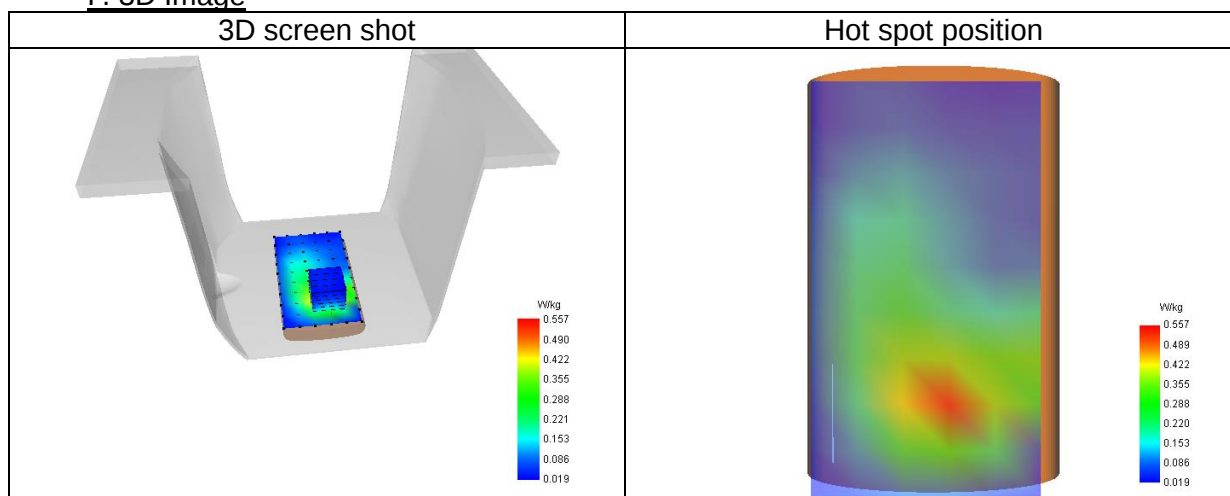
SAR 10g (W/Kg)	0.313
SAR 1g (W/Kg)	0.531
Variation (%)	0.75
Horizontal validation criteria: minimum distance (mm)	16.00
Vertical validation criteria: SAR ratio M2/M1 (%)	63.97

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.785	0.557	0.356	0.235	0.145	0.095	0.062



F. 3D Image



13# SAR Measurement at LTE band 4 (Cheek, Right)

Date of measurement: 4/9/2025

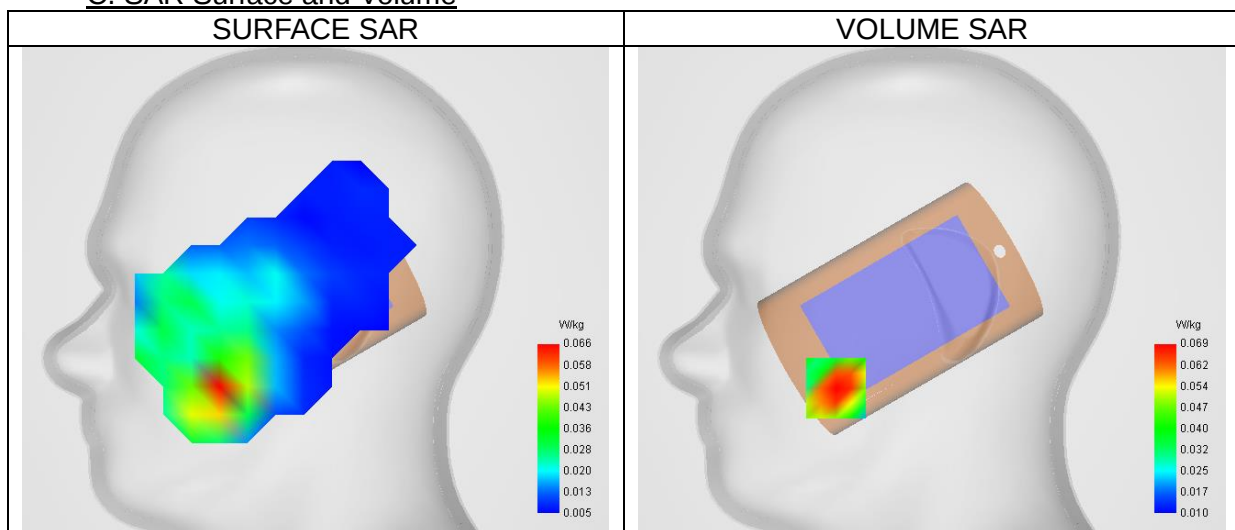
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.50
Area Scan	dx=15mm dy=15mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Right head
Device Position	Cheek
Band	LTE band 4
Signal	LTE FDD
Channel Center [EARFCN] / Channel Center [MHz]	Middle (20175)/ frequency 1732.50 Mhz
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
Middle TX Frequency (MHz)	1732.50

B. Permittivity

Middle TX Frequency (MHz)	1732.50
Relative permittivity (real part)	39.31
Relative permittivity (imaginary part)	13.51
Conductivity (S/m)	1.30

C. SAR Surface and Volume



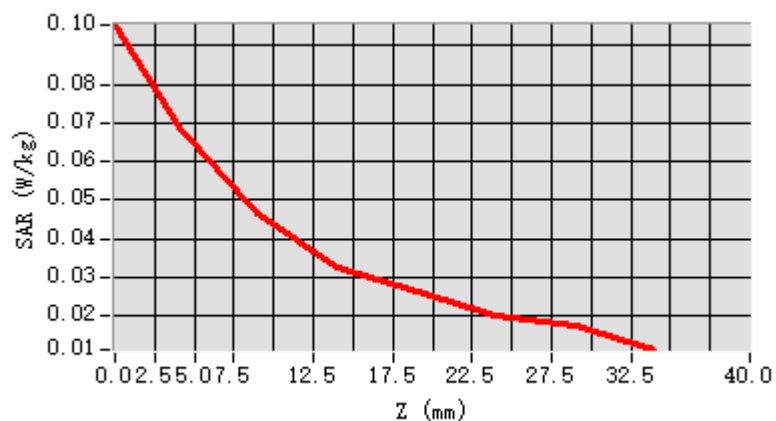
Maximum location: X=-51.00, Y=-52.00 ; SAR Peak: 0.10 W/kg

D. SAR 1g & 10g

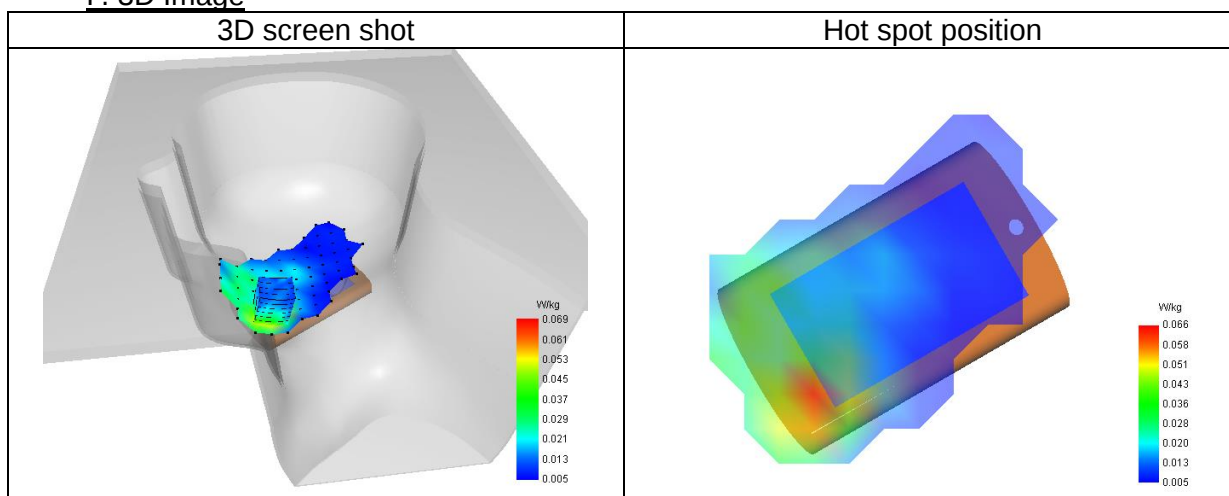
SAR 10g (W/Kg)	0.041
SAR 1g (W/Kg)	0.066
Variation (%)	4.40
Horizontal validation criteria: minimum distance (mm)	16.00
Vertical validation criteria: SAR ratio M2/M1 (%)	67.67

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.095	0.069	0.047	0.033	0.026	0.020	0.017



F. 3D Image



14# SAR Measurement at LTE band 4 (Body, Validation Plane)

Date of measurement: 4/9/2025

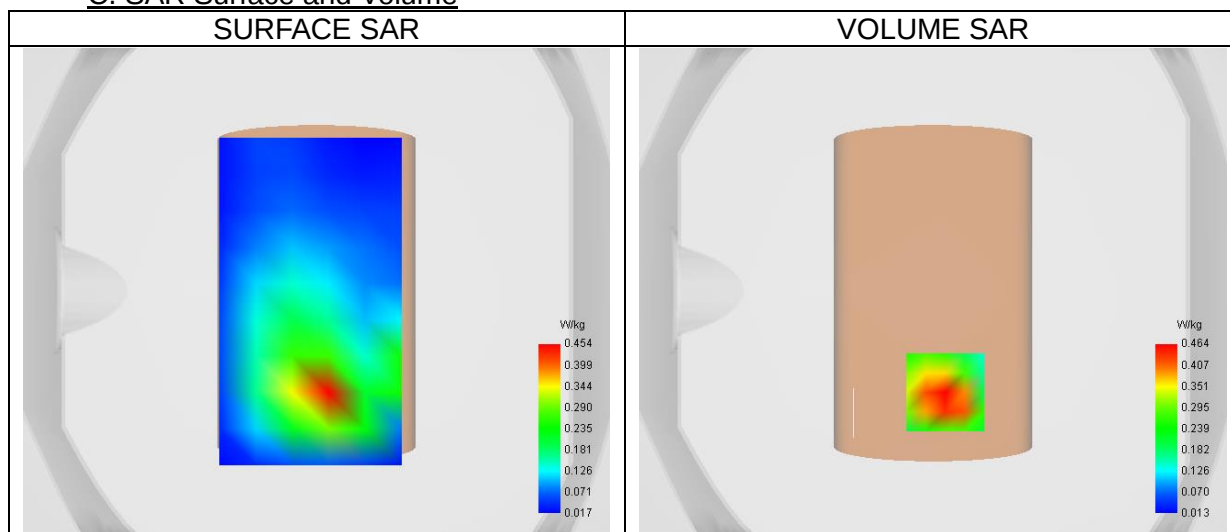
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.50
Area Scan	dx=15mm dy=15mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 4
Signal	LTE FDD
Channel Center [EARFCN] / Channel Center [MHz]	Middle (20175)/ frequency 1732.50 Mhz
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
Middle TX Frequency (MHz)	1732.50

B. Permittivity

Middle TX Frequency (MHz)	1732.50
Relative permittivity (real part)	39.31
Relative permittivity (imaginary part)	13.51
Conductivity (S/m)	1.30

C. SAR Surface and Volume



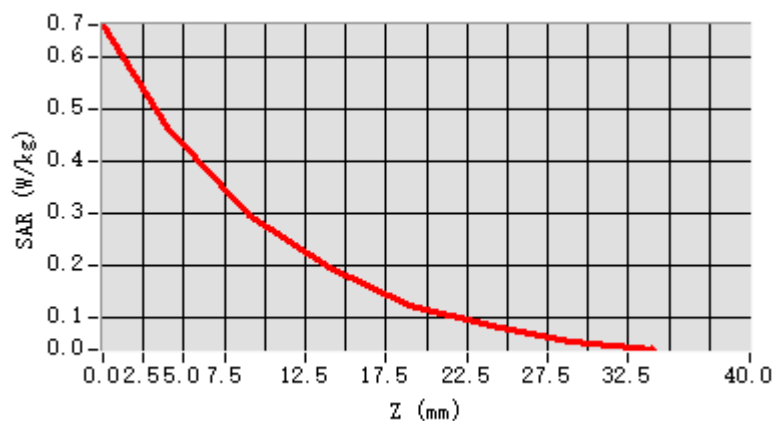
Maximum location: X=5.00, Y=-42.00 ; SAR Peak: 0.70 W/kg

D. SAR 1g & 10g

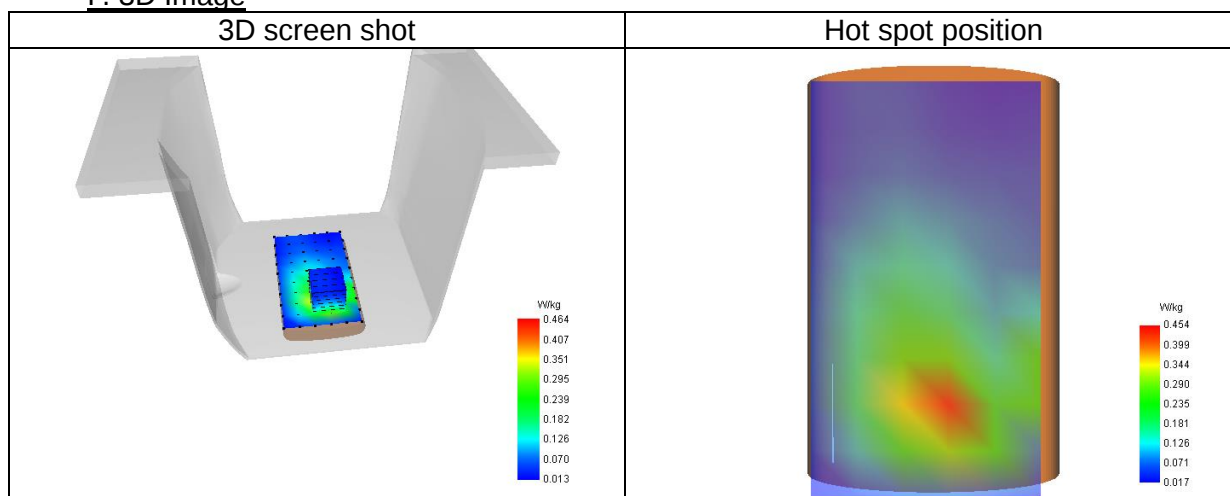
SAR 10g (W/Kg)	0.257
SAR 1g (W/Kg)	0.447
Variation (%)	0.02
Horizontal validation criteria: minimum distance (mm)	16.00
Vertical validation criteria: SAR ratio M2/M1 (%)	63.85

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.660	0.464	0.296	0.194	0.124	0.084	0.054



F. 3D Image



15# SAR Measurement at LTE band 5 (Cheek, Right)

Date of measurement: 2/9/2025

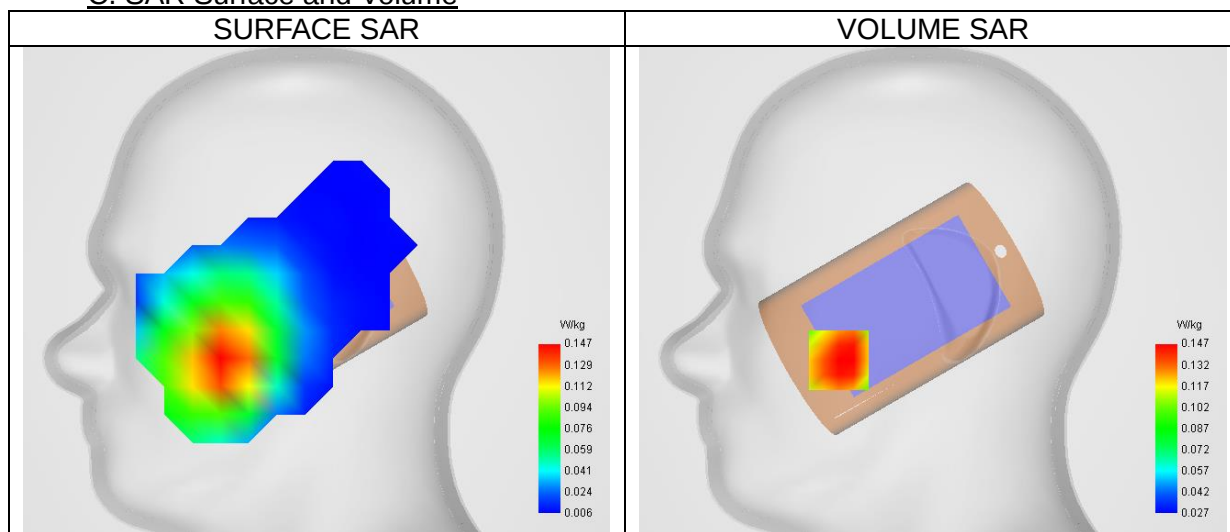
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.32
Area Scan	dx=15mm dy=15mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Right head
Device Position	Cheek
Band	LTE band 5
Signal	LTE FDD
Channel Center [EARFCN] / Channel Center [MHz]	Middle (20525)/ frequency 836.50 Mhz
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
Middle TX Frequency (MHz)	836.50

B. Permittivity

Middle TX Frequency (MHz)	836.50
Relative permittivity (real part)	41.69
Relative permittivity (imaginary part)	19.64
Conductivity (S/m)	0.91

C. SAR Surface and Volume



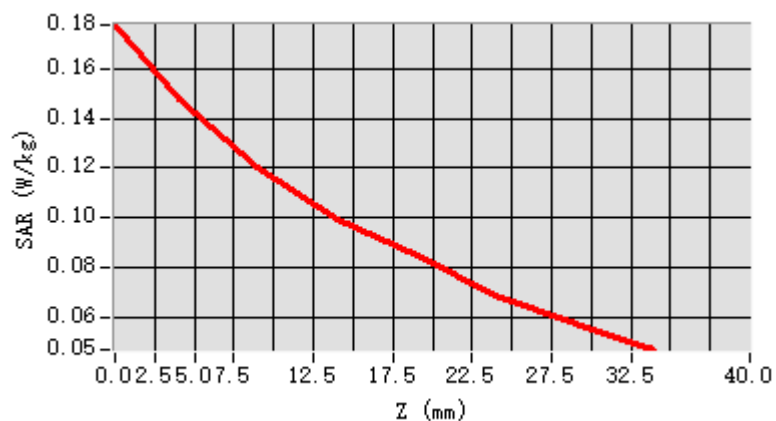
Maximum location: X=-50.00, Y=-37.00 ; SAR Peak: 0.18 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.112
SAR 1g (W/Kg)	0.147
Variation (%)	0.75
Horizontal validation criteria: minimum distance (mm)	0.00
Vertical validation criteria: SAR ratio M2/M1 (%)	0.00

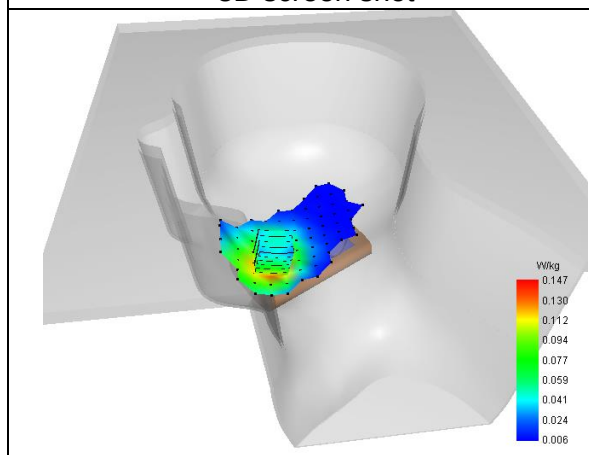
E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.178	0.147	0.120	0.100	0.085	0.069	0.057

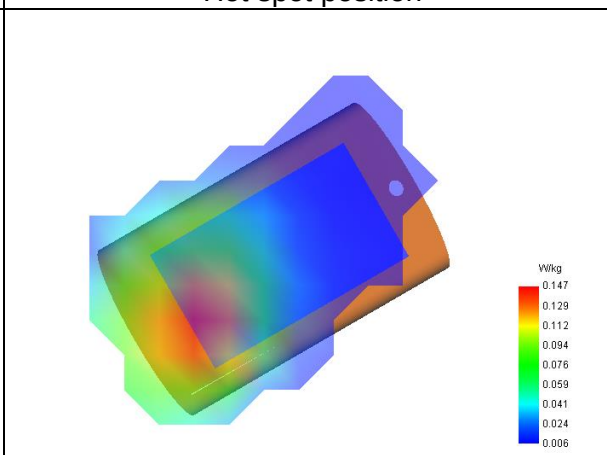


F. 3D Image

3D screen shot



Hot spot position



16# SAR Measurement at LTE band 5 (Body, Validation Plane)

Date of measurement: 2/9/2025

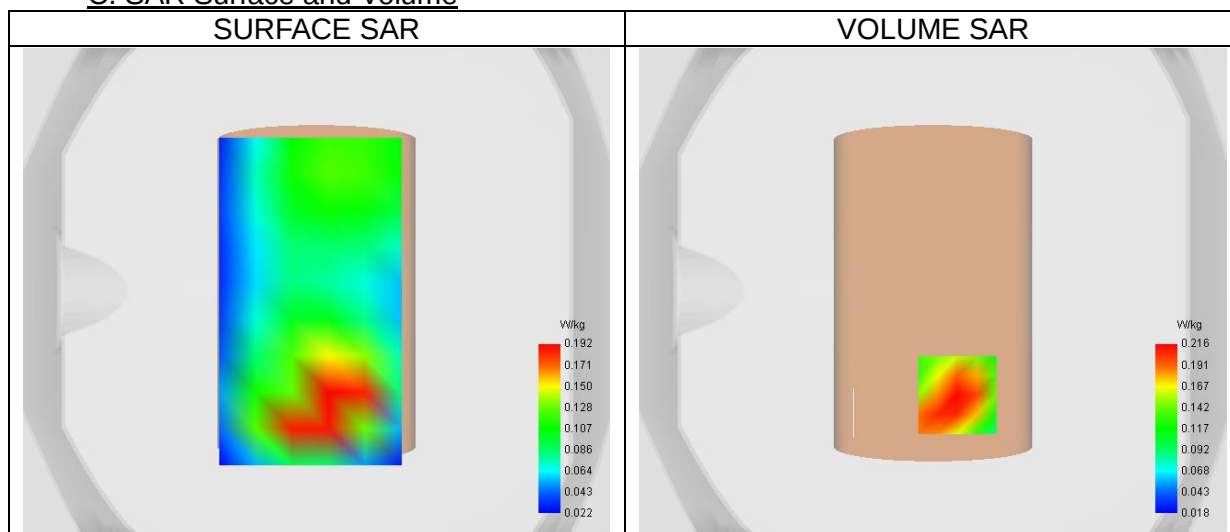
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.32
Area Scan	dx=15mm dy=15mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 5
Signal	LTE FDD
Channel Center [EARFCN] / Channel Center [MHz]	Middle (20525)/ frequency 836.50 Mhz
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
Middle TX Frequency (MHz)	836.50

B. Permittivity

Middle TX Frequency (MHz)	836.50
Relative permittivity (real part)	41.69
Relative permittivity (imaginary part)	19.64
Conductivity (S/m)	0.91

C. SAR Surface and Volume



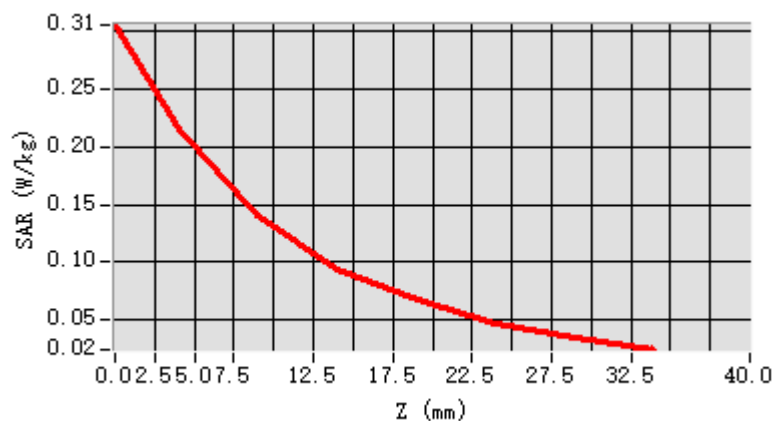
Maximum location: X=10.00, Y=-43.00 ; SAR Peak: 0.31 W/kg

D. SAR 1g & 10g

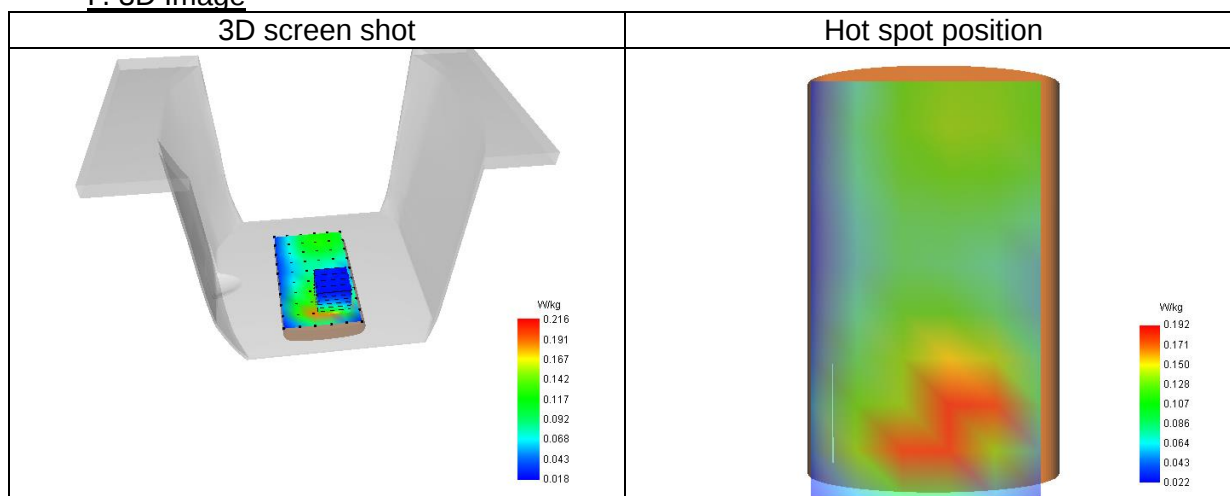
SAR 10g (W/Kg)	0.129
SAR 1g (W/Kg)	0.210
Variation (%)	0.61
Horizontal validation criteria: minimum distance (mm)	22.63
Vertical validation criteria: SAR ratio M2/M1 (%)	65.34

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.306	0.216	0.141	0.093	0.067	0.046	0.035



F. 3D Image



17# SAR Measurement at LTE band 7 (Cheek, Left)

Date of measurement: 9/9/2025

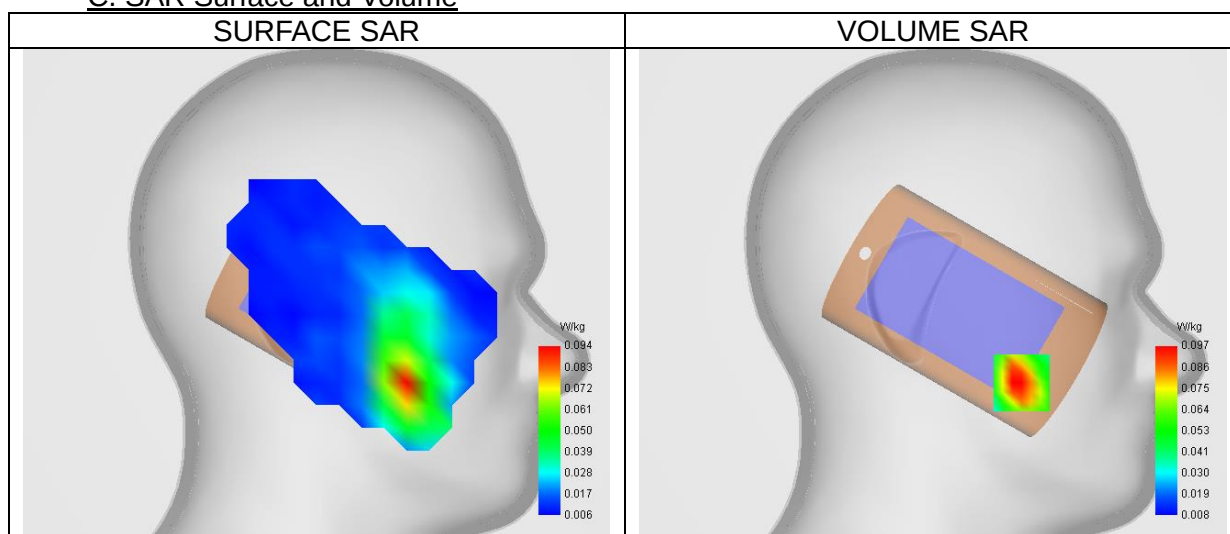
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.52
Area Scan	dx=12mm dy=12mm, Complete
Zoom Scan	7x7x7,dx=5mm dy=5mm dz=5.0mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 7
Signal	LTE FDD
Channel Center [EARFCN] / Channel Center [MHz]	Middle (21100)/ frequency 2535.00 Mhz
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
Middle TX Frequency (MHz)	2535.00

B. Permittivity

Middle TX Frequency (MHz)	2535.00
Relative permittivity (real part)	39.61
Relative permittivity (imaginary part)	13.30
Conductivity (S/m)	1.87

C. SAR Surface and Volume



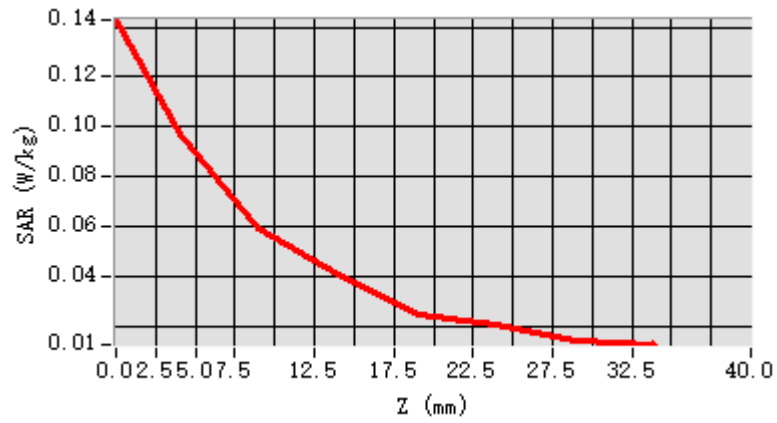
Maximum location: X=-47.00, Y=-48.00 ; SAR Peak: 0.14 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.053
SAR 1g (W/Kg)	0.091
Variation (%)	0.03
Horizontal validation criteria: minimum distance (mm)	11.18
Vertical validation criteria: SAR ratio M2/M1 (%)	64.19

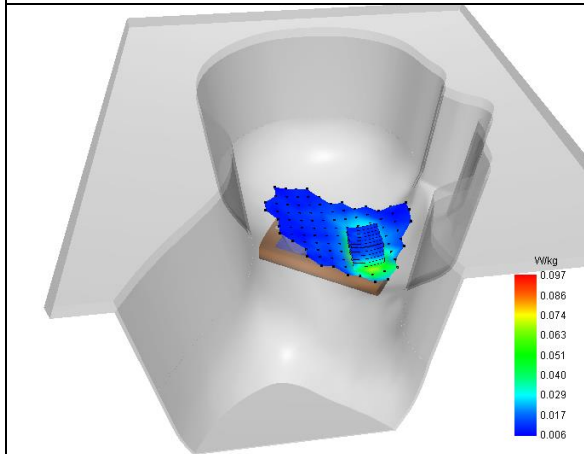
E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.143	0.097	0.059	0.041	0.024	0.021	0.014

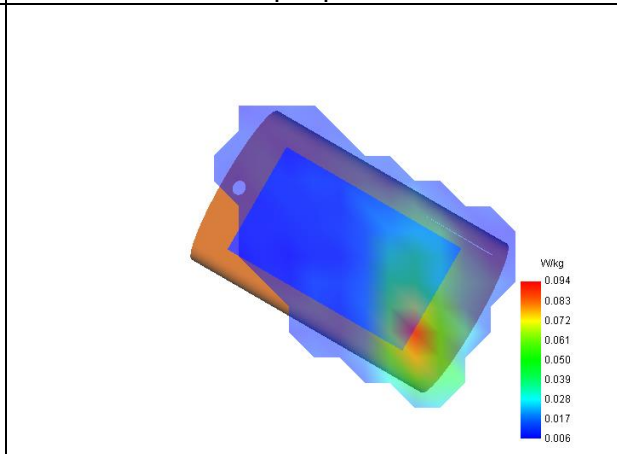


F. 3D Image

3D screen shot



Hot spot position



18# SAR Measurement at LTE band 7 (Body, Validation Plane)

Date of measurement: 9/9/2025

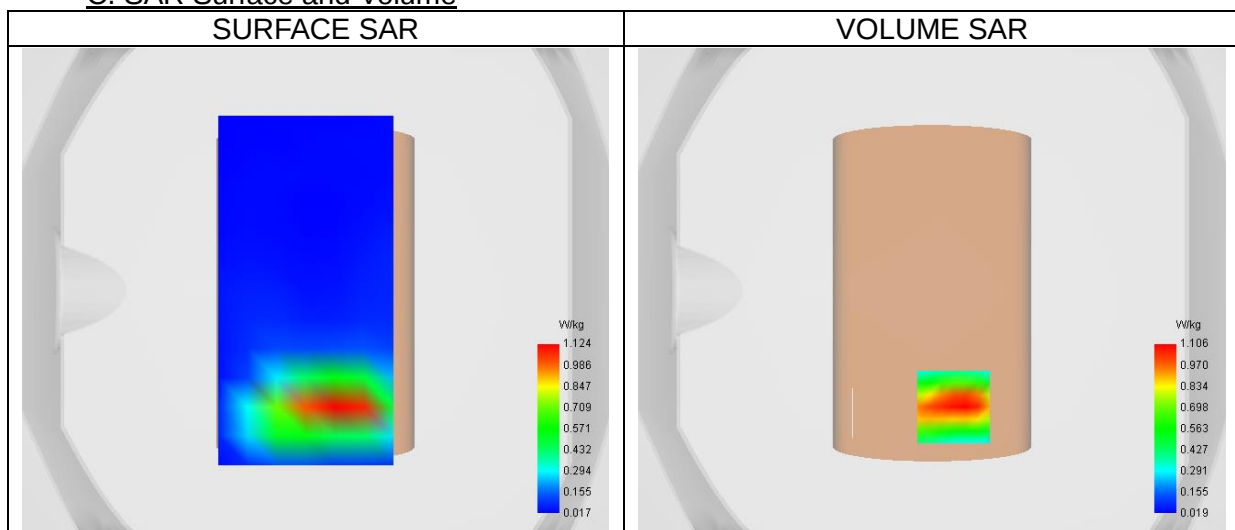
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.52
Area Scan	dx=12mm dy=12mm, Complete
Zoom Scan	7x7x7,dx=5mm dy=5mm dz=5.0mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 7
Signal	LTE FDD
Channel Center [EARFCN] / Channel Center [MHz]	Middle (21100)/ frequency 2535.00 Mhz
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
Middle TX Frequency (MHz)	2535.00

B. Permittivity

Middle TX Frequency (MHz)	2535.00
Relative permittivity (real part)	39.92
Relative permittivity (imaginary part)	13.30
Conductivity (S/m)	1.87

C. SAR Surface and Volume



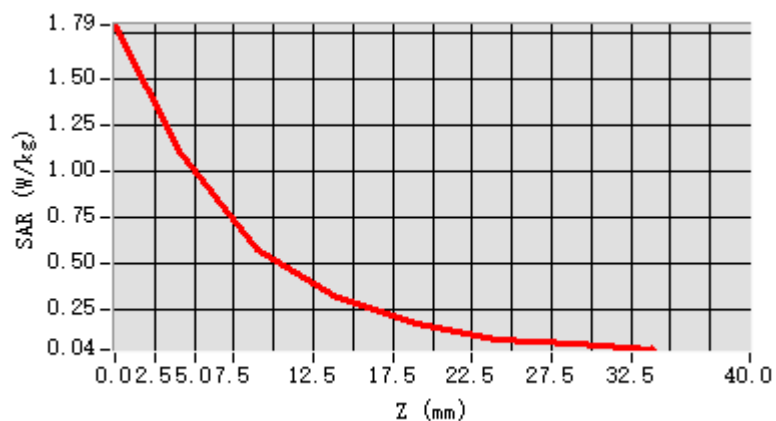
Maximum location: X=9.00, Y=-48.00 ; SAR Peak: 1.76 W/kg

D. SAR 1g & 10g

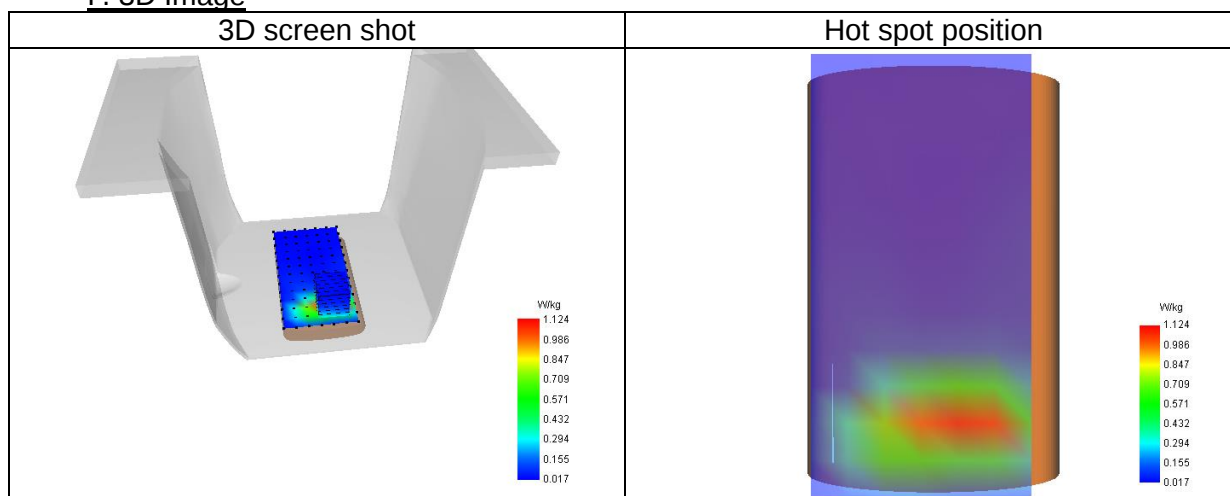
SAR 10g (W/Kg)	0.486
SAR 1g (W/Kg)	0.901
Variation (%)	1.44
Horizontal validation criteria: minimum distance (mm)	10.00
Vertical validation criteria: SAR ratio M2/M1 (%)	53.71

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.792	1.106	0.581	0.320	0.180	0.095	0.065



F. 3D Image



19# SAR Measurement at LTE band 38 (Cheek, Left)

Date of measurement: 9/9/2025

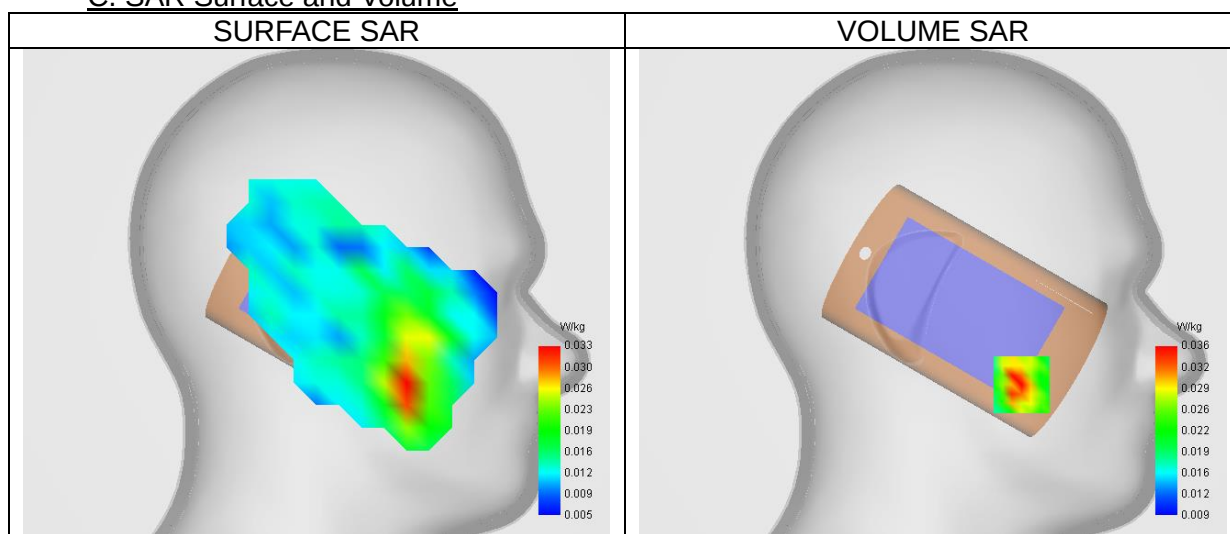
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.52
Area Scan	dx=12mm dy=12mm, Complete
Zoom Scan	7x7x7,dx=5mm dy=5mm dz=5.0mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 38
Signal	LTE TDD
Channel Center [EARFCN] / Channel Center [MHz]	Middle (38000)/ frequency 2595.00 Mhz
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
Middle TX Frequency (MHz)	2595.00

B. Permittivity

Middle TX Frequency (MHz)	2595.00
Relative permittivity (real part)	39.56
Relative permittivity (imaginary part)	13.52
Conductivity (S/m)	1.95

C. SAR Surface and Volume



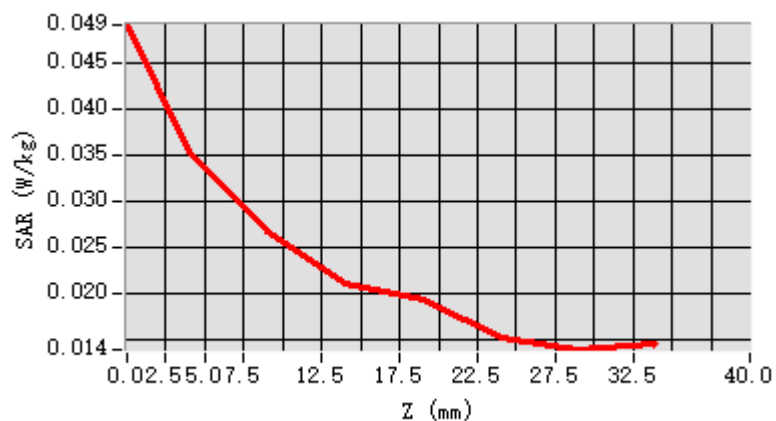
Maximum location: X=-47.00, Y=-49.00 ; SAR Peak: 0.05 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.021
SAR 1g (W/Kg)	0.033
Variation (%)	4.80
Horizontal validation criteria: minimum distance (mm)	18.03
Vertical validation criteria: SAR ratio M2/M1 (%)	75.19

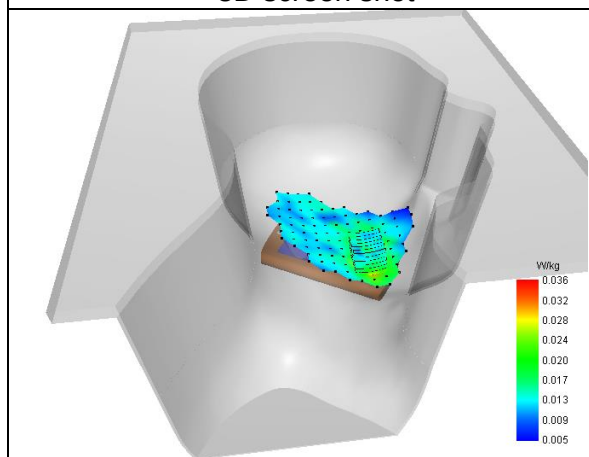
E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.049	0.036	0.027	0.021	0.019	0.015	0.014

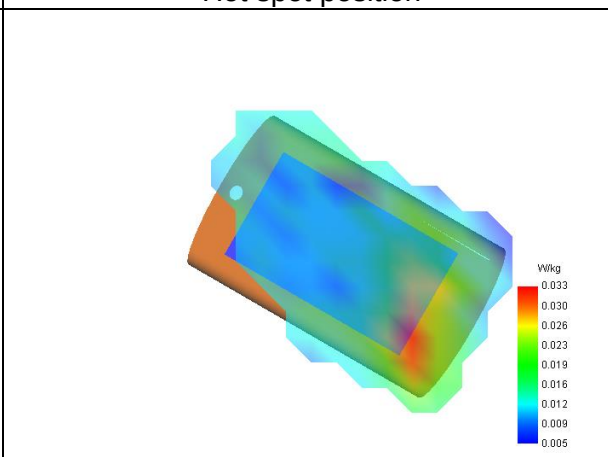


F. 3D Image

3D screen shot



Hot spot position



20# SAR Measurement at LTE band 38 (Body, Validation Plane)

Date of measurement: 9/9/2025

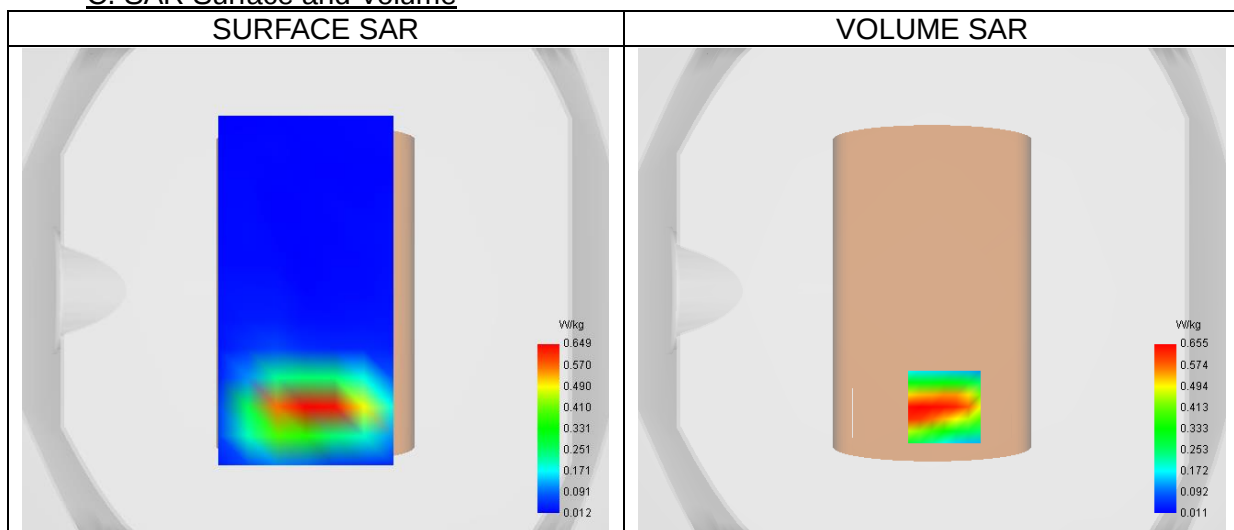
A. Experimental conditions.

Probe	0725-EPGO-448
ConvF	1.52
Area Scan	dx=12mm dy=12mm, Complete
Zoom Scan	7x7x7,dx=5mm dy=5mm dz=5.0mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 38
Signal	LTE TDD
Channel Center [EARFCN] / Channel Center [MHz]	Middle (38000)/ frequency 2595.00 Mhz
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
Middle TX Frequency (MHz)	2595.00

B. Permittivity

Middle TX Frequency (MHz)	2595.00
Relative permittivity (real part)	39.56
Relative permittivity (imaginary part)	13.52
Conductivity (S/m)	1.95

C. SAR Surface and Volume



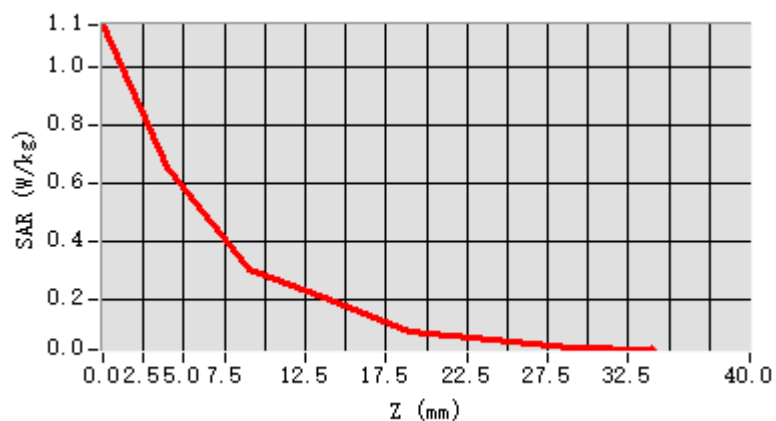
Maximum location: X=5.00, Y=-48.00 ; SAR Peak: 1.03 W/kg

D. SAR 1g & 10g

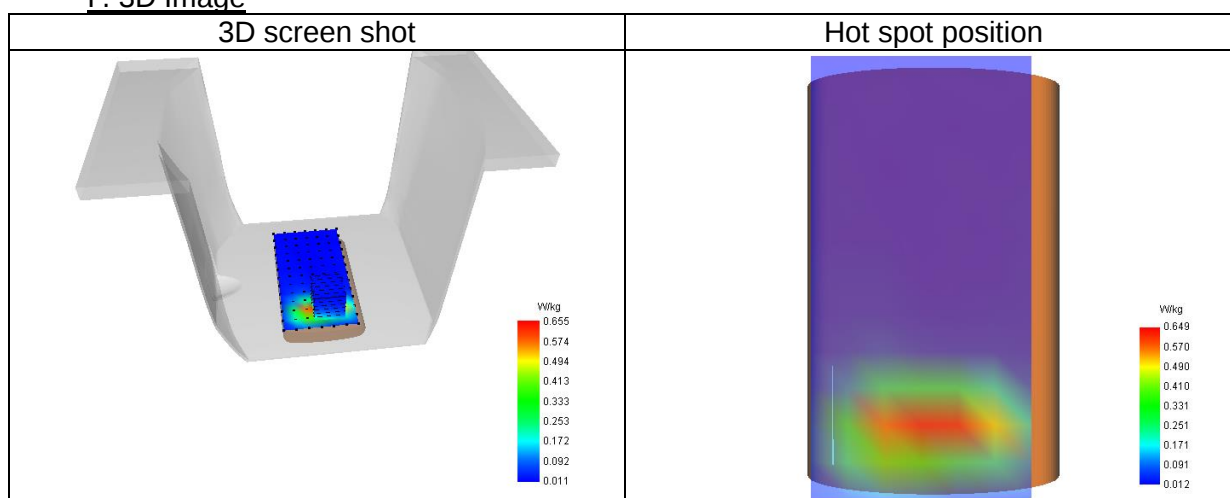
SAR 10g (W/Kg)	0.240
SAR 1g (W/Kg)	0.607
Variation (%)	2.27
Horizontal validation criteria: minimum distance (mm)	10.00
Vertical validation criteria: SAR ratio M2/M1 (%)	55.62

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.143	0.655	0.304	0.199	0.088	0.062	0.034



F. 3D Image



14. Appendix D. Calibration Certificate

Table of contents
E Field Probe - 0725-EPGO-448
835 MHz Dipole - SN 03/15 DIP 0G835-347
1800 MHz Dipole - SN 03/15 DIP 1G800-349
1900 MHz Dipole - SN 03/15 DIP 1G900-350
2450 MHz Dipole - SN 03/15 DIP 2G450-352
2600 MHz Dipole - SN 03/15 DIP 2G600-356

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COMOSAR E-Field Probe Calibration Report

Ref : ACR.108.1.25.BES.A

SHENZHEN NTEK TESTING TECHNOLOGY CO., LTD.

BUILDING E, FENDA SCIENCE PARK, SANWEI
COMMUNITY, XIXIANG STREET,
BAO'AN DISTRICT, SHENZHEN GUANGDONG, CHINA
MVG COMOSAR DOSIMETRIC E-FIELD PROBE
SERIAL NO.: 0725-EPGO-448

Calibrated at MVG

Z.I. de la pointe du diable

Technopôle Brest Iroise – 295 avenue Alexis de Rochon
29280 PLOUZANE - FRANCE

Calibration date: 04/15/2025



Accreditations #2-6789
Scope available on www.cofrac.fr

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Summary:

This document presents the method and results from an accredited COMOSAR Dosimetric E-Field Probe calibration performed at MVG, using the CALIPROBE test bench, for use with a MVG COMOSAR system only. The test results covered by accreditation are traceable to the International System of Units (SI).

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COMOSAR E-FIELD PROBE CALIBRATION REPORT

Ref: ACR.108.1.25.BES.A

	Name	Function	Date	Signature
Prepared by :	Pedro Ruiz	Technical Manager	4/18/2025	
Checked & approved by:	Pedro Ruiz	Technical Manager	4/18/2025	
Authorized by:	Kim Rutkowski	Quality Manager	4/23/2025	Signed by: Kimberly ROTKOWSKI 2B68B547AD1743* ...

	Customer Name
Distribution :	SHENZHEN NTEK TESTING TECHNOLOGY CO., LTD.

Issue	Name	Date	Modifications
A	Pedro Ruiz	4/18/2025	Initial release

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COMOSAR E-FIELD PROBE CALIBRATION REPORT

Ref: ACR.108.1.25.BES.A

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COMOSAR E-FIELD PROBE CALIBRATION REPORT

Ref: ACR.108.1.25.BES.A

1 DEVICE UNDER TEST

Device Under Test	
Device Type	COMOSAR DOSIMETRIC E FIELD PROBE
Manufacturer	MVG
Model	SSE2
Serial Number	0725-EPGO-448
Product Condition (new / used)	New
Frequency Range of Probe	0.15 GHz-7.5GHz
Resistance of Three Dipoles at Connector	Dipole 1: R1=0.191 MΩ Dipole 2: R2=0.212 MΩ Dipole 3: R3=0.208 MΩ

2 PRODUCT DESCRIPTION**2.1 GENERAL INFORMATION**

MVG's COMOSAR E field Probes are built in accordance to the IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards.



Figure 1 – MVG COMOSAR Dosimetric E field Probe

Probe Length	330 mm
Length of Individual Dipoles	2 mm
Maximum external diameter	8 mm
Probe Tip External Diameter	2.5 mm
Distance between dipoles / probe extremity	1 mm

3 MEASUREMENT METHOD

The IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards provide recommended practices for the probe calibrations, including the performance characteristics of interest and methods by which to assess their effect. All calibrations / measurements performed meet the fore-mentioned standards.

3.1 SENSITIVITY

The sensitivity factors of the three dipoles were determined using a two step calibration method (air and tissue simulating liquid) using waveguides as outlined in the standards for frequency range 600-7500MHz and using the calorimeter cell method (transfer method) as outlined in the standards for frequency 150-450 MHz.

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3.2 LINEARITY

The evaluation of the linearity was done in free space using the waveguide, performing a power sweep to cover the SAR range 0.01W/kg to 100W/kg.

3.3 ISOTROPY

The axial isotropy was evaluated by exposing the probe to a reference wave from a standard dipole with the dipole mounted under the flat phantom in the test configuration suggested for system validations and checks. The probe was rotated along its main axis from 0 to 360 degrees in 15-degree steps. The hemispherical isotropy is determined by inserting the probe in a thin plastic box filled with tissue-equivalent liquid, with the plastic box illuminated with the fields from a half wave dipole. The dipole is rotated about its axis (0°–180°) in 15° increments. At each step the probe is rotated about its axis (0°–360°).

3.4 BOUNDARY EFFECT

The boundary effect is defined as the deviation between the SAR measured data and the expected exponential decay in the liquid when the probe is oriented normal to the interface. To evaluate this effect, the liquid filled flat phantom is exposed to fields from either a reference dipole or waveguide. With the probe normal to the phantom surface, the peak spatial average SAR is measured and compared to the analytical value at the surface.

The boundary effect uncertainty can be estimated according to the following uncertainty approximation formula based on linear and exponential extrapolations between the surface and $d_{be} + d_{step}$ along lines that are approximately normal to the surface:

$$SAR_{uncertainty} [\%] = \Delta SAR_{be} \frac{(d_{be} + d_{step})^2}{2d_{step}} \frac{(e^{-d_{be}/\delta})}{\delta/2} \text{ for } (d_{be} + d_{step}) < 10 \text{ mm}$$

where

$SAR_{uncertainty}$	is the uncertainty in percent of the probe boundary effect
d_{be}	is the distance between the surface and the closest <i>zoom-scan</i> measurement point, in millimetre
Δ_{step}	is the separation distance between the first and second measurement points that are closest to the phantom surface, in millimetre, assuming the boundary effect at the second location is negligible
δ	is the minimum penetration depth in millimetres of the head tissue-equivalent liquids defined in this standard, i.e., $\delta \approx 14$ mm at 3 GHz;
ΔSAR_{be}	in percent of SAR is the deviation between the measured SAR value, at the distance d_{be} from the boundary, and the analytical SAR value.

The measured worst case boundary effect SARuncertainty[%] for scanning distances larger than 4mm is 1.0% Limit, 2%).

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COMOSAR E-FIELD PROBE CALIBRATION REPORT

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3.5 PROBE MODULATION RESPONSE

MVG's probe were evaluated experimentally with various modulated signal and the deviation from CW response were found neglectable in the used power range of the probe. So the correction to taking into account the linearization parameters for different modulation is null, therefore the CW factor given in this report can be used whatever the measured modulation

4 MEASUREMENT UNCERTAINTY

The guidelines outlined in the IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards were followed to generate the measurement uncertainty associated with a SAR probe calibration using the waveguide or calorimetric cell technique depending on the frequency.

The estimated expanded uncertainty (k=2) in calibration for SAR (W/kg) is +/-11% for the frequency range 150-450MHz.

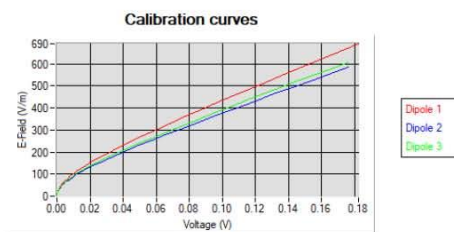
The estimated expanded uncertainty (k=2) in calibration for SAR (W/kg) is +/-14% for the frequency range 600-7500MHz.

5 CALIBRATION RESULTS

Ambient condition	
Liquid Temperature	20 +/- 1 °C
Lab Temperature	20 +/- 1 °C
Lab Humidity	30-70 %

5.1 CALIBRATION IN AIR

The following curve represents the measurement in waveguide of the voltage picked up by the probe toward the E-field generated inside the waveguide.



From this curve, the sensitivity in air is calculated using the below formula.

$$E^2 = \sum_{i=1}^3 \frac{V_i (1 + V_i / DCP_i)}{Norm_i}$$

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where

V_i =voltage readings on the 3 channels of the probe

DCPi=diode compression point given below for the 3 channels of the probe

Normi=dipole sensitivity given below for the 3 channels of the probe

Normx dipole 1 ($\mu\text{V}/(\text{V}/\text{m})^2$)	Normy dipole 2 ($\mu\text{V}/(\text{V}/\text{m})^2$)	Normz dipole 3 ($\mu\text{V}/(\text{V}/\text{m})^2$)
1.03	1.37	1.26

DCP dipole 1 (mV)	DCP dipole 2 (mV)	DCP dipole 3 (mV)
109	107	108

5.2 CALIBRATION IN LIQUID

The calorimeter cell or the waveguide is used to determine the calibration in liquid using the formula below.

$$\text{ConvF} = \frac{E_{\text{liquid}}^2}{E_{\text{air}}^2}$$

The E-field in the liquid is determined from the SAR measurement according to the below formula.

$$E_{\text{liquid}}^2 = \frac{\rho \text{ SAR}}{\sigma}$$

where

σ =the conductivity of the liquid

ρ =the volumetric density of the liquid

SAR=the SAR measured from the formula that depends on the setup used. The SAR formulas are given below

For the calorimeter cell (150-450 MHz), the formula is:

$$\text{SAR} = c \frac{dT}{dt}$$

where

c =the specific heat for the liquid

dT/dt =the temperature rises over the time

For the waveguide setup (600-75000 MHz), the formula is:

$$\text{SAR} = \frac{4P_{\text{W}}}{ab\delta} e^{-\frac{2z}{\delta}}$$

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where

a=the larger cross-sectional of the waveguide

b=the smaller cross-sectional of the waveguide

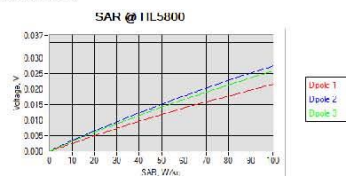
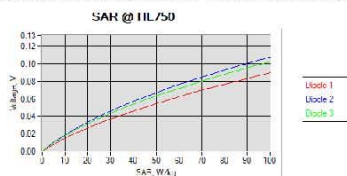
δ =the skin depth for the liquid in the waveguide

Pw=the power delivered to the liquid

The below table summarize the ConvF for the calibrated liquid. The curves give examples for the measured SAR depending on the voltage in some liquid.

Liquid	Frequency (MHz*)	ConvF
HL750	750	1.39
HL850	850	1.32
HL900	900	1.33
HL1800	1800	1.50
HL1900	1900	1.58
HL2000	2000	1.63
HL2300	2300	1.64
HL2450	2450	1.63
HL2600	2600	1.52
HL3300	3300	1.36
HL3500	3500	1.39
HL3700	3700	1.35
HL3900	3900	1.41
HL4200	4200	1.58
HL4600	4600	1.61
HL4900	4900	1.38
HL5200	5200	1.37
HL5400	5400	1.37
HL5600	5600	1.36
HL5800	5800	1.35

(*) Frequency validity is ± 50 MHz below 600MHz, ± 100 MHz from 600MHz to 6GHz and ± 700 MHz above 6GHz



6 VERIFICATION RESULTS

The figures below represent the measured linearity and axial isotropy for this probe. The probe specification is ± 0.2 dB for linearity and ± 0.15 dB for axial isotropy.

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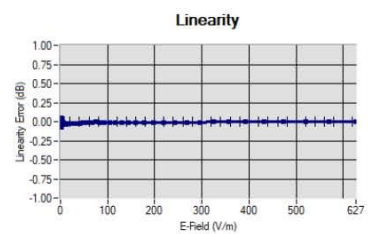
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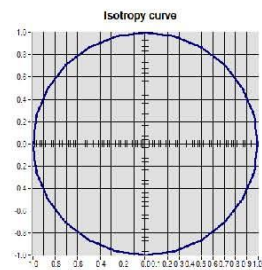


COMOSAR E-FIELD PROBE CALIBRATION REPORT

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Linearity: $\pm 1.54\%$ ($\pm 0.07\text{dB}$)



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COMOSAR E-FIELD PROBE CALIBRATION REPORT

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7 LIST OF EQUIPMENT

Equipment Summary Sheet				
Equipment Description	Manufacturer / Model	Identification No.	Current Calibration Date	Next Calibration Date
CALIPROBE Test Bench	Version 2	NA	Validated. No cal required.	Validated. No cal required.
Network Analyzer	Rohde & Schwarz ZVM	100203	08/2021	08/2026
Network Analyzer – Calibration kit	Rohde & Schwarz ZV-Z235	101223	07/2022	07/2027
Multimeter	Keithley 2000	4013982	02/2023	02/2026
Signal Generator	Rohde & Schwarz SMB	183277	05/2022	05/2026
Amplifier	MVG	MODU-023-C-0002	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.
Power Meter	NI-USB 5680	170100013	06/2021	06/2026
USB Sensor	Keysight U2000A	SN: MY62340002	10/2024	10/2027
Directional Coupler	Krytar 158020	131467	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.
Fluoroptic Thermometer	LumaSense Luxtron 812	94264	09/2022	09/2025
Coaxial cell	MVG	SN 32/16 COAXCELL_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG2_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_0G600_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG4_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_0G900_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG6_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_1G500_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG8_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_1G800B_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_1G800H_1	Validated. No cal required.	Validated. No cal required.

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COMOSAR E-FIELD PROBE CALIBRATION REPORT

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Waveguide	MVG	SN 32/16 WG10_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_3G500_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG12_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_5G000_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG14_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_7G000_1	Validated. No cal required.	Validated. No cal required.
Temperature / Humidity Sensor	Testo 184 H1	44235403	02/2024	02/2027



SAR Reference Dipole Calibration Report

Ref : ACR.53.23.24.BES.A

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CO., LTD.**

**BUILDING E, FENDA SCIENCE PARK, SANWEI
COMMUNITY, XIXIANG STREET,
BAO'AN DISTRICT, SHENZHEN GUANGDONG, CHINA**

MVG COMOSAR REFERENCE DIPOLE

FREQUENCY: 750 MHZ

SERIAL NO.: SN 03/15DIP0G750-355

Calibrated at MVG

Z.I. de la pointe du diable

**Technopôle Brest Iroise – 295 avenue Alexis de Rochon
29280 PLOUZANE - FRANCE**

Calibration date: 02/21/2024



Accreditations #2-6789 and #2-6814
Scope available on www.cofrac.fr

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Summary:

This document presents the method and results from an accredited SAR reference dipole calibration performed in MVG using the COMOSAR test bench. All calibration results are traceable to national metrology institutions.



SAR Reference Dipole Calibration Report

Ref : ACR.53.24.24.BES.A

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COMMUNITY, XIXIANG STREET,
BAO'AN DISTRICT, SHENZHEN GUANGDONG, CHINA**

MVG COMOSAR REFERENCE DIPOLE

FREQUENCY: 835 MHZ

SERIAL NO.: SN 03/15DIP0G835-347

Calibrated at MVG

Z.I. de la pointe du diable

**Technopôle Brest Iroise – 295 avenue Alexis de Rochon
29280 PLOUZANE - FRANCE**

Calibration date: 02/21/2024



Accreditations #2-6789 and #2-6814
Scope available on www.cofrac.fr

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Summary:

This document presents the method and results from an accredited SAR reference dipole calibration performed in MVG using the COMOSAR test bench. All calibration results are traceable to national metrology institutions.