

SAR

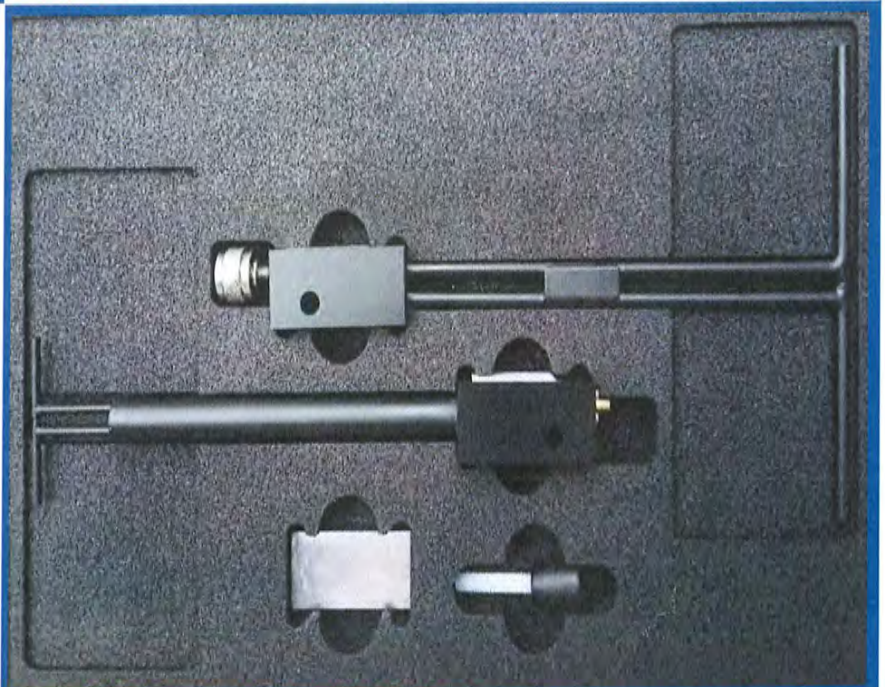
Dipole & Waveguide

Performance Measurement Report

ISSUED BY
Shenzhen BALUN Technology Co., Ltd.



FOR
Validation Dipoles & Waveguide



Tested by:



Tu Lang
(Engineer)

Approved by:

Liao Jianming
(Technical Director)

Report No.: LW-SZ15C0264-701

EUT Type: SAR Validation Dipole and Waveguide

Model Name: DIP 0G450-252, DIP 0G750-253
DIP 0G835-246, DIP 0G900-247
DIP 1G800-248, DIP 1G900-249
DIP 2G000-250, DIP 2G450-251
DIP 2G600-25, SWG5500

Brand Name: SATIMO

Test Conclusion: Pass

Test Date: Mar. 1, 2016 ~ Mar. 3, 2016

Date of Issue: Mar. 31, 2016

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1 GENERAL INFORMATION

1.1 Introduction

This document contains a summary of the requirements set forth by the IEEE 1528, FCC KDB 865664 D01 for reference dipoles used for SAR measurement system validations. Instead of the typical annual calibration recommended by measurement standards, the reference dipoles were demonstrated that the SAR target, impedance and return loss have remain stable, so the longer calibration interval is acceptable.

1.2 General Description for Equipment under Test (EUT)

| Model | Frequency | Serial Number | Product Condition (New/ Used) | Last Cal. Date |
|------------------|-----------|---------------------------|----------------------------------|-------------------|
| Dipole | | | | |
| DIP 0G450 | 450 MHz | SN 25/13 DIP 0G450-252 | Used | 2015/03/16 |
| DIP 0G750 | 750 MHz | SN 25/13 DIP 0G750-253 | Used | 2015/03/16 |
| DIP 0G835 | 835 MHz | SN 25/13 DIP 0G835-246 | Used | 2015/03/16 |
| DIP 0G900 | 900 MHz | SN 25/13 DIP 0G900-247 | Used | 2015/03/16 |
| DIP 1G800 | 1800 MHz | SN 25/13 DIP 1G900-248 | Used | 2015/03/16 |
| DIP 1G900 | 1900 MHz | SN 25/13 DIP 1G900-249 | Used | 2015/03/16 |
| DIP 2G000 | 2000 MHz | SN 25/13 DIP 2G000-250 | Used | 2015/03/16 |
| DIP 2G450 | 2450 MHz | SN 25/13 DIP 2G450-251 | Used | 2015/03/16 |
| DIP 2G600 | 2600 MHz | SN 25/13 DIP 2G600-254 | Used | 2015/03/16 |
| Waveguide | | | | |
| SWG5500 | 5GHz-6GHz | SN 30/13 WGA24 | Used | 2015/03/16 |

1.3 EUT Photos

DIP 0G450-252



DIP 0G750-253



DIP 0G835-246



DIP 0G900-247



DIP 1G800-248



DIP 1G900-249



DIP 2G000-250



DIP 2G450-251



DIP 2G600-254



Waveguide SWG5500





2 SIMULATING LIQUID VERIFICATION

| Liquid Type | Fre. (MHz) | Meas. Conductivity (σ) (S/m) | Meas. Permittivity (ϵ) | Target Conductivity (σ) (S/m) | Target Permittivity (ϵ) | Conductivity Tolerance (%) | Permittivity Tolerance (%) |
|-------------|------------|---------------------------------------|-----------------------------------|--|------------------------------------|----------------------------|----------------------------|
| Head | 450 | 0.89 | 42.87 | 0.87 | 43.50 | 2.30 | -1.45 |
| Body | | 0.96 | 55.70 | 0.94 | 56.70 | 2.13 | -1.76 |
| Head | 750 | 0.88 | 41.92 | 0.89 | 41.94 | -1.12 | -0.05 |
| Body | | 0.95 | 57.19 | 0.96 | 55.53 | -1.04 | 2.99 |
| Head | 835 | 0.90 | 43.33 | 0.90 | 41.50 | 0.00 | 4.41 |
| Body | | 0.99 | 54.65 | 0.97 | 55.20 | 2.06 | -1.00 |
| Head | 900 | 0.99 | 41.14 | 0.97 | 41.50 | 2.06 | -0.87 |
| Body | | 1.06 | 54.93 | 1.05 | 55.00 | 0.95 | -0.13 |
| Head | 1800 | 1.41 | 39.56 | 1.40 | 40.00 | 0.71 | -1.10 |
| Body | | 1.51 | 54.69 | 1.52 | 53.30 | -0.66 | 2.61 |
| Head | 1900 | 1.42 | 39.40 | 1.40 | 40.00 | 1.43 | -1.50 |
| Body | | 1.53 | 53.16 | 1.52 | 53.30 | 0.66 | -0.26 |
| Head | 2000 | 1.43 | 38.96 | 1.40 | 40.00 | 2.14 | -2.60 |
| Body | | 1.55 | 51.53 | 1.52 | 53.30 | 1.97 | -3.32 |
| Head | 2450 | 1.82 | 38.92 | 1.80 | 39.20 | 1.11 | -0.71 |
| Body | | 1.96 | 52.96 | 1.95 | 52.70 | 0.51 | 0.49 |
| Head | 2600 | 1.98 | 38.10 | 1.96 | 39.01 | 1.02 | -2.33 |
| Body | | 2.15 | 53.51 | 2.16 | 52.51 | -0.46 | 1.90 |
| Head | 5200 | 4.64 | 36.87 | 4.66 | 35.99 | -0.43 | 2.45 |
| Body | | 5.26 | 50.13 | 5.30 | 49.01 | -0.75 | 2.29 |
| Head | 5400 | 4.83 | 36.43 | 4.86 | 35.76 | -0.62 | 1.87 |
| Body | | 5.51 | 50.02 | 5.53 | 48.74 | -0.36 | 2.63 |
| Head | 5600 | 5.14 | 34.46 | 5.07 | 35.53 | 1.38 | -3.01 |
| Body | | 5.93 | 48.04 | 5.77 | 48.47 | 2.77 | -0.89 |
| Head | 5800 | 5.31 | 34.33 | 5.27 | 35.30 | 0.76 | -2.75 |
| Body | | 6.07 | 47.14 | 6.00 | 48.20 | 1.17 | -2.20 |



3 DIPOLE IMPEDANCE AND RETURN LOSS

The dipoles are designed to have low return loss when presented against a flat phantom at the specified distance. A Vector Network Analyser was used to perform a return loss measurement on the specific dipole when in the measurement location against the phantom and the distance was specified by the manufacturer with a special, low loss and low relative permittivity spacer.

The impedance was measured at the SMA-connector with the network analyser.

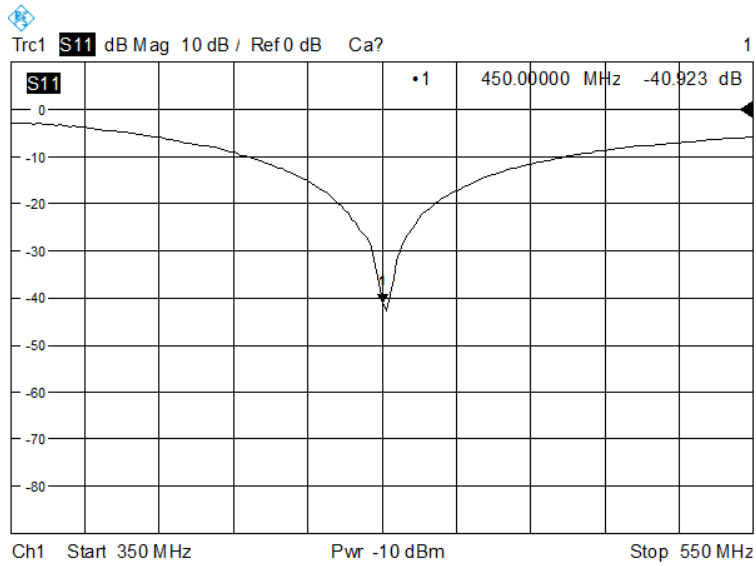


3.1 DIP 0G450

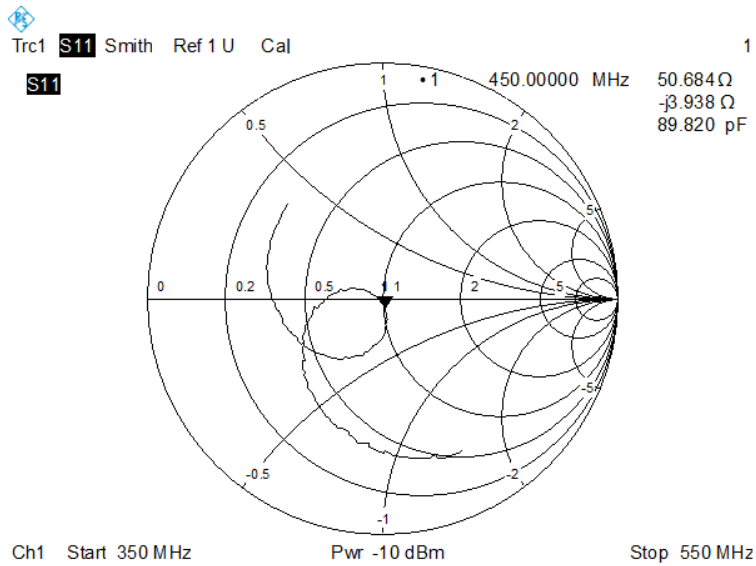
RETURN LOSS AND IMPEDANCE IN HEAD LIQUID

| Frequency (MHz) | Return Loss (dB) | Requirement (dB) | Impedance |
|-----------------|------------------|------------------|--------------------------------|
| 450 | -40.92 | -20 | 50.1 Ω - 3.94 $j\Omega$ |

Return Loss



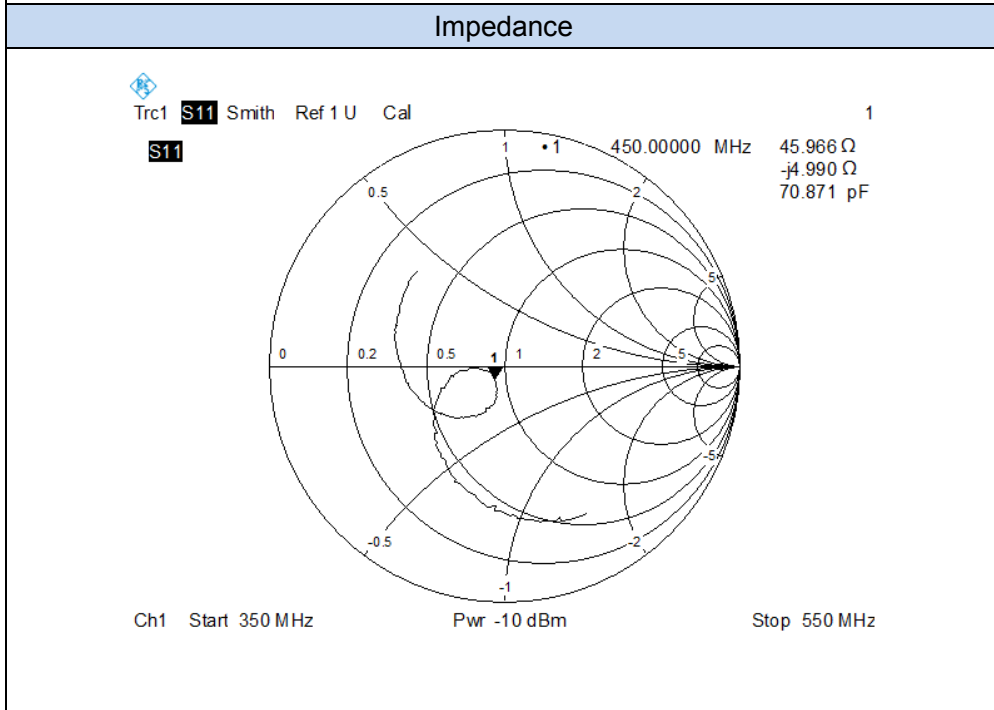
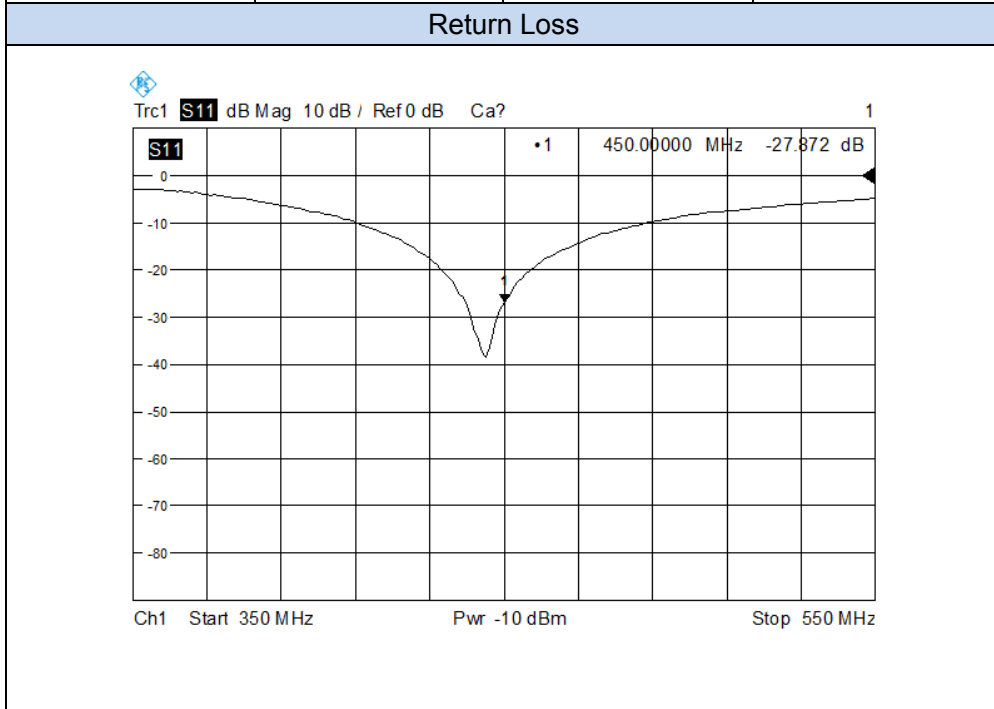
Impedance





RETURN LOSS AND IMPEDANCE IN BODY LIQUID

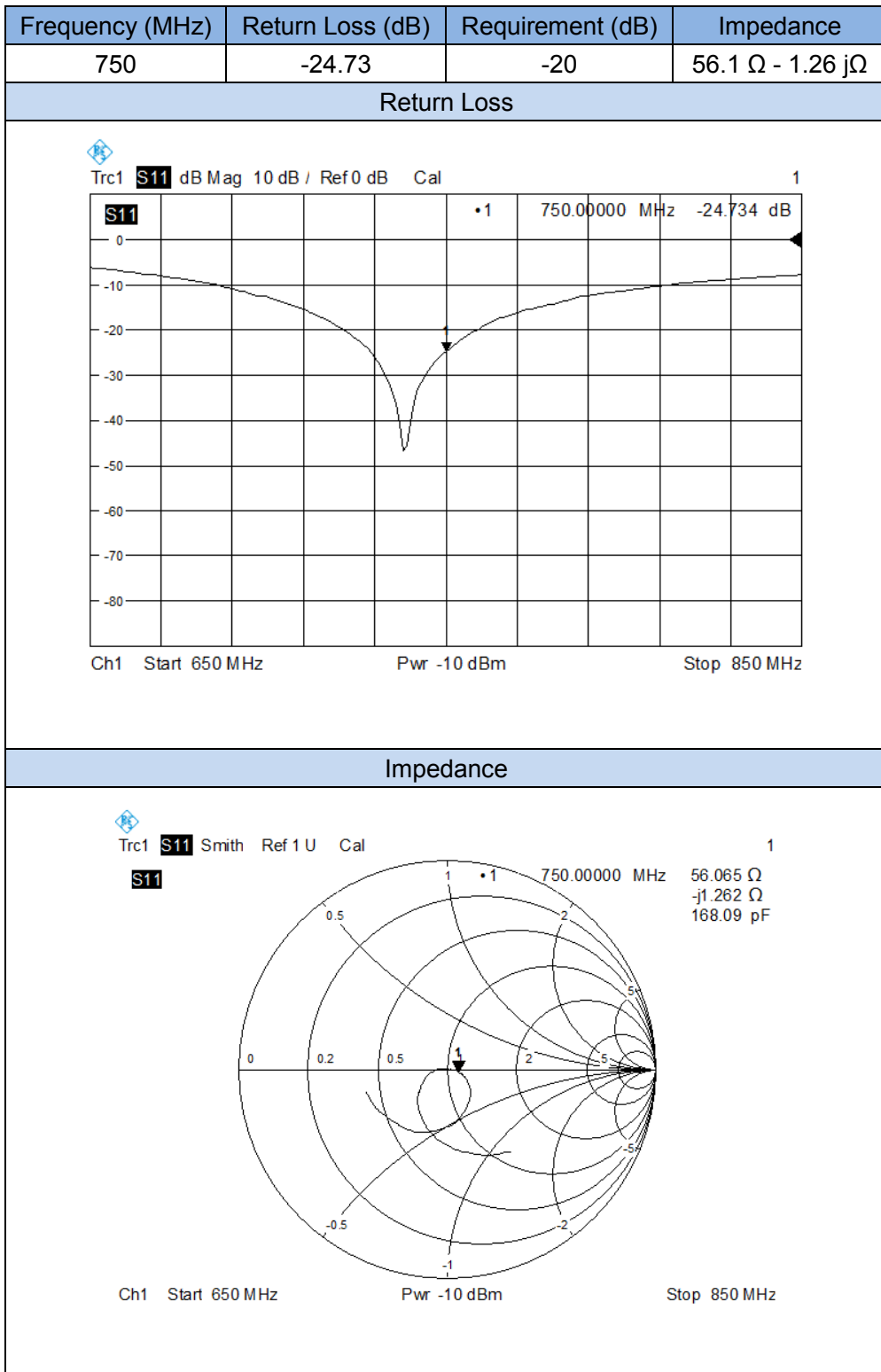
| Frequency (MHz) | Return Loss (dB) | Requirement (dB) | Impedance |
|-----------------|------------------|------------------|--------------------------------|
| 450 | -27.87 | -20 | 46.0 Ω - 4.99 $j\Omega$ |





3.2 DIP 0G750

RETURN LOSS AND IMPEDANCE IN HEAD LIQUID

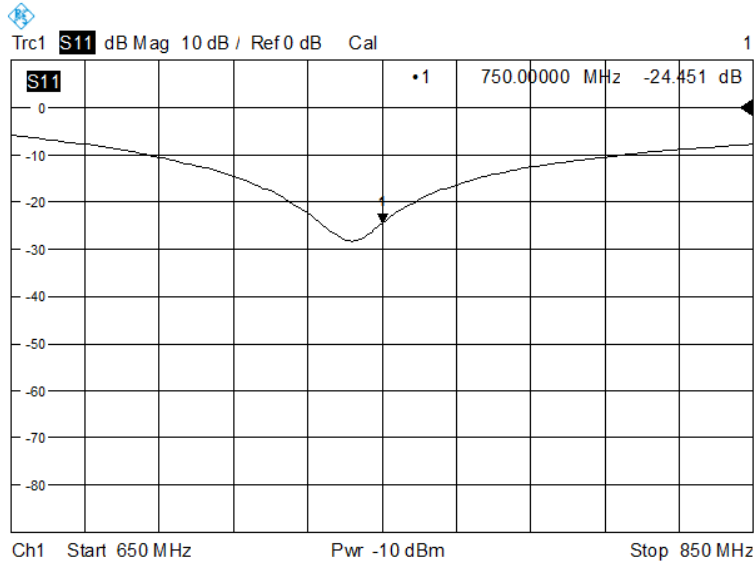




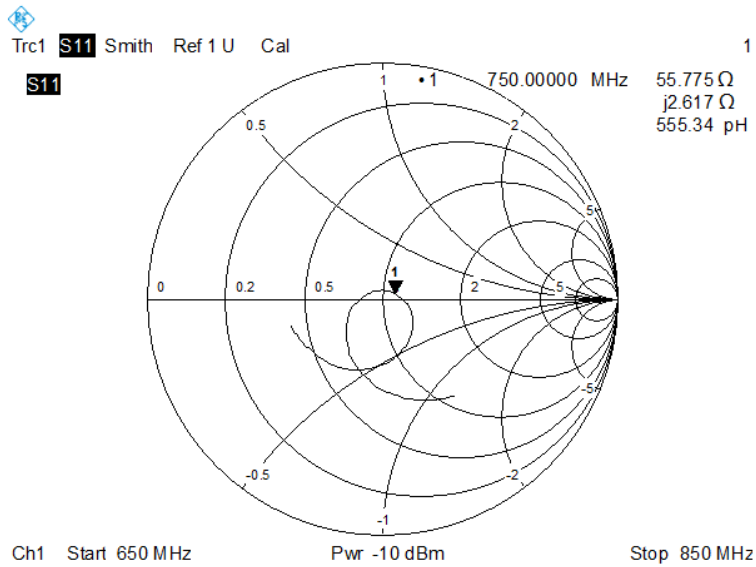
RETURN LOSS AND IMPEDANCE IN BODY LIQUID

| Frequency (MHz) | Return Loss (dB) | Requirement (dB) | Impedance |
|-----------------|------------------|------------------|----------------------------------|
| 750 | -24.45 | -20 | 55.78 Ω + 2.62 j Ω |

Return Loss



Impedance



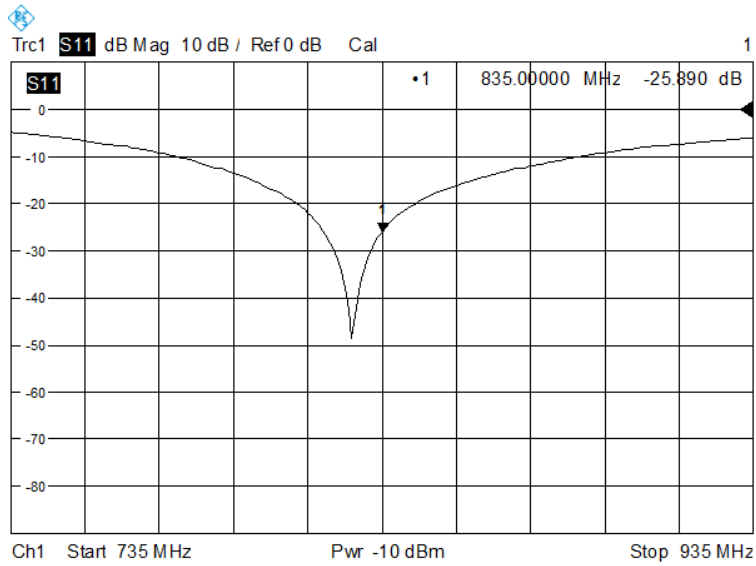


3.3 DIP 0G835

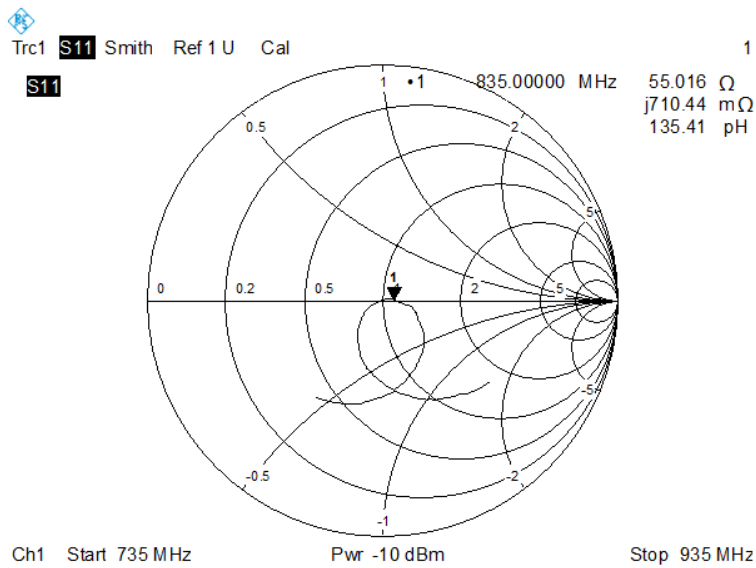
RETURN LOSS AND IMPEDANCE IN HEAD LIQUID

| Frequency (MHz) | Return Loss(dB) | Requirement (dB) | Impedance |
|-----------------|-----------------|------------------|-----------------------------------|
| 835 | -25.89 | -20 | 47.520 Ω -0.735 j Ω |

Return Loss



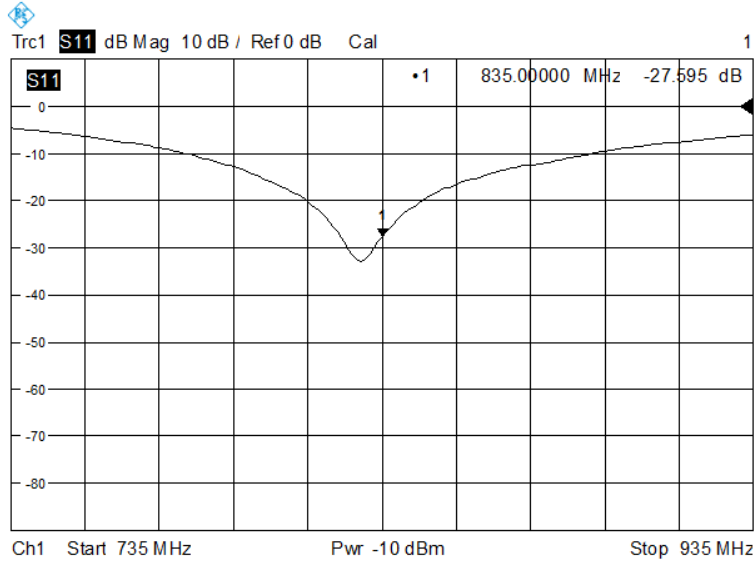
Impedance



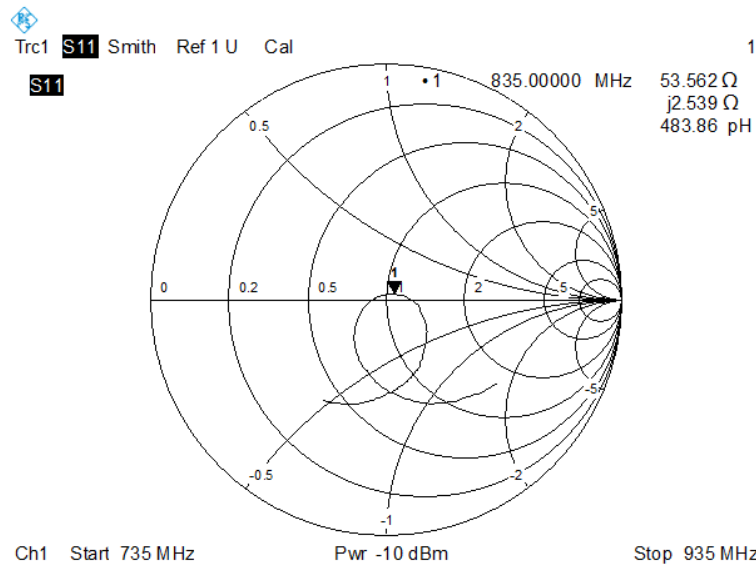
RETURN LOSS AND IMPEDANCE IN BODY LIQUID

| Frequency (MHz) | Return Loss (dB) | Requirement (dB) | Impedance |
|-----------------|------------------|------------------|----------------------------------|
| 835 | -27.60 | -20 | 53.56 Ω + 2.54 j Ω |

Return Loss



Impedance



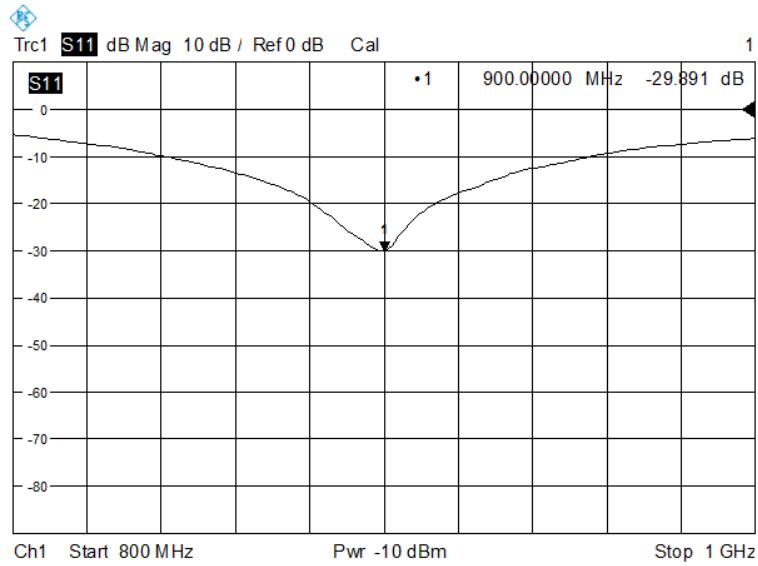


3.4 DIP 0G900

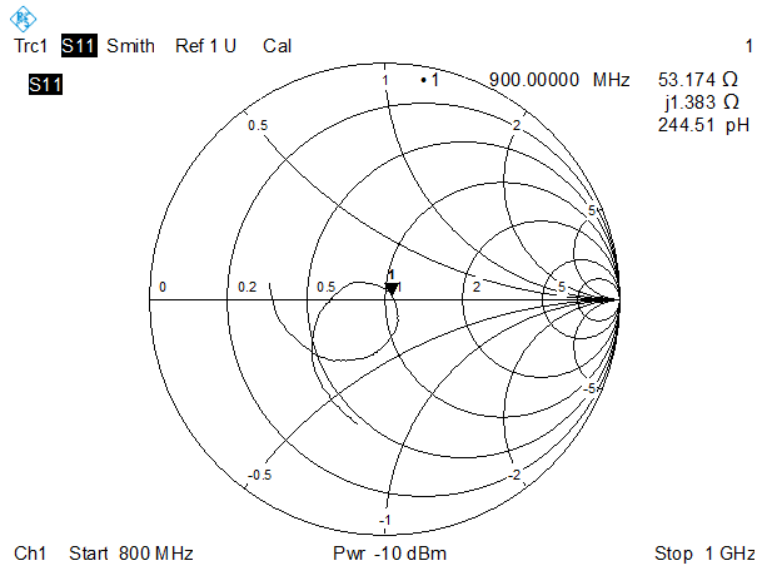
RETURN LOSS AND IMPEDANCE IN HEAD LIQUID

| Frequency (MHz) | Return Loss(dB) | Requirement (dB) | Impedance |
|-----------------|-----------------|------------------|---------------------------------|
| 900 | -29.89 | -20 | 53.2 Ω + 1.38 j Ω |

Return Loss



Impedance

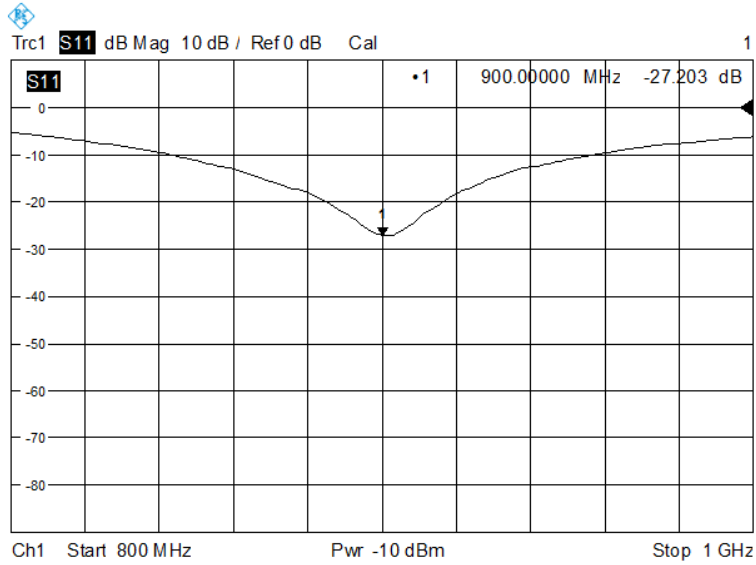




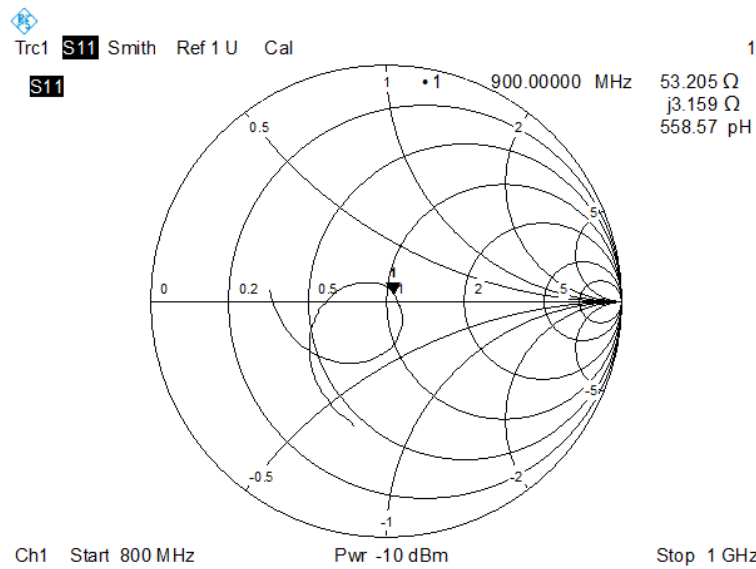
RETURN LOSS AND IMPEDANCE IN BODY LIQUID

| Frequency (MHz) | Return Loss (dB) | Requirement (dB) | Impedance |
|-----------------|------------------|------------------|---------------------------------|
| 900 | -27.20 | -20 | 53.2 Ω + 3.16 j Ω |

Return Loss



Impedance



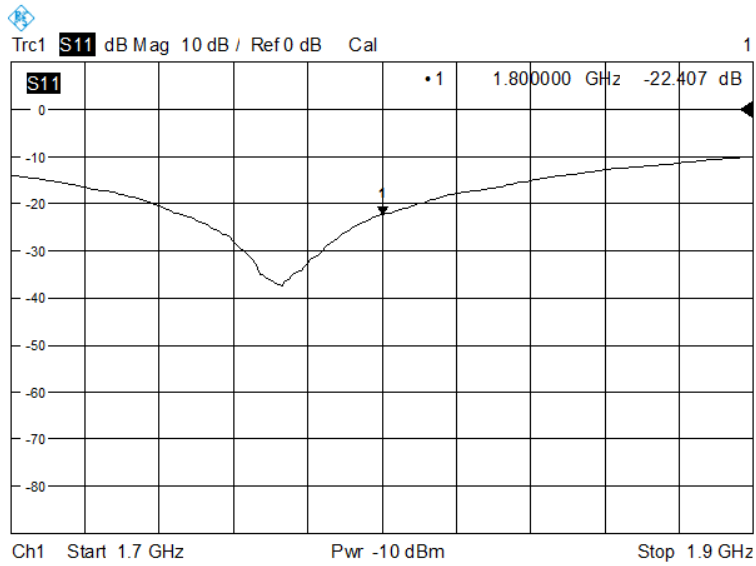


3.5 DIP 1G800

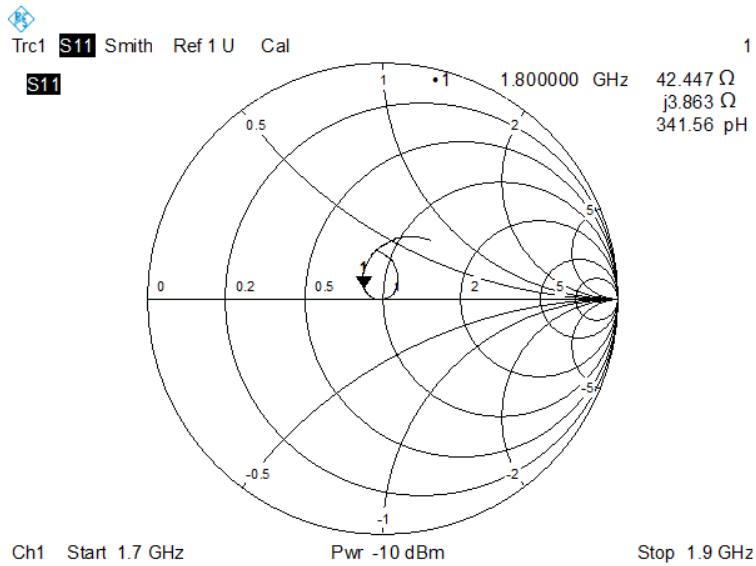
RETURN LOSS AND IMPEDANCE IN HEAD LIQUID

| Frequency (MHz) | Return Loss (dB) | Requirement (dB) | Impedance |
|-----------------|------------------|------------------|------------------|
| 1800 | -22.41 | -20 | 42.4 Ω + 3.86 jΩ |

Return Loss

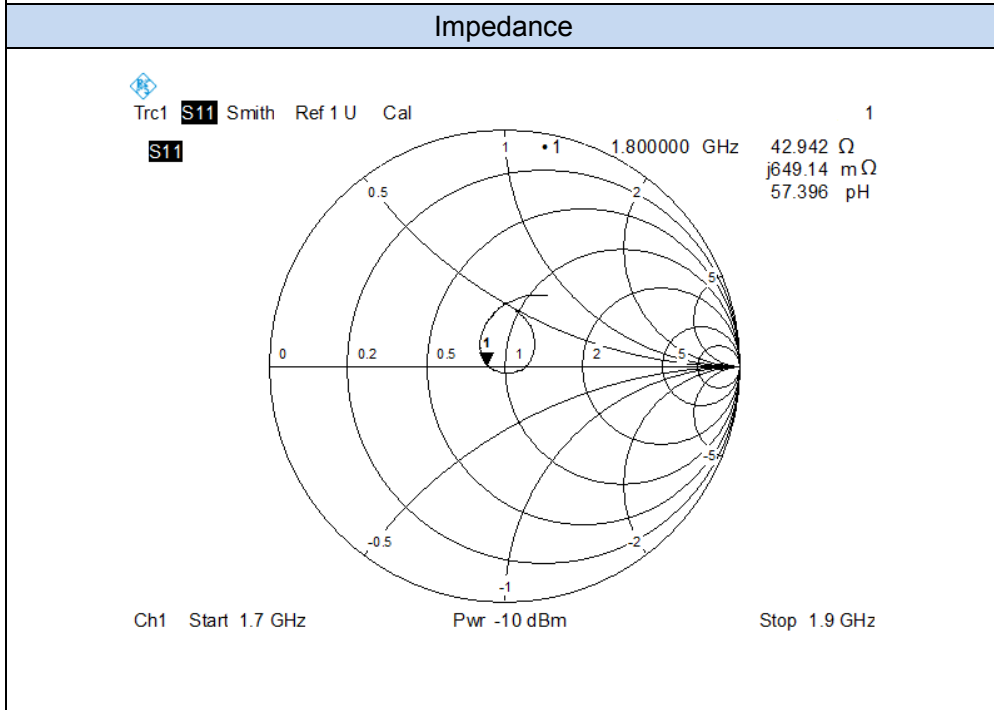
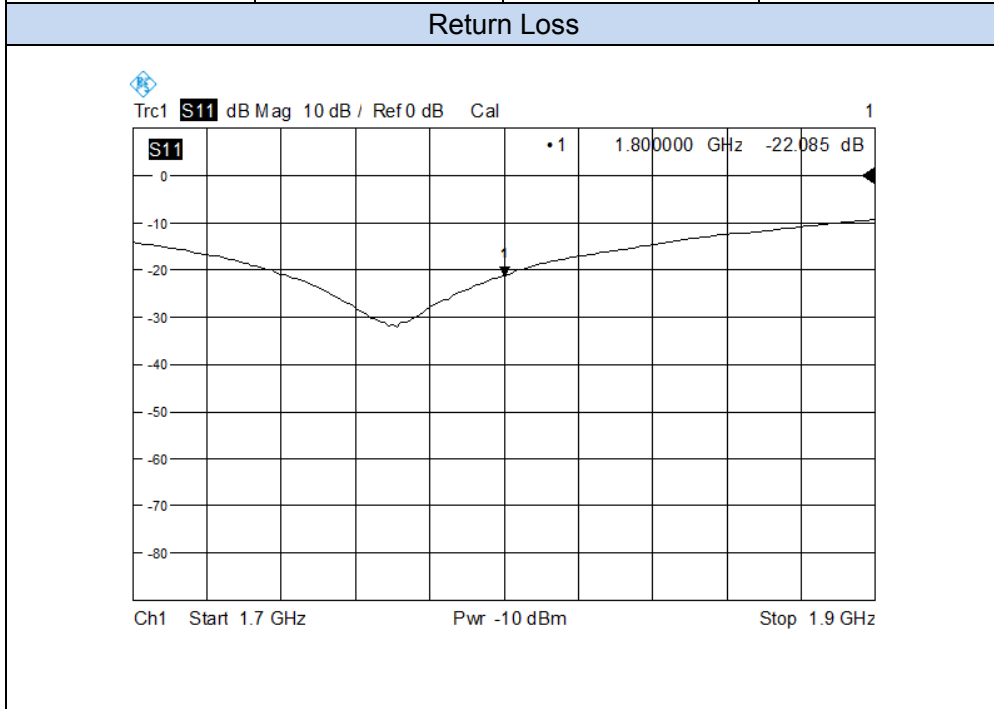


Impedance



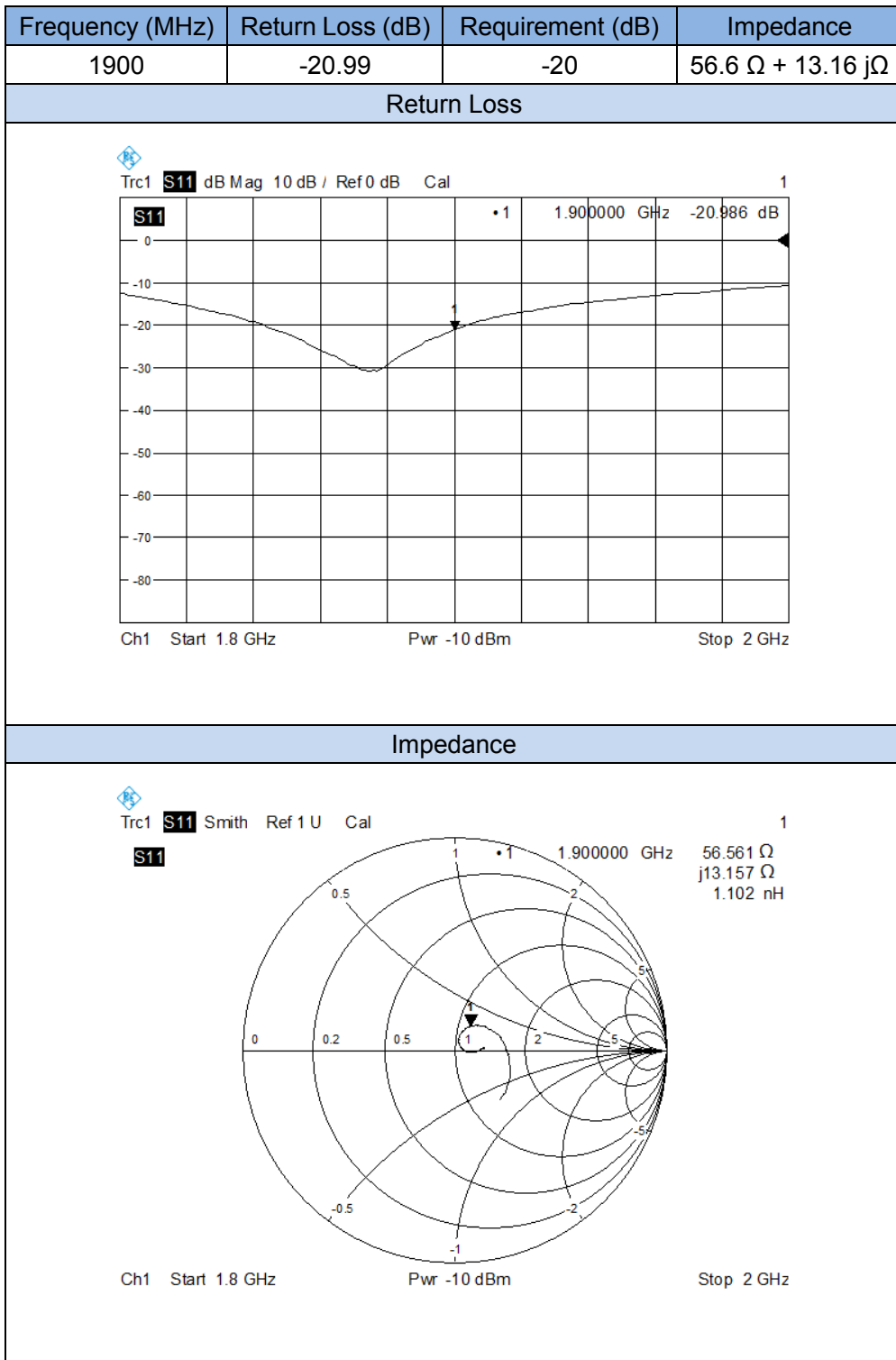
RETURN LOSS AND IMPEDANCE IN BODY LIQUID

| Frequency (MHz) | Return Loss (dB) | Requirement (dB) | Impedance |
|-----------------|------------------|------------------|------------------|
| 1800 | -22.09 | -20 | 42.9 Ω + 0.65 jΩ |



3.6 DIP 1G900

RETURN LOSS AND IMPEDANCE IN HEAD LIQUID

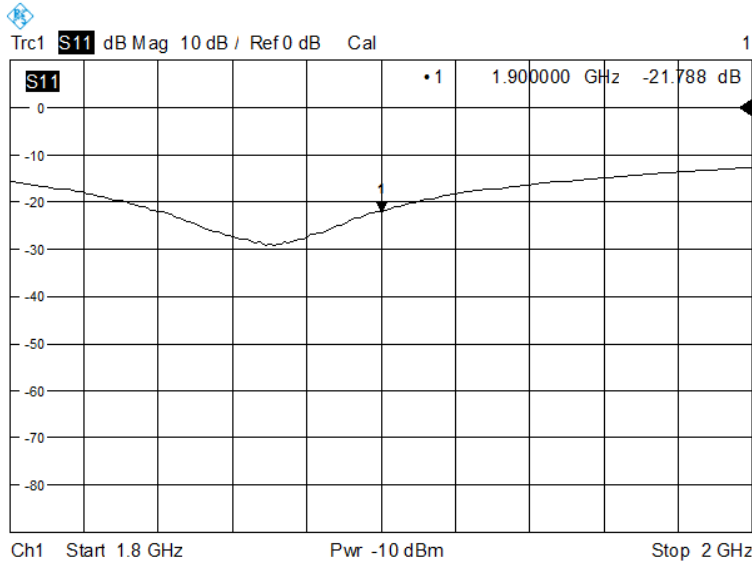




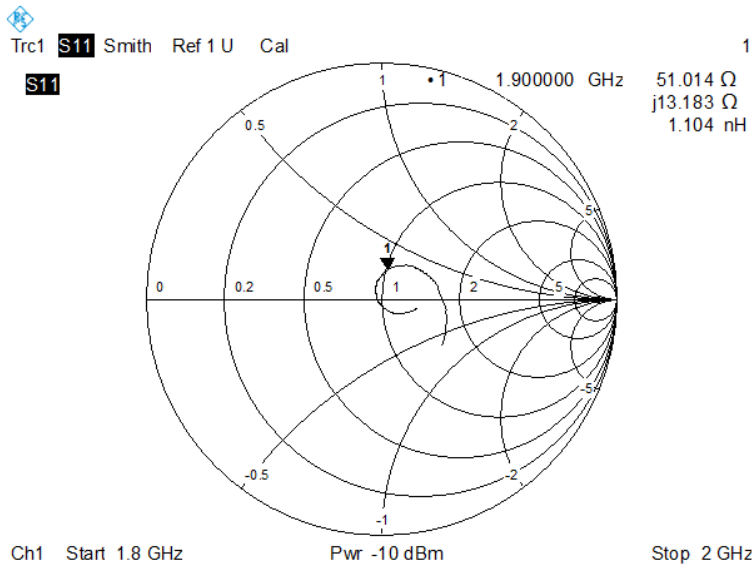
RETURN LOSS AND IMPEDANCE IN BODY LIQUID

| Frequency (MHz) | Return Loss (dB) | Requirement (dB) | Impedance |
|-----------------|------------------|------------------|-------------------|
| 1900 | -21.79 | -20 | 51.0 Ω + 13.18 jΩ |

Return Loss

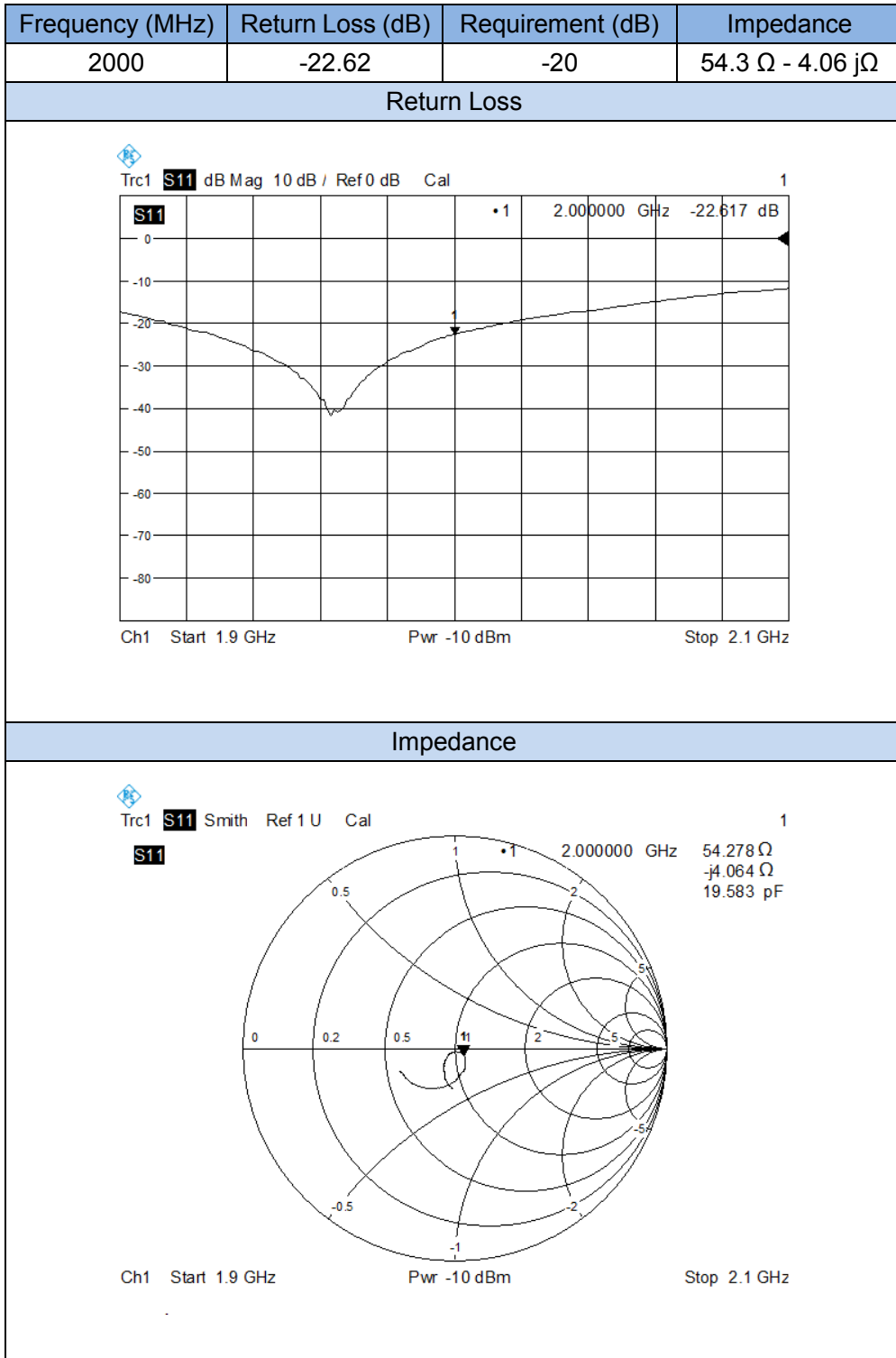


Impedance



3.7 DIP 2G000

RETURN LOSS AND IMPEDANCE IN HEAD LIQUID

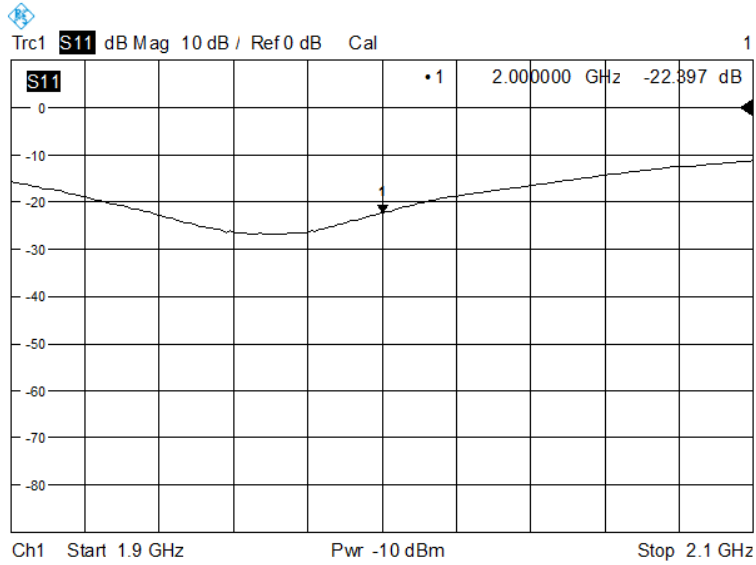




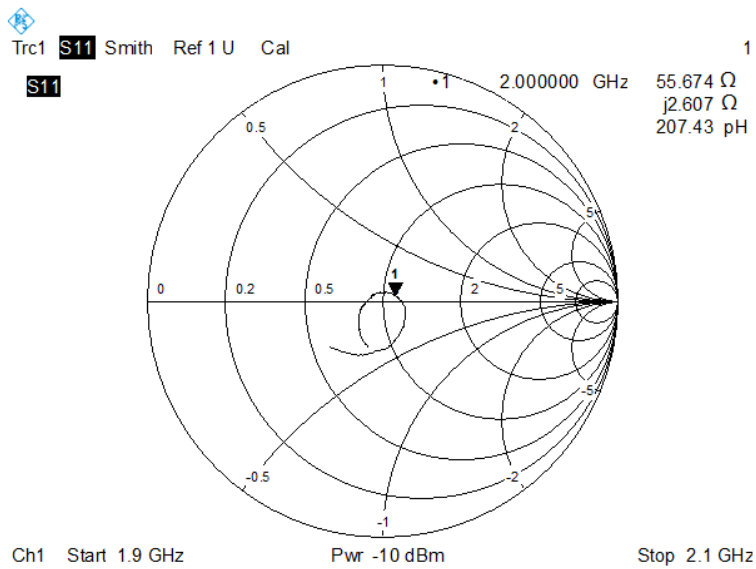
RETURN LOSS AND IMPEDANCE IN BODY LIQUID

| Frequency (MHz) | Return Loss (dB) | Requirement (dB) | Impedance |
|-----------------|------------------|------------------|---------------------------------|
| 2000 | -22.40 | -20 | 55.7 Ω + 2.61 j Ω |

Return Loss

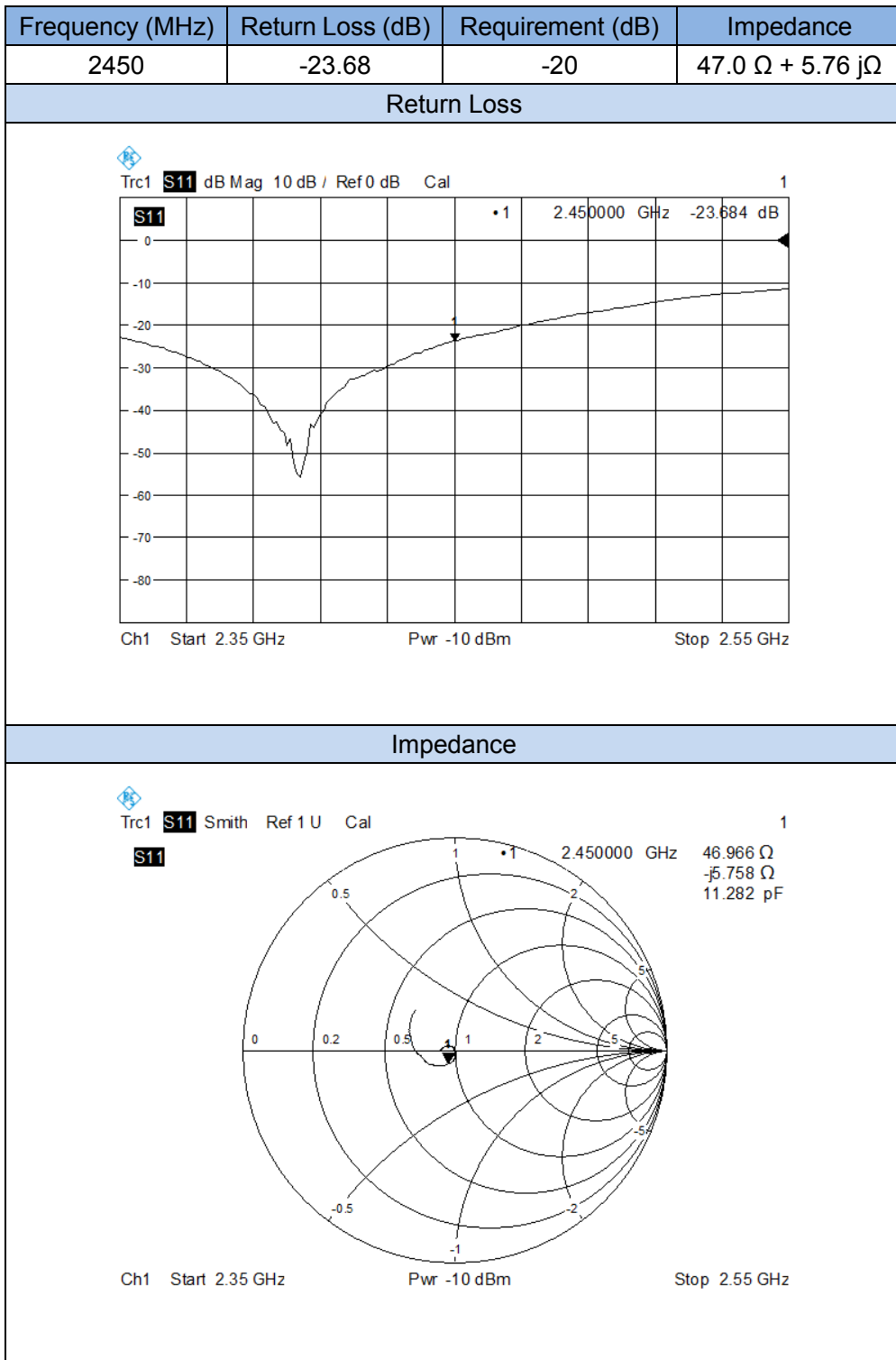


Impedance



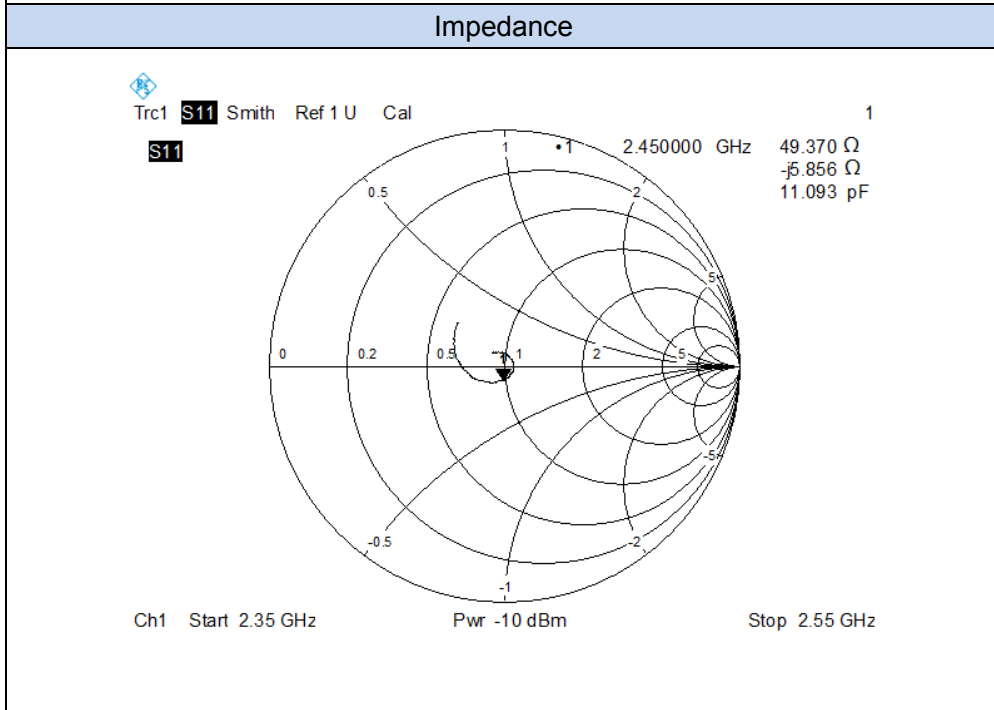
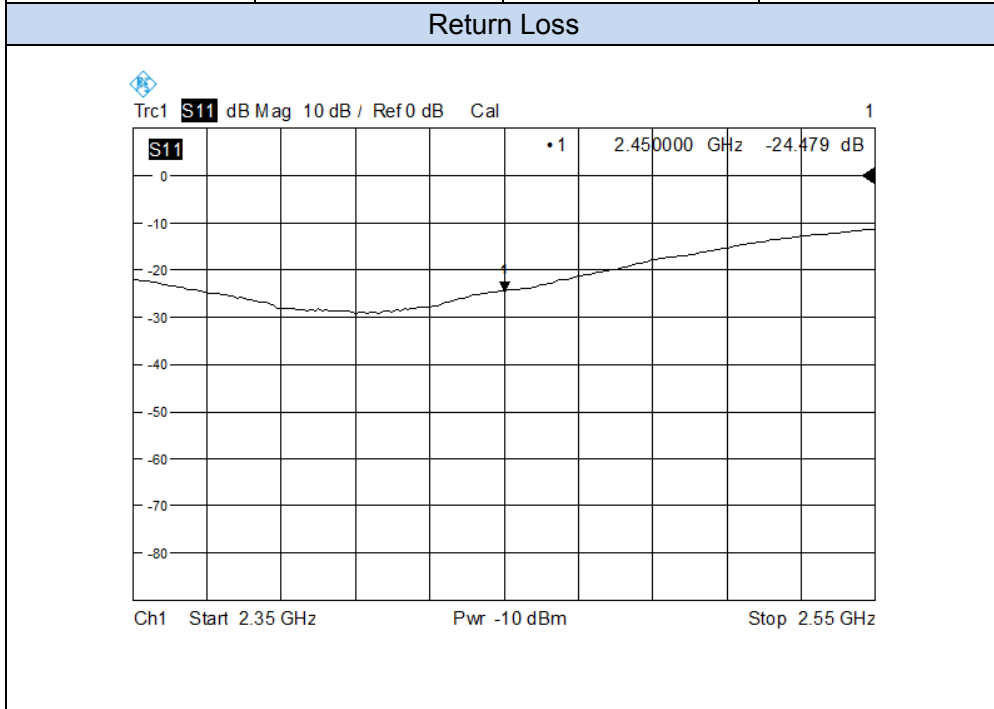
3.8 DIP 2G450

RETURN LOSS AND IMPEDANCE IN HEAD LIQUID



RETURN LOSS AND IMPEDANCE IN BODY LIQUID

| Frequency (MHz) | Return Loss (dB) | Requirement (dB) | Impedance |
|-----------------|------------------|------------------|---------------------------------|
| 2450 | -24.48 | -20 | 49.4 Ω - 5.86 j Ω |



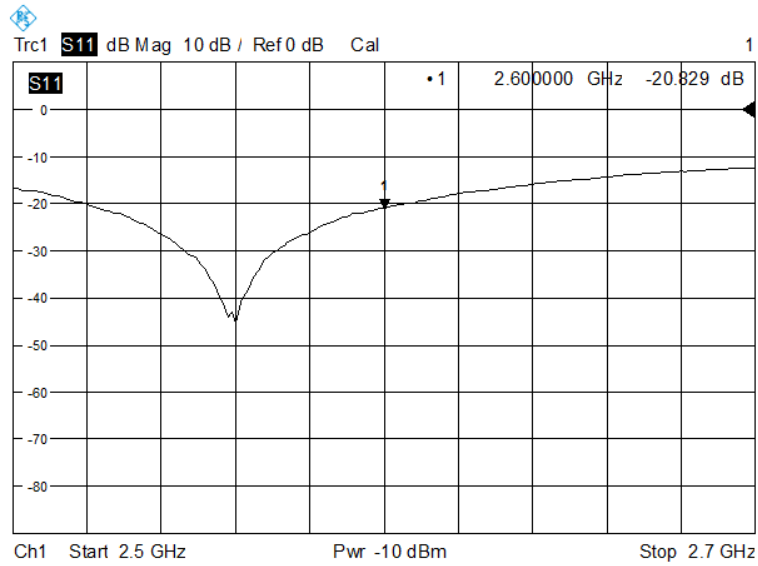


3.9 DIP 2G600

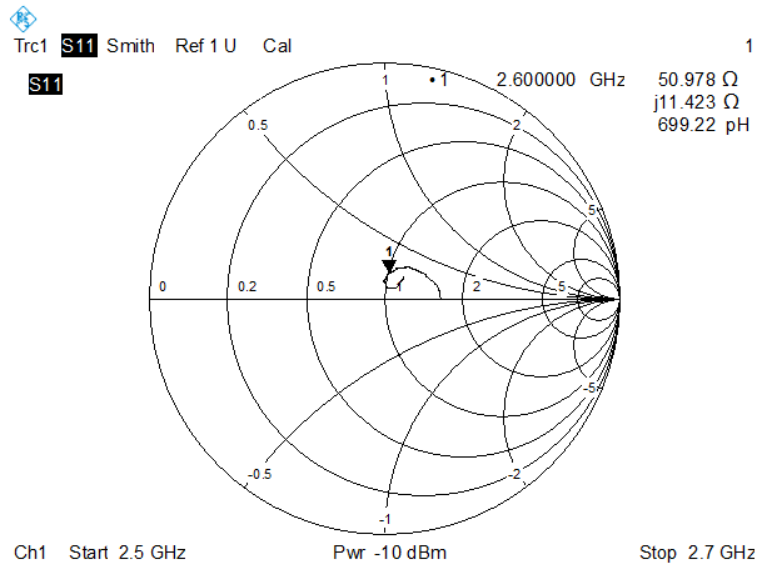
RETURN LOSS AND IMPEDANCE IN HEAD LIQUID

| Frequency (MHz) | Return Loss (dB) | Requirement (dB) | Impedance |
|-----------------|------------------|------------------|----------------------------------|
| 2600 | -20.83 | -20 | 51.0 Ω + 11.42 j Ω |

Return Loss



Impedance

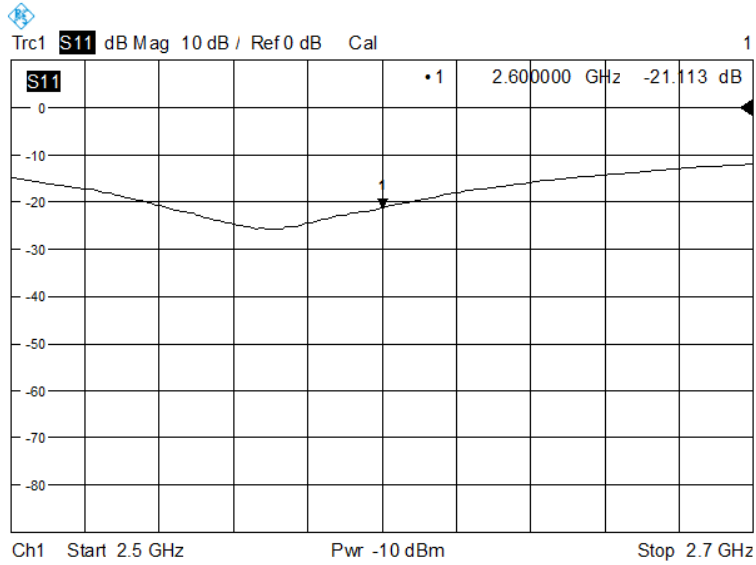




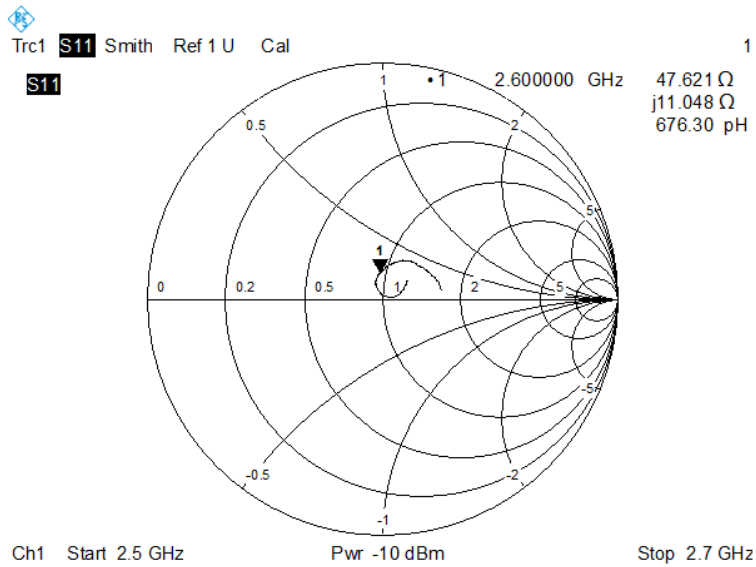
RETURN LOSS AND IMPEDANCE IN BODY LIQUID

| Frequency (MHz) | Return Loss (dB) | Requirement (dB) | Impedance |
|-----------------|------------------|------------------|-------------------|
| 2600 | -21.11 | -20 | 47.6 Ω + 11.05 jΩ |

Return Loss



Impedance



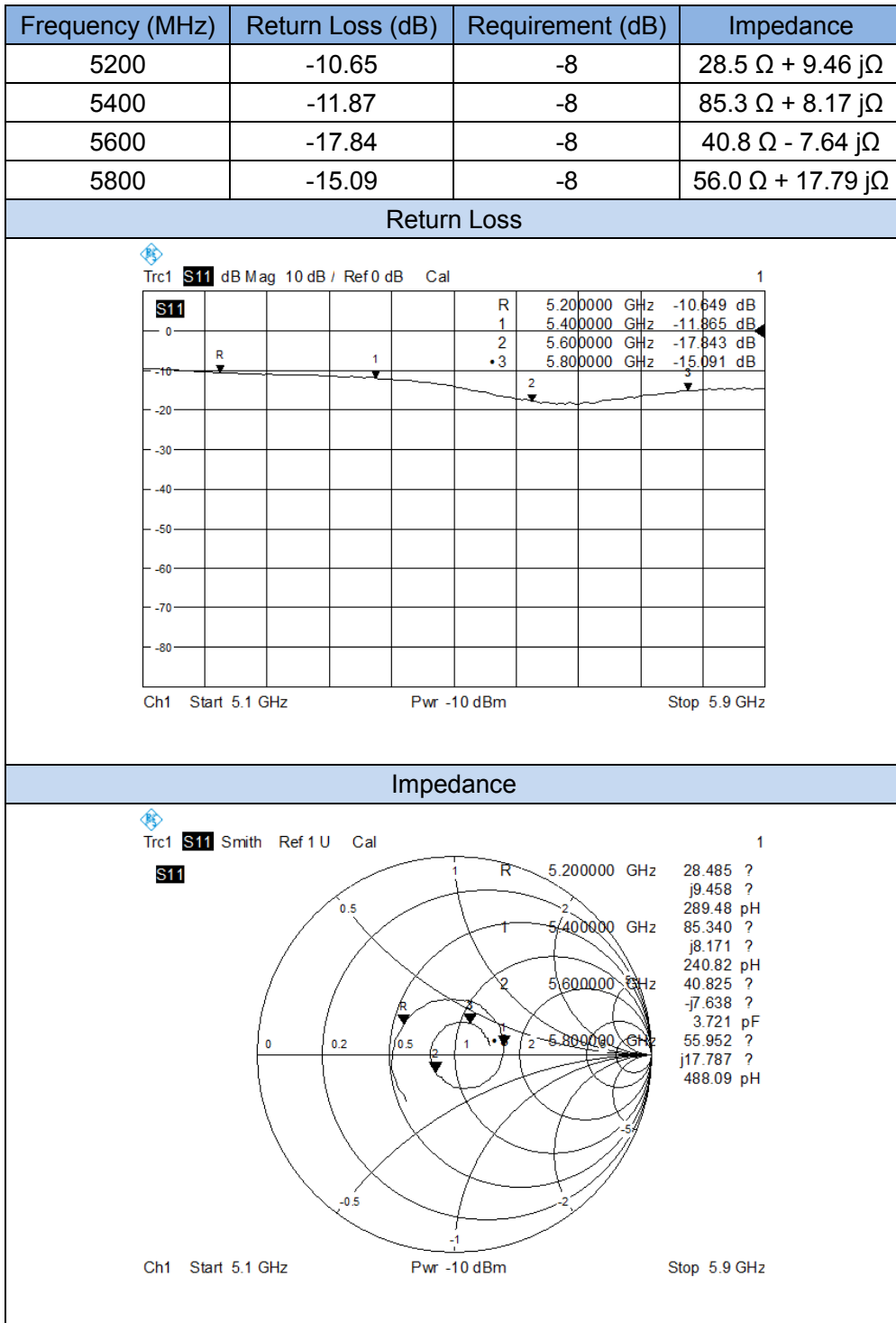
4 WAVEGUIDE IMPEDANCE AND RETURN LOSS

The waveguide are designed to have low return loss when presented against a flat phantom at the specified distance. A Vector Network Analyser was used to perform a return loss measurement on the specific waveguide when in the measurement location against the phantom and the distance was specified by the manufacturer with a special, low loss and low relative permittivity spacer.

The impedance was measured at the SMA-connector with the network analyser.

4.1 SWG5500

RETURN LOSS AND IMPEDANCE IN HEAD LIQUID

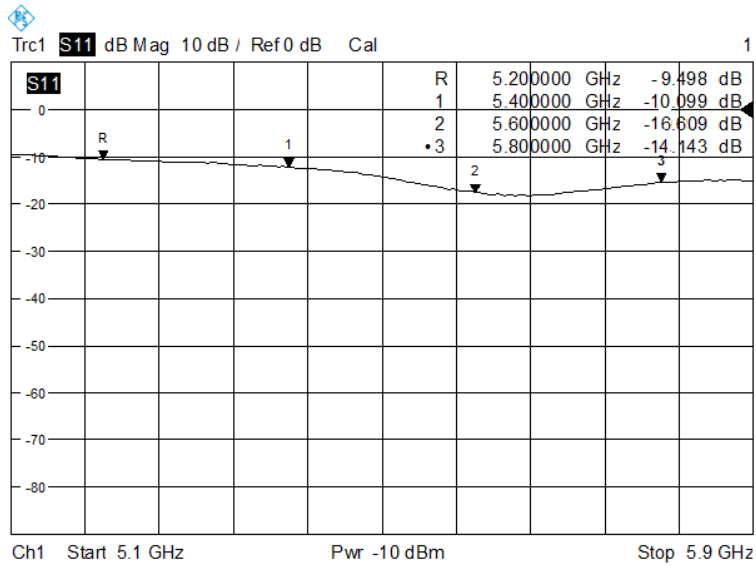




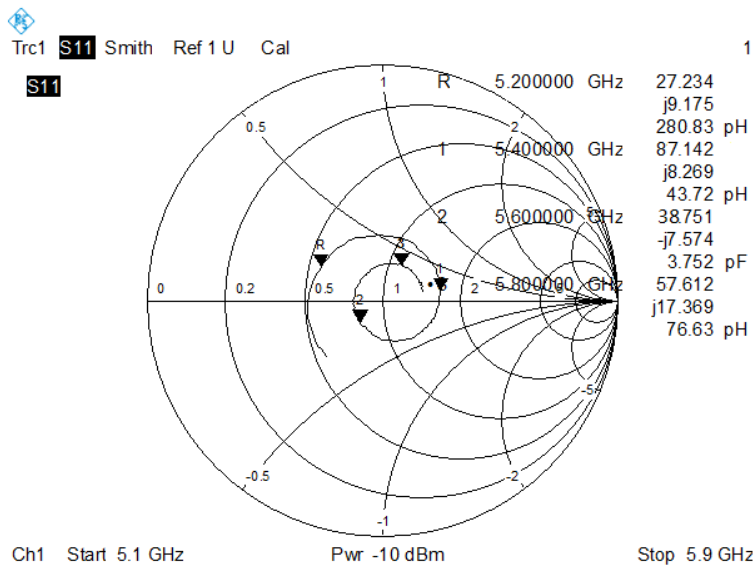
RETURN LOSS AND IMPEDANCE IN BODY LIQUID

| Frequency (MHz) | Return Loss (dB) | Requirement (dB) | Impedance |
|-----------------|------------------|------------------|-------------------|
| 5200 | -9.50 | -8 | 27.2 Ω + 9.18 jΩ |
| 5400 | -10.10 | -8 | 87.1 Ω + 8.27 jΩ |
| 5600 | -16.60 | -8 | 38.8 Ω - 7.57 jΩ |
| 5800 | -14.14 | -8 | 57.6 Ω + 17.37 jΩ |

Return Loss

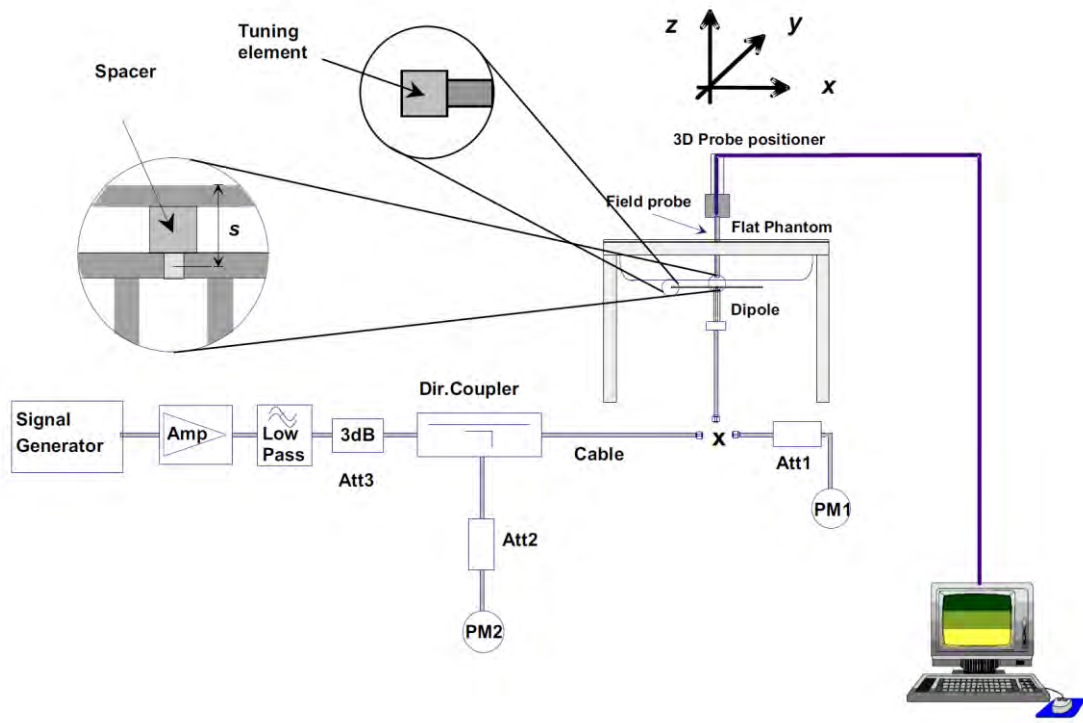


Impedance



5 VALIDATION MEASUREMENT

The IEEE Std. 1528, FCC KDBs and CEI/IEC 62209 standards state that the system validation measurements must be performed using a reference dipole meeting the fore mentioned return loss and mechanical dimension requirements. The validation measurement must be performed against a liquid filled flat phantom, with the phantom constructed as outlined in the fore mentioned standards. Per the standards, the dipole shall be positioned below the bottom of the phantom, with the dipole length centered and parallel to the longest dimension of the flat phantom, with the top surface of the dipole at the described distance from the bottom surface of the phantom.





5.1 Dipole And Waveguide SAR Validation Measurement Result

| Freq. (MHz) | Liquid Type | Power (mW) | 1 g Measured SAR (W/kg) | Normalized SAR (W/kg) | 10 g Measured SAR (W/kg) | Normalized SAR (W/kg) | 1 g Targeted SAR (W/kg) | Tolerance (%) | 10 g Targeted SAR (W/kg) | Tolerance (%) |
|-------------|-------------|------------|-------------------------|-----------------------|--------------------------|-----------------------|-------------------------|---------------|--------------------------|---------------|
| 450 | Head | 100 | 0.439 | 4.39 | 0.292 | 2.92 | 4.58 | -4.15 | 3.06 | -4.58 |
| | Body | 100 | 0.479 | 4.79 | 0.329 | 3.29 | 4.58 | 4.59 | 3.06 | 7.52 |
| 750 | Head | 100 | 0.861 | 8.61 | 0.576 | 5.76 | 8.49 | 1.41 | 5.55 | 3.78 |
| | Body | 100 | 0.879 | 8.79 | 0.592 | 5.92 | 8.49 | 3.53 | 5.55 | 6.67 |
| 835 | Head | 100 | 0.983 | 9.83 | 0.609 | 6.09 | 9.56 | 2.82 | 6.22 | -2.09 |
| | Body | 100 | 1.013 | 10.13 | 0.659 | 6.59 | 9.56 | 5.96 | 6.22 | 5.95 |
| 900 | Head | 100 | 1.147 | 11.47 | 0.724 | 7.24 | 10.9 | 5.23 | 6.99 | 3.58 |
| | Body | 100 | 1.139 | 11.39 | 0.747 | 7.47 | 10.9 | 4.50 | 6.99 | 6.87 |
| 1800 | Head | 100 | 3.892 | 38.92 | 1.964 | 19.64 | 38.40 | 1.35 | 20.10 | -2.29 |
| | Body | 100 | 3.911 | 39.11 | 1.989 | 19.89 | 38.40 | 1.85 | 20.10 | -1.04 |
| 1900 | Head | 100 | 3.890 | 38.90 | 1.968 | 19.68 | 39.70 | -2.02 | 20.50 | -4.00 |
| | Body | 100 | 3.943 | 39.43 | 2.001 | 20.01 | 39.70 | -0.68 | 20.50 | -2.39 |
| 2000 | Head | 100 | 4.029 | 40.29 | 2.094 | 20.94 | 41.10 | -1.97 | 21.10 | -0.76 |
| | Body | 100 | 4.197 | 41.97 | 2.185 | 21.85 | 41.10 | 2.12 | 21.10 | 3.55 |
| 2450 | Head | 100 | 5.328 | 53.28 | 2.483 | 24.83 | 52.40 | 1.68 | 24.00 | 3.46 |
| | Body | 100 | 5.094 | 50.94 | 2.450 | 24.50 | 52.40 | -2.79 | 24.00 | 2.08 |
| 2600 | Head | 100 | 5.323 | 53.23 | 2.515 | 25.15 | 55.30 | -3.74 | 24.60 | 2.24 |
| | Body | 100 | 5.174 | 51.74 | 2.377 | 23.77 | 55.30 | -6.44 | 24.60 | -3.37 |
| 5200 | Head | 100 | 15.378 | 153.78 | 5.463 | 54.62 | 159.00 | -3.28 | 56.90 | -4.01 |
| | Body | 100 | 15.224 | 152.24 | 5.341 | 53.41 | 159.00 | -4.25 | 56.90 | -6.13 |
| 5400 | Head | 100 | 15.876 | 158.76 | 5.517 | 55.17 | 166.40 | -4.59 | 58.43 | -5.58 |
| | Body | 100 | 15.762 | 157.62 | 5.615 | 56.15 | 166.40 | -5.28 | 58.43 | -3.90 |
| 5600 | Head | 100 | 16.475 | 164.75 | 5.792 | 57.92 | 173.80 | -5.21 | 59.97 | -3.42 |
| | Body | 100 | 15.813 | 158.13 | 5.645 | 56.45 | 173.80 | -9.02 | 59.97 | -5.87 |
| 5800 | Head | 100 | 17.688 | 176.88 | 5.984 | 59.84 | 181.20 | -2.38 | 61.50 | -2.70 |
| | Body | 100 | 16.953 | 169.53 | 5.836 | 58.36 | 181.20 | -6.44 | 61.50 | -5.11 |

5.2 DIP 0G450

5.2.1 Dipole 450 MHz Validation Measurement for Head Tissue

System Performance Check Data(450 MHz Head)

Type: Phone measurement (Complete)

E-Field Probe: SN 34/15 EPGO265

Area scan resolution: dx=8mm, dy=8mm

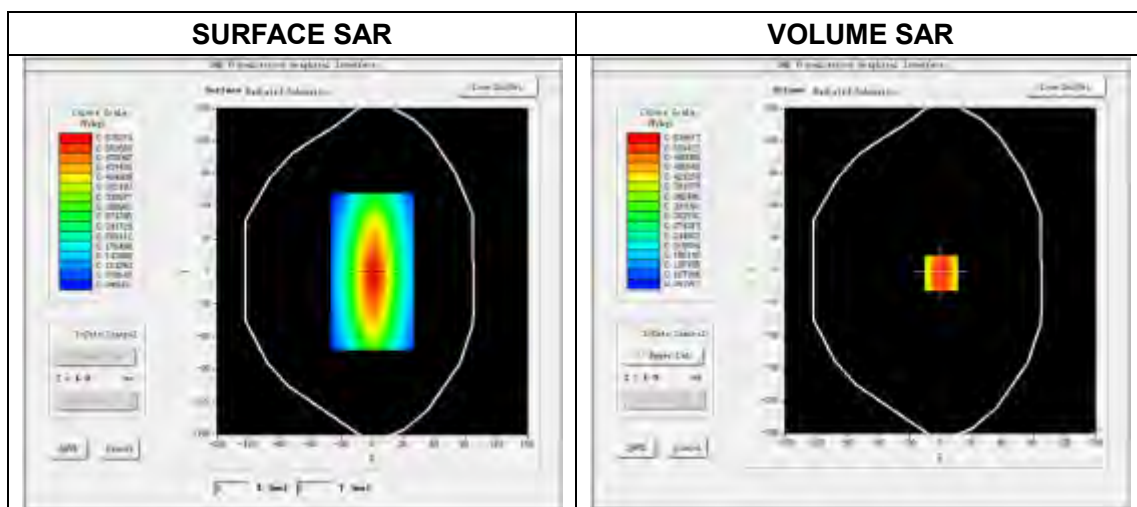
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2016.03.01

Measurement duration: 14 minutes 46 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 450MHz |
| Signal | CW |
| Frequency (MHz) | 450.000000 |
| Relative permittivity (real part) | 42.872365 |
| Conductivity (S/m) | 0.890236 |
| Power drift (%) | 1.350000 |
| Ambient Temperature: | 21.6°C |
| Liquid Temperature: | 21.1°C |
| ConvF: | 1.85 |
| Crest factor: | 1:1 |

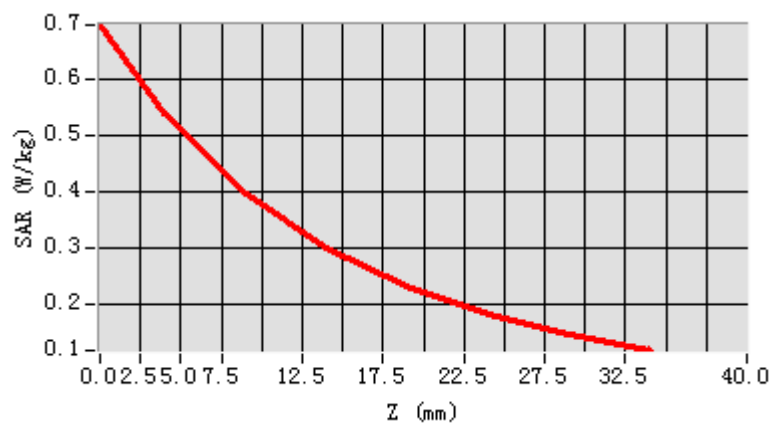


Maximum location: X=0.00, Y=0.00

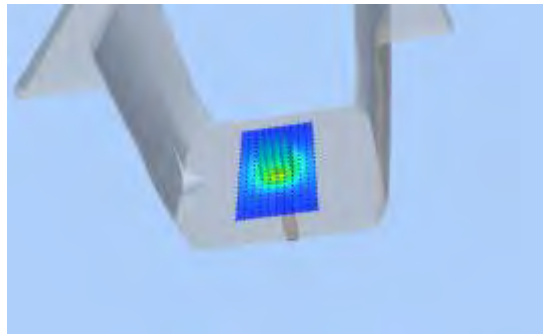
SAR Peak: 0.69 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.291862 |
| SAR 1g (W/Kg) | 0.439023 |

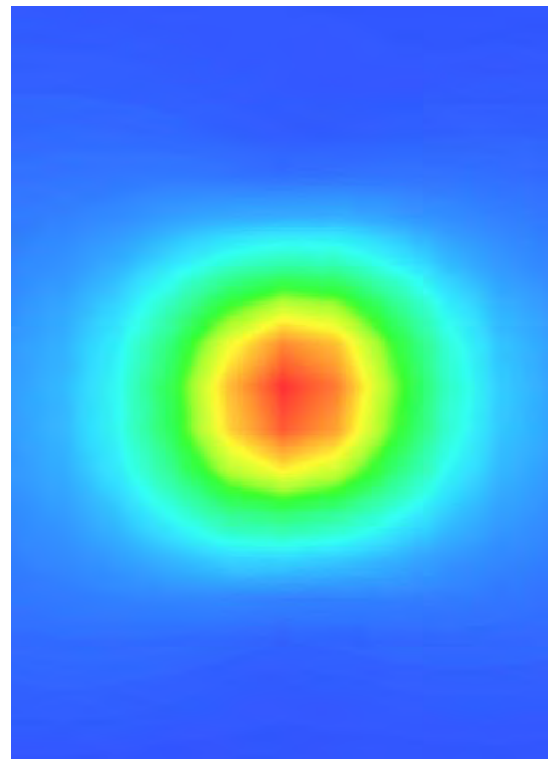
Z Axis Scan



3D screen shot



Hot spot position



5.2.2 Dipole 450 MHz Validation Measurement for Body Tissue

System Performance Check Data(450 MHz Body)

Type: Phone measurement (Complete)

E-Field Probe: SN 34/15 SSE2 EPGO265

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

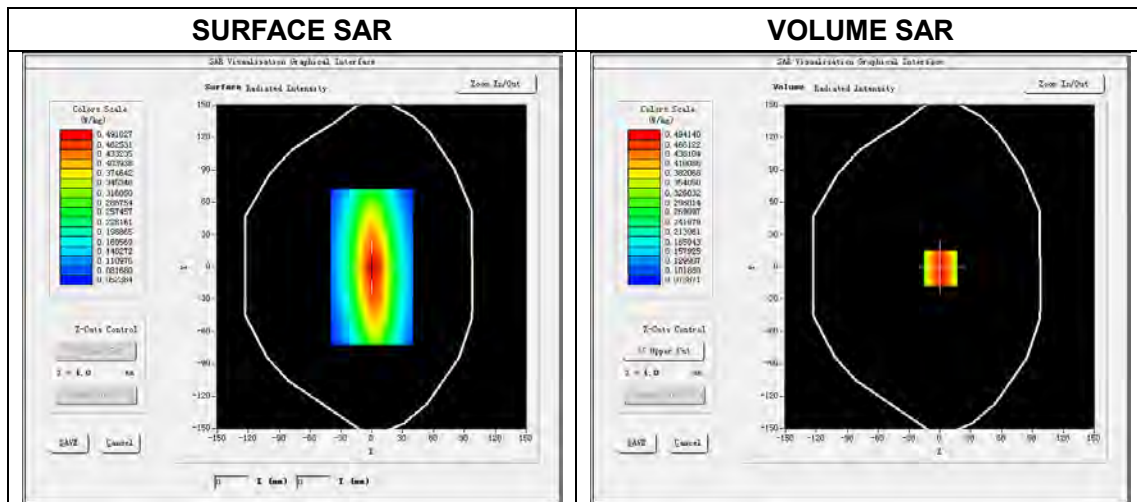
Date of measurement: 2016.03.01

Measurement duration: 13 minutes 52 seconds

Experimental conditions.

1

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 450MHz |
| Signal | CW |
| Frequency (MHz) | 450.000000 |
| Relative permittivity (real part) | 55.695599 |
| Conductivity (S/m) | 0.955490 |
| Power drift (%) | -1.370000 |
| Ambient Temperature: | 21.6°C |
| Liquid Temperature: | 21.1°C |
| ConvF: | 1.90 |
| Crest factor: | 1:1 |

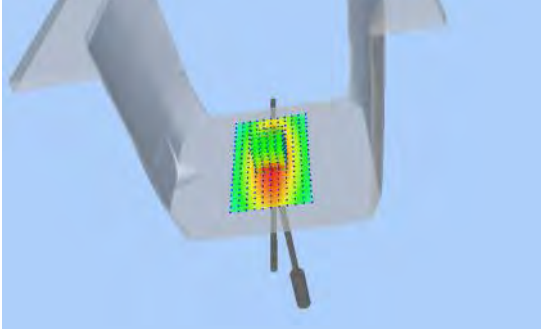
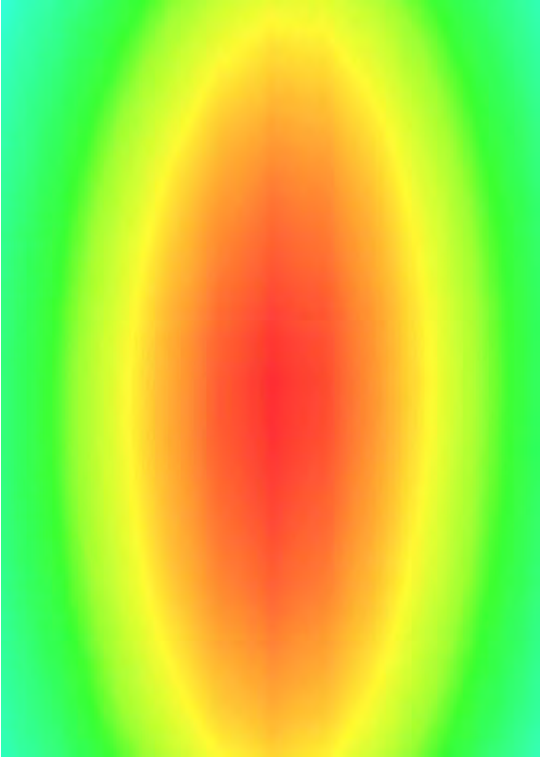


Maximum location: X=1.00, Y=-1.00

SAR Peak: 0.66 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.328543 |
| SAR 1g (W/Kg) | 0.478689 |

Z Axis Scan

| 3D scene shot | Hot spot position |
|---|---|
|  |  |

5.3 DIP 0G750

5.3.1 Dipole 750 MHz Validation Measurement for Head Tissue

System Performance Check Data(750 MHz Head)

Type: Phone measurement (Complete)

E-Field Probe: SN 34/15 SSE2 EPGO265

Area scan resolution: dx=8mm,dy=8mm

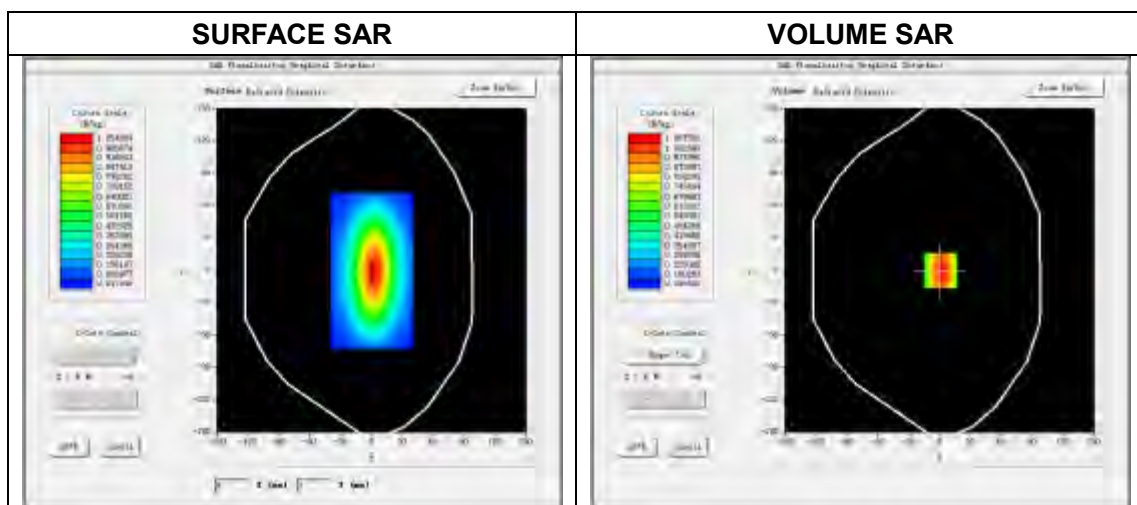
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2016.03.01

Measurement duration: 13 minutes 27 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 750MHz |
| Signal | CW |
| Frequency (MHz) | 750MHz |
| Relative permittivity (real part) | 41.923526 |
| Conductivity (S/m) | 0.883686 |
| Power drift (%) | -3.100000 |
| Ambient Temperature: | 21.6°C |
| Liquid Temperature: | 21.1°C |
| ConvF: | 1.81 |
| Crest factor: | 1:1 |

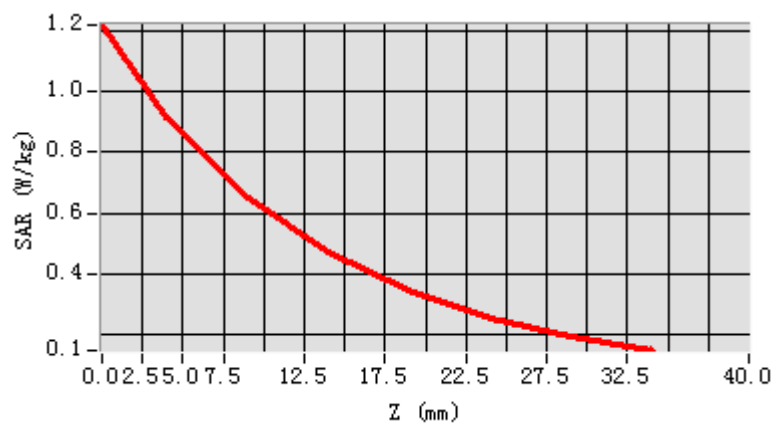


Maximum location: X=1.00, Y=0.00

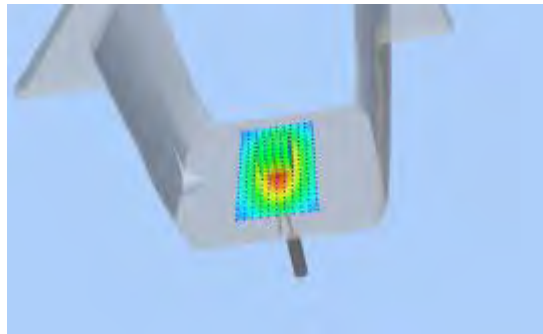
SAR Peak: 1.28 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.576457 |
| SAR 1g (W/Kg) | 0.861462 |

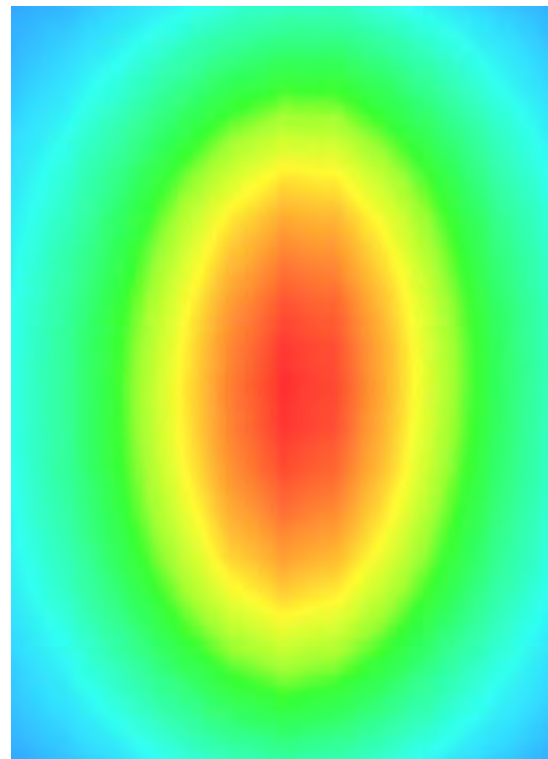
Z Axis Scan



3D screen shot



Hot spot position



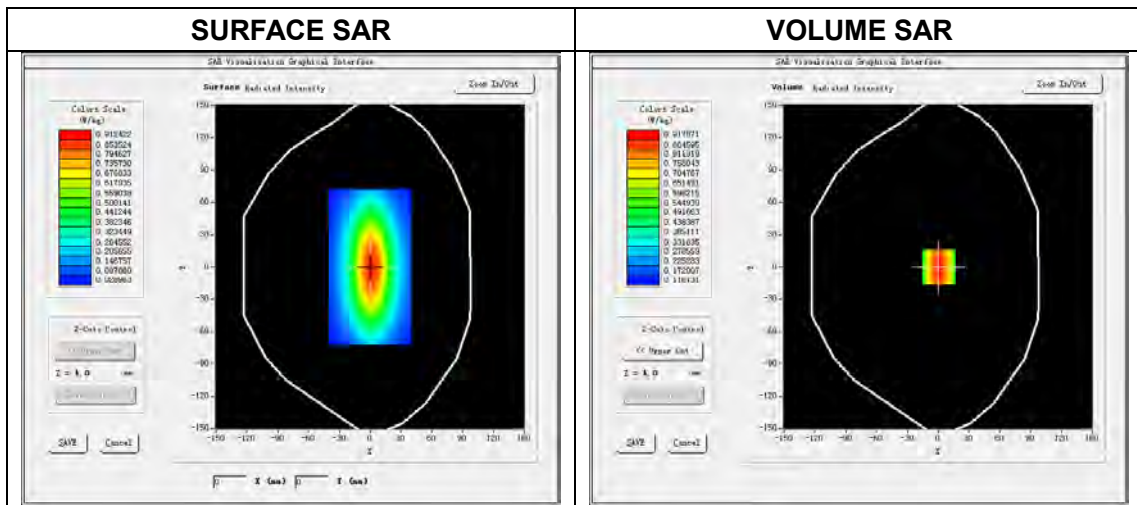
5.3.2 Dipole 750 MHz Validation Measurement for Body Tissue

System Performance Check Data(750 MHz Body)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
 Date of measurement: 2016.03.01
 Measurement duration: 13 minutes 27 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 750MHz |
| Signal | CW |
| Frequency (MHz) | 750MHz |
| Relative permittivity (real part) | 57.188739 |
| Conductivity (S/m) | 0.946268 |
| Power drift (%) | -0.600000 |
| Ambient Temperature: | 21.6°C |
| Liquid Temperature: | 21.1°C |
| ConvF: | 1.88 |
| Crest factor: | 1:1 |

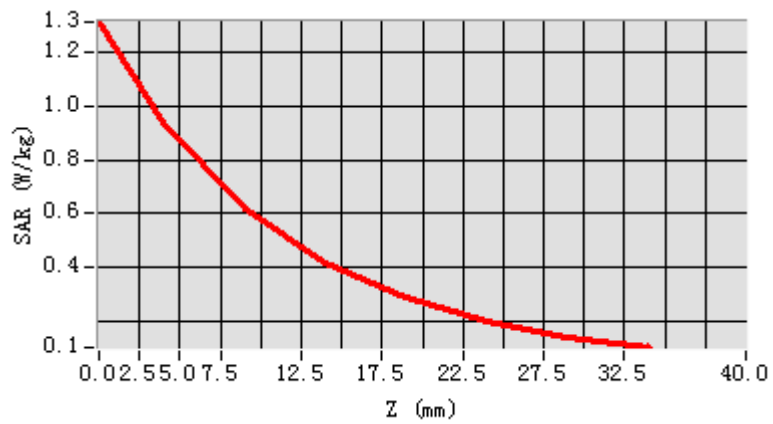


Maximum location: X=1.00, Y=0.00

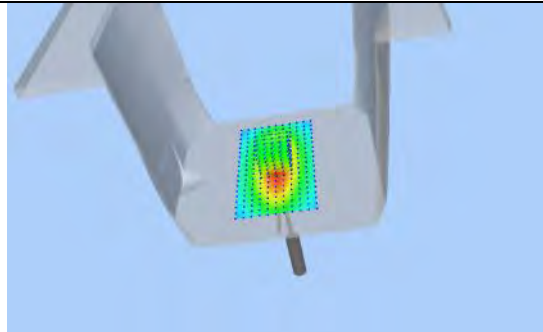
SAR Peak: 1.28 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 0.592395 |
| SAR 1g (W/Kg) | 0.878736 |

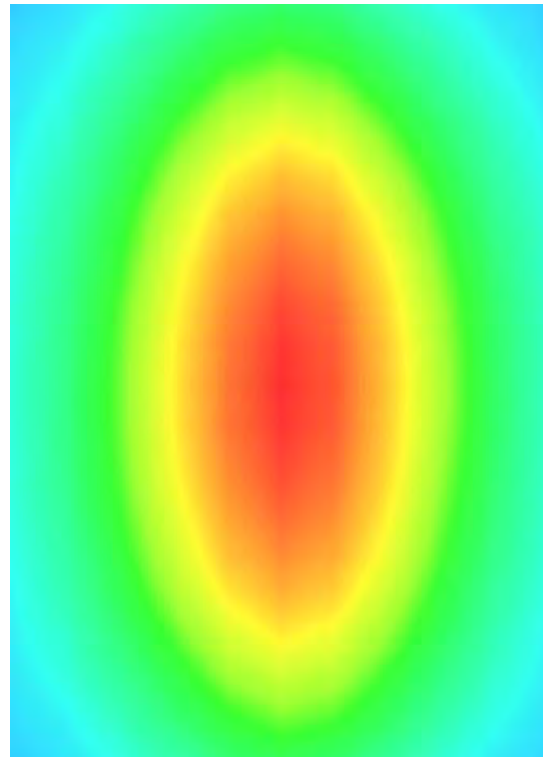
Z Axis Scan



3D screen shot



Hot spot position



5.4 DIP 0G835

5.4.1 Dipole 835 MHz Validation Measurement for Head Tissue

System Performance Check Data(835 MHz Head)

Type: Phone measurement (Complete)

E-Field Probe: SN 34/15 SSE2 EPGO265

Area scan resolution: dx=8 mm,dy=8 mm

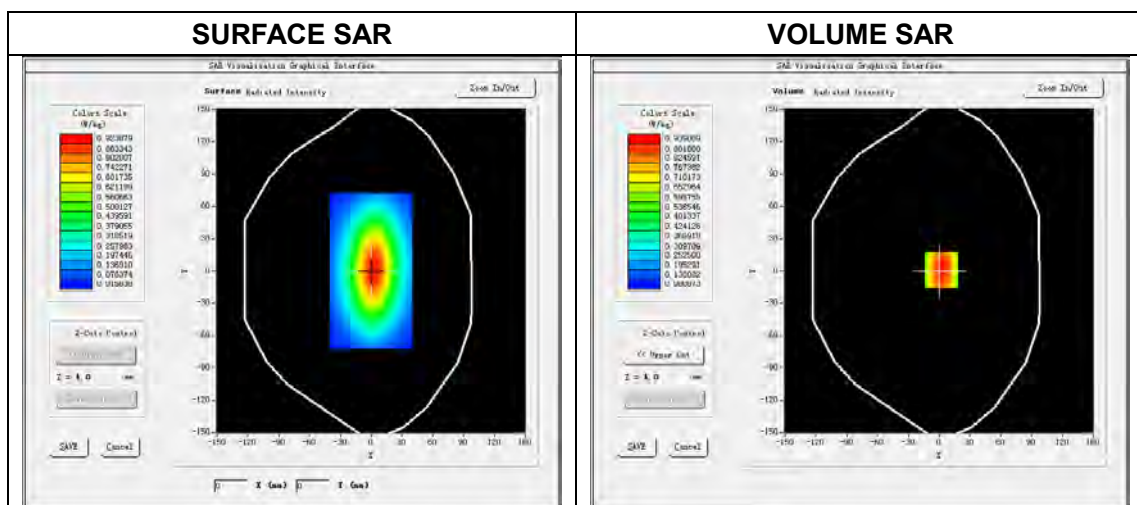
Zoom scan resolution: dx=8 mm, dy=8 mm, dz=5 mm

Date of measurement: 2016.03.01

Measurement duration: 14 minutes 2 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 835 MHz |
| Signal | CW |
| Frequency (MHz) | 835.000000 |
| Relative permittivity (real part) | 43.331142 |
| Conductivity (S/m) | 0.897827 |
| Power drift (%) | -0.050000 |
| Ambient Temperature: | 21.6°C |
| Liquid Temperature: | 21.1°C |
| ConvF: | 2.04 |
| Crest factor: | 1:1 |

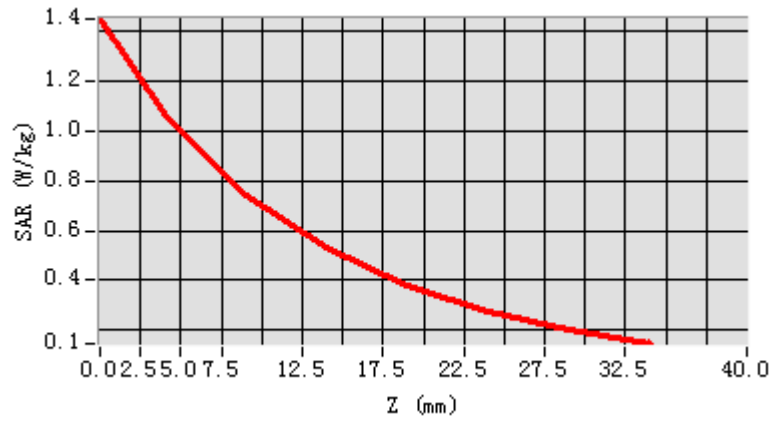


Maximum location: X=0.00, Y=0.00

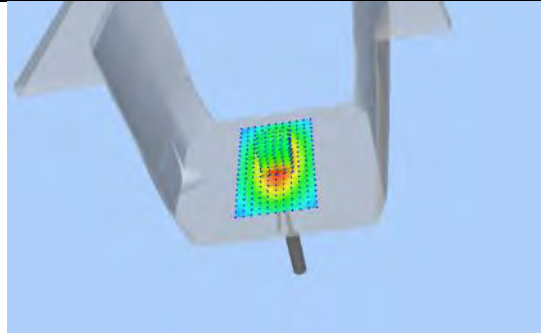
SAR Peak: 1.40 W/kg

| | |
|-----------------|----------|
| SAR 10 g (W/Kg) | 0.609437 |
| SAR 1 g (W/Kg) | 0.983275 |

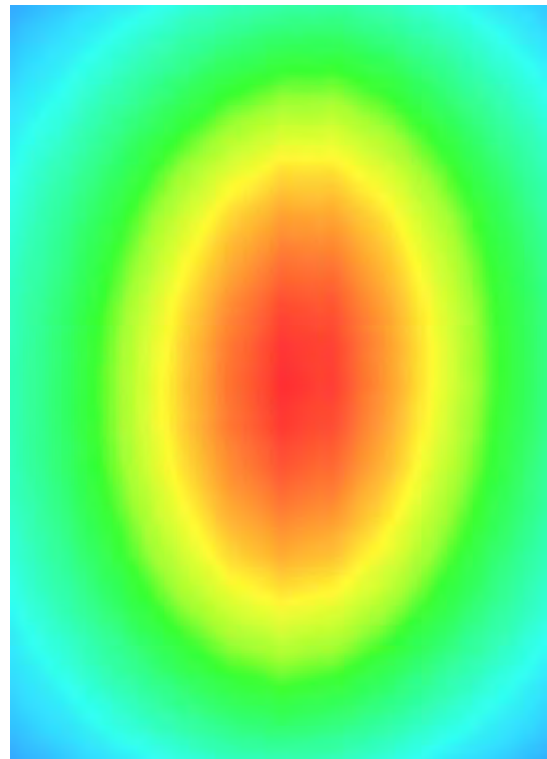
Z Axis Scan



3D screen shot



Hot spot position



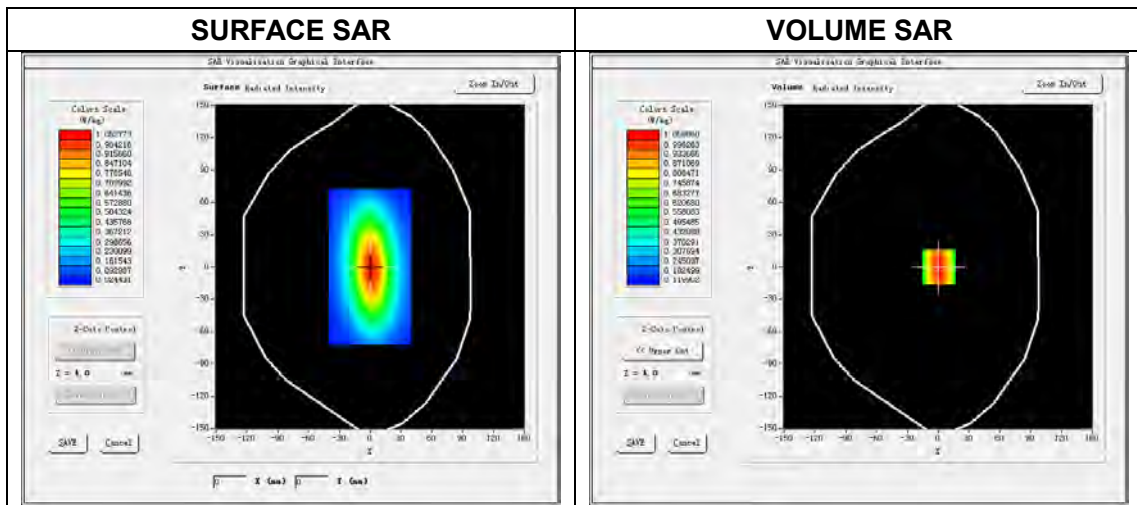
5.4.2 Dipole 835 MHz Validation Measurement for Body Tissue

System Performance Check Data(835 MHz Body)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8 mm,dy=8 mm
 Zoom scan resolution: dx=8 mm, dy=8 mm, dz=5 mm
 Date of measurement: 2016.03.01
 Measurement duration: 14 minutes 2 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 835 MHz |
| Signal | CW |
| Frequency (MHz) | 835.000000 |
| Relative permittivity (real part) | 54.652059 |
| Conductivity (S/m) | 0.991147 |
| Power drift (%) | 0.390000 |
| Ambient Temperature: | 21.6°C |
| Liquid Temperature: | 21.1°C |
| ConvF: | 2.12 |
| Crest factor: | 1:1 |

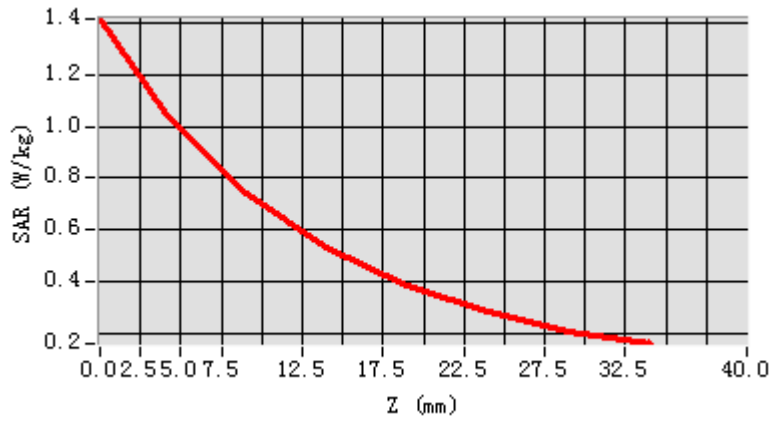


Maximum location: X=0.00, Y=0.00

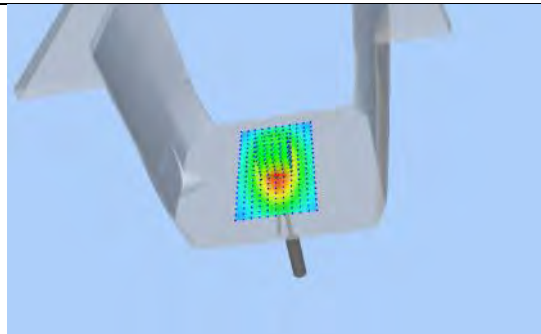
SAR Peak: 1.41 W/kg

| | |
|-----------------|----------|
| SAR 10 g (W/Kg) | 0.659168 |
| SAR 1 g (W/Kg) | 1.013364 |

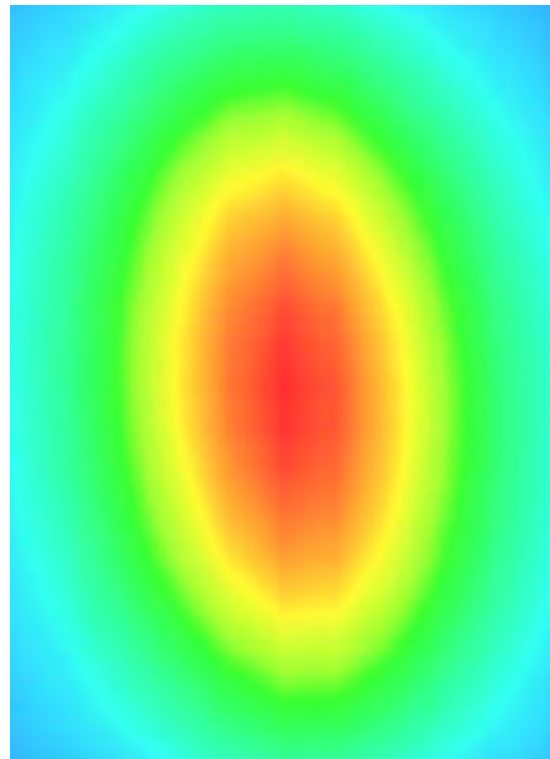
Z Axis Scan



3D screen shot



Hot spot position





5.5 DIP 0G900

5.5.1 Dipole 900 MHz Validation Measurement for Head Tissue

System Performance Check Data(900 MHz Head)

Type: Phone measurement (Complete)

E-Field Probe: SN 34/15 SSE2 EPGO265

Area scan resolution: dx=8 mm,dy=8 mm

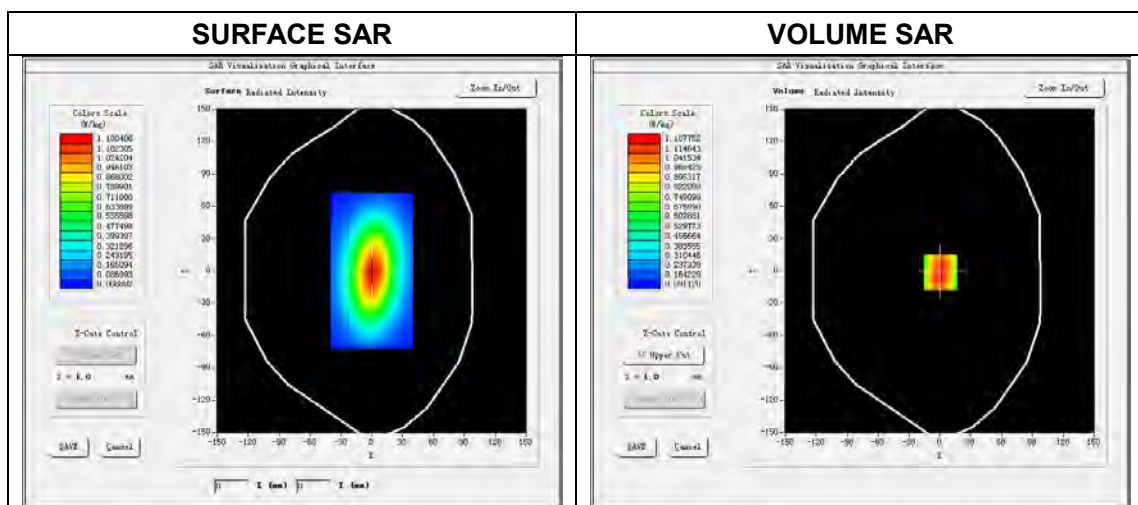
Zoom scan resolution: dx=8 mm, dy=8 mm, dz=5 mm

Date of measurement: 2016.03.01

Measurement duration: 13 minutes 55 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 900 MHz |
| Signal | CW |
| Frequency (MHz) | 900.000000 |
| Relative permittivity (real part) | 41.140601 |
| Conductivity (S/m) | 0.994278 |
| Power drift (%) | 0.420000 |
| Ambient Temperature: | 21.6°C |
| Liquid Temperature: | 21.1°C |
| ConvF: | 1.86 |
| Crest factor: | 1:1 |

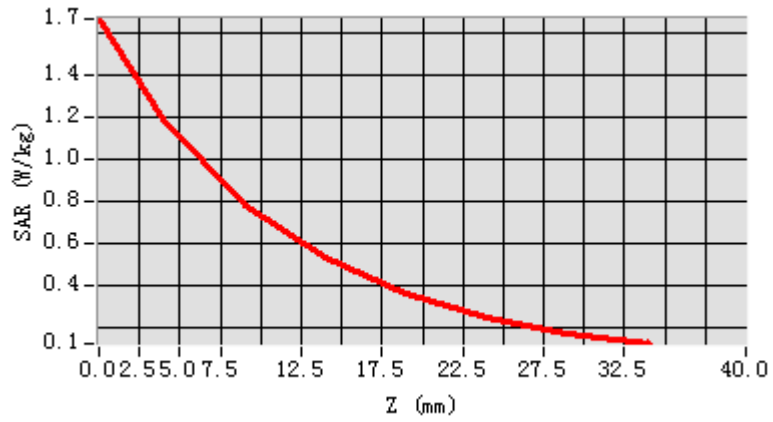


Maximum location: X=0.00, Y=0.00

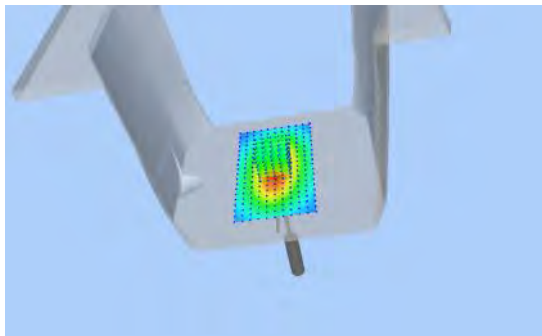
SAR Peak: 1.66 W/kg

| | |
|-----------------|----------|
| SAR 10 g (W/Kg) | 0.723554 |
| SAR 1 g (W/Kg) | 1.147184 |

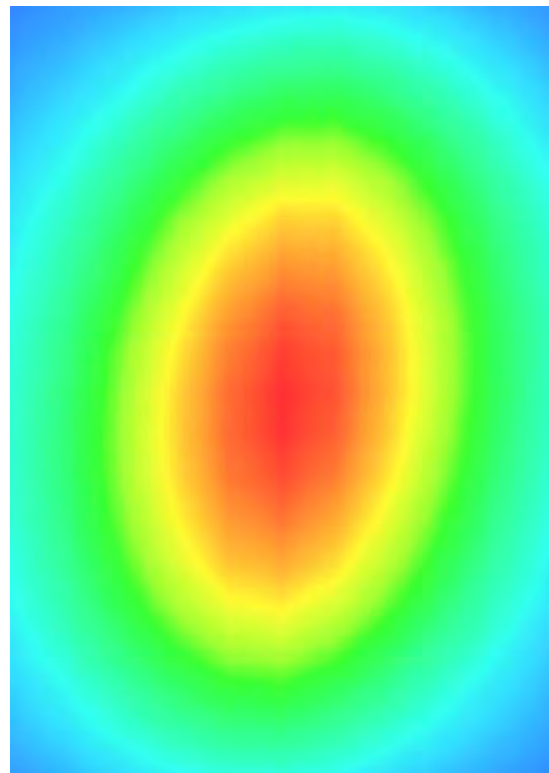
Z Axis Scan



3D screen shot



Hot spot position



5.5.2 Dipole 900 MHz Validation Measurement for Body Tissue

System Performance Check Data(900 MHz Body)

Type: Phone measurement (Complete)

E-Field Probe: SN 34/15 SSE2 EPGO265

Area scan resolution: dx=8 mm,dy=8 mm

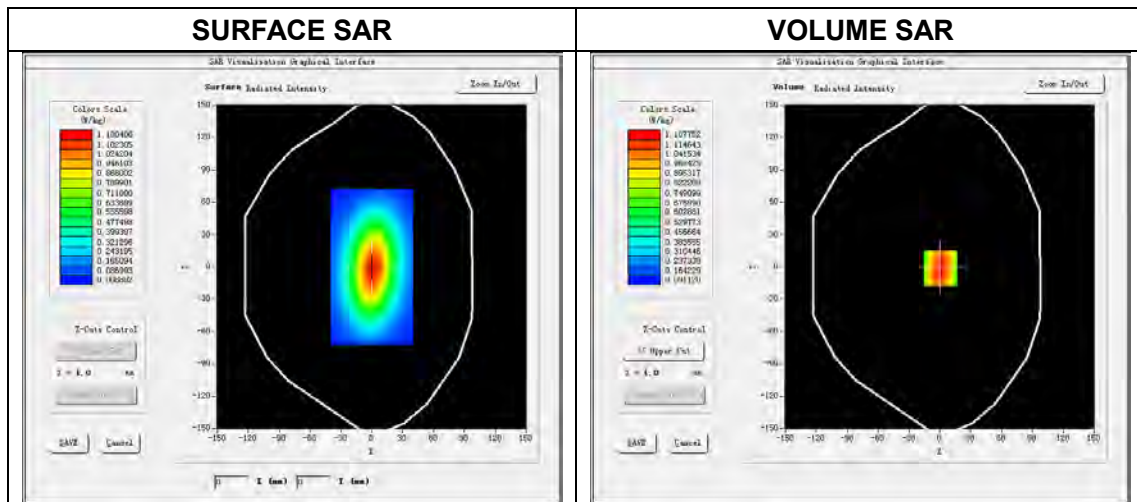
Zoom scan resolution: dx=8 mm, dy=8 mm, dz=5 mm

Date of measurement: 2016.03.01

Measurement duration: 13 minutes 55 seconds

Experimental conditions.

| | |
|-----------------------------------|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 900 MHz |
| Signal | CW |
| Frequency (MHz) | 900.000000 |
| Relative permittivity (real part) | 54.932917 |
| Conductivity (S/m) | 1.062623 |
| Power drift (%) | -0.290000 |
| Ambient Temperature: | 21.6°C |
| Liquid Temperature: | 21.1°C |
| ConvF: | 1.92 |
| Crest factor: | 1:1 |

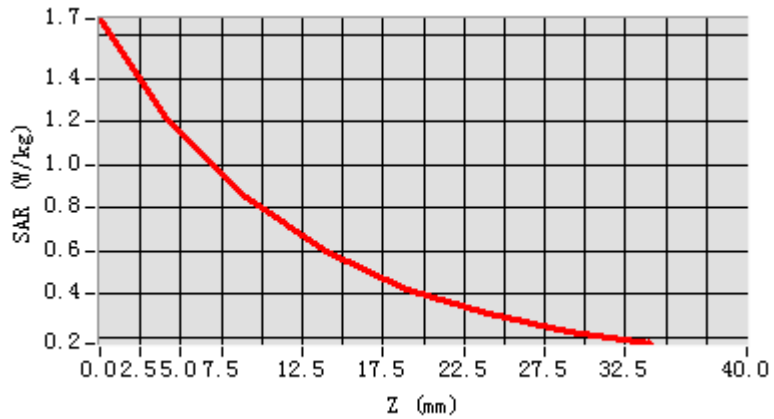


Maximum location: X=0.00, Y=0.00

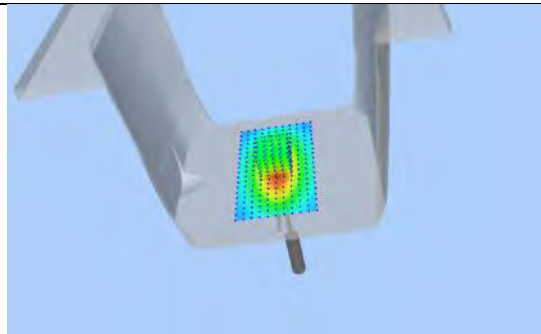
SAR Peak: 1.67 W/kg

| | |
|-----------------|----------|
| SAR 10 g (W/Kg) | 0.746807 |
| SAR 1 g (W/Kg) | 1.139340 |

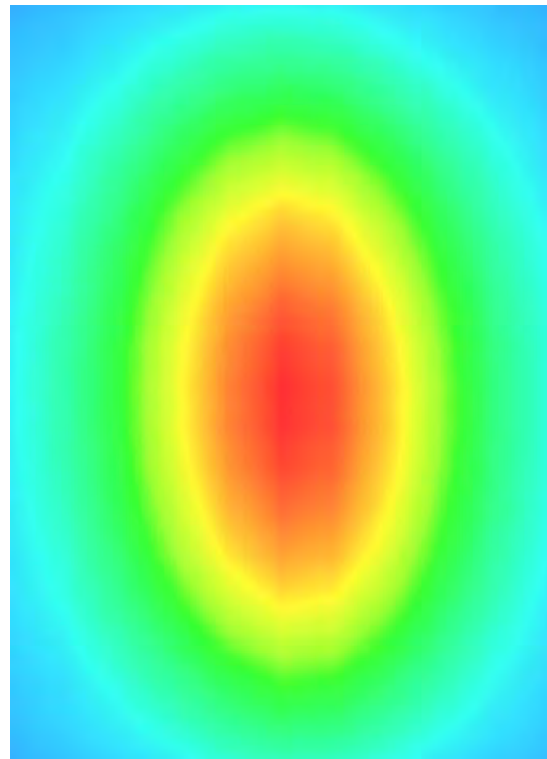
Z Axis Scan



3D screen shot



Hot spot position



5.6 DIP 1G800

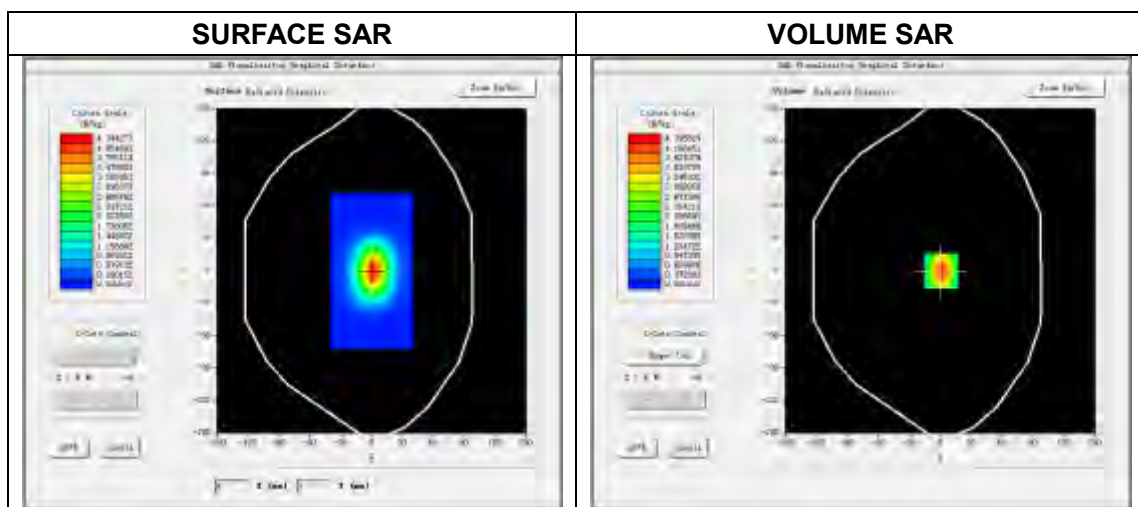
5.6.1 Dipole 1800 MHz Validation Measurement for Head Tissue

System Performance Check Data(1800 MHz Head)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
 Date of measurement: 2016.03.02
 Measurement duration: 13 minutes 27 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 1800MHz |
| Signal | CW |
| Frequency (MHz) | 1800.000000 |
| Relative permittivity (real part) | 39.562781 |
| Conductivity (S/m) | 1.413274 |
| Power drift (%) | 1.160000 |
| Ambient Temperature: | 21.6°C |
| Liquid Temperature: | 21.1°C |
| ConvF: | 2.04 |
| Crest factor: | 1:1 |

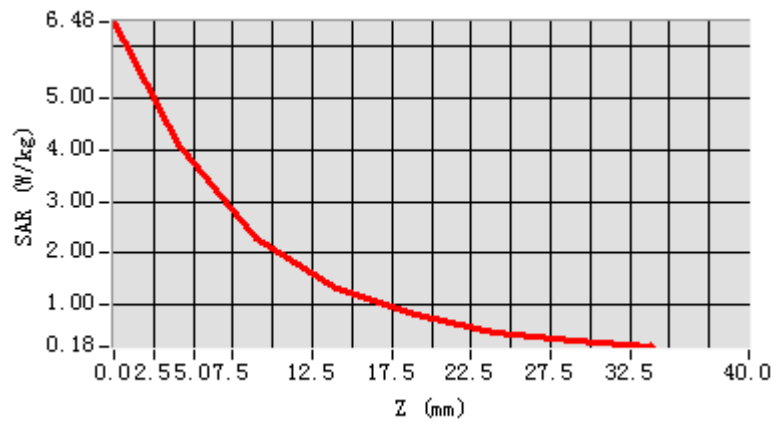


Maximum location: X=0.00, Y=0.00

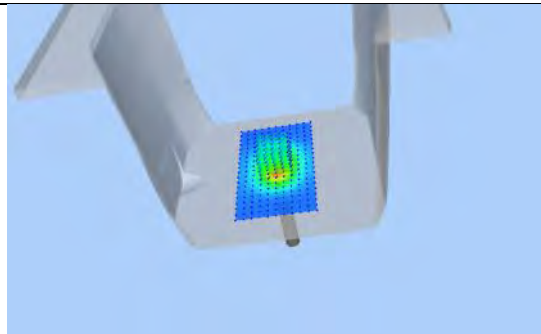
SAR Peak: 6.47 W/kg

| | |
|-----------------|----------|
| SAR 10 g (W/Kg) | 1.964125 |
| SAR 1g (W/Kg) | 3.892053 |

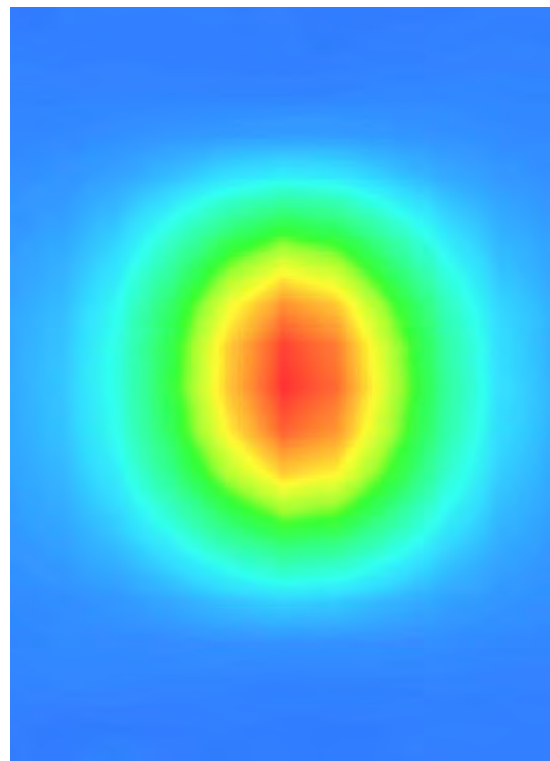
Z Axis Scan



3D screen shot



Hot spot position



5.6.2 Dipole 1800 MHz Validation Measurement for Body Tissue

System Performance Check Data(1800 MHz Body)

Type: Phone measurement (Complete)

E-Field Probe: SN 34/15 SSE2 EPGO265

Area scan resolution: dx=8mm,dy=8mm

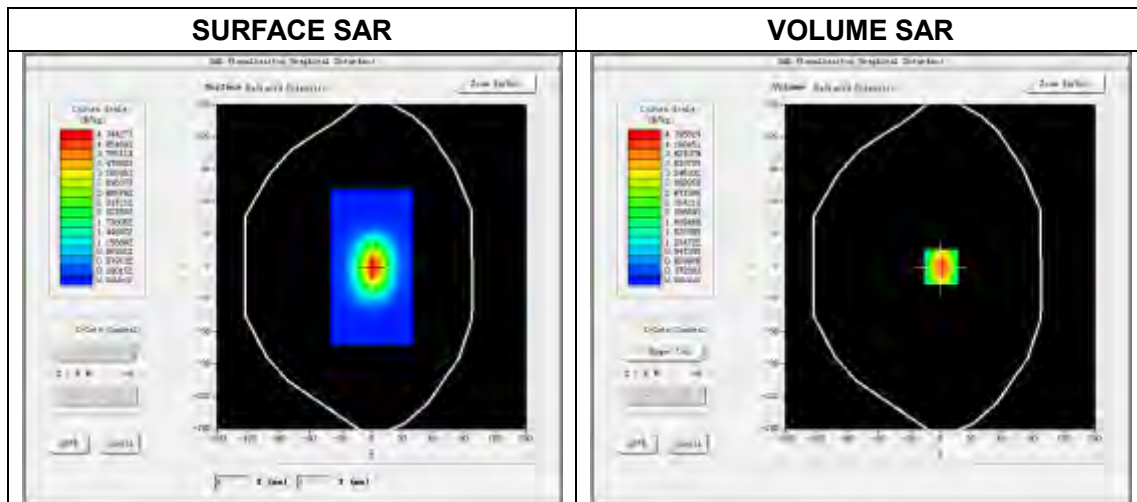
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2016.03.02

Measurement duration: 13 minutes 27 seconds

Experimental conditions.

| | |
|-----------------------------------|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 1800MHz |
| Signal | CW |
| Frequency (MHz) | 1800.000000 |
| Relative permittivity (real part) | 54.685214 |
| Conductivity (S/m) | 1.508863 |
| Power drift (%) | 1.160000 |
| Ambient Temperature: | 21.6°C |
| Liquid Temperature: | 21.1°C |
| ConvF: | 2.08 |
| Crest factor: | 1:1 |

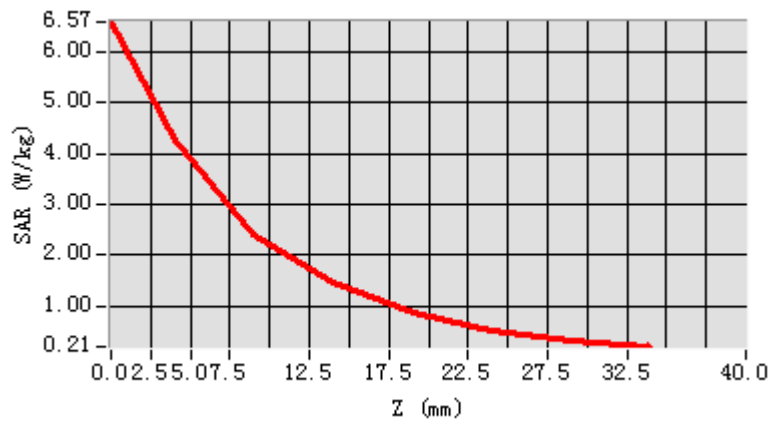


Maximum location: X=0.00, Y=0.00

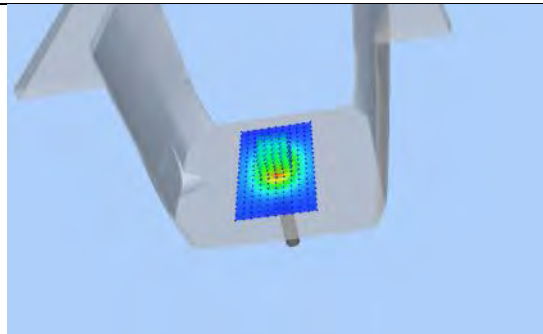
SAR Peak: 6.52 W/kg

| | |
|-----------------|----------|
| SAR 10 g (W/Kg) | 1.989471 |
| SAR 1g (W/Kg) | 3.911256 |

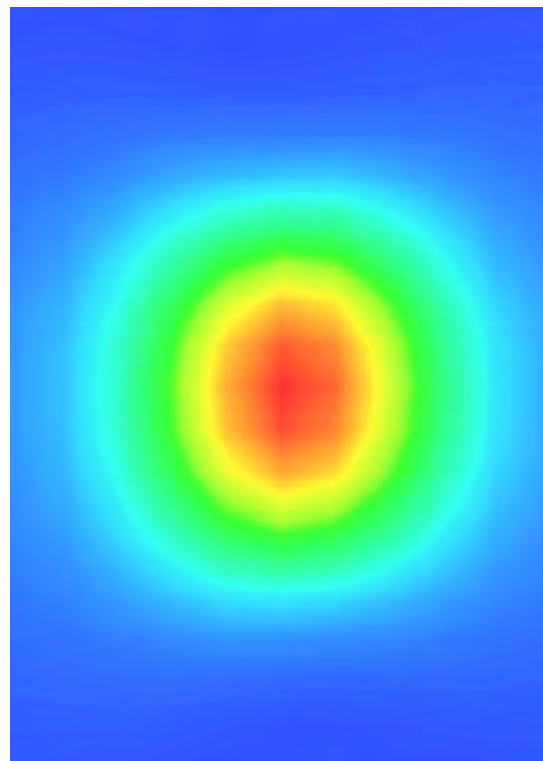
Z Axis Scan



3D screen shot



Hot spot position



5.7 DIP 1G900

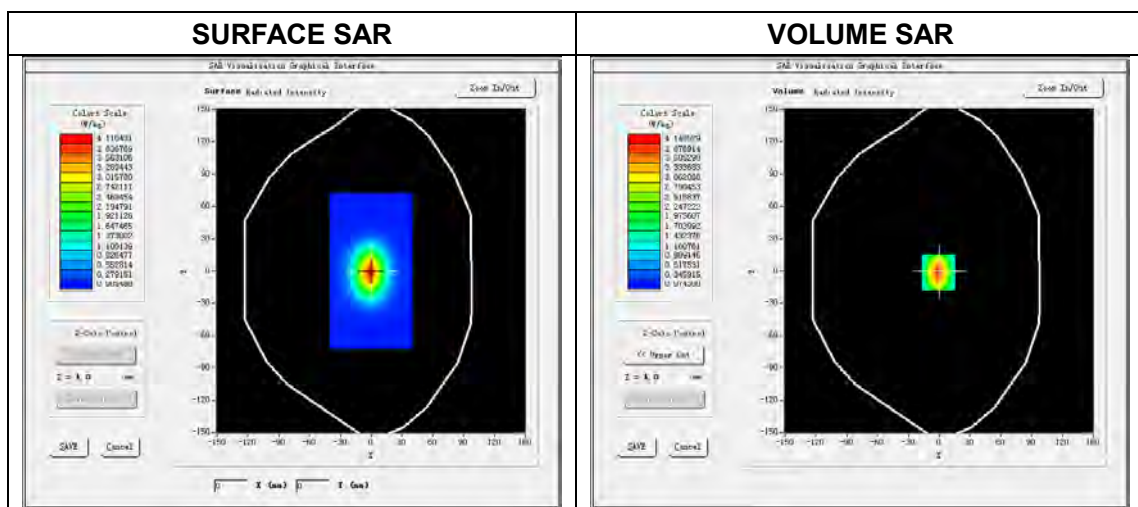
5.7.1 Dipole 1900 MHz Validation Measurement for Head Tissue

System Performance Check Data(1900 MHz Head)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
 Date of measurement: 2016.03.02
 Measurement duration: 13 minutes 20 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 1900MHz |
| Signal | CW |
| Frequency (MHz) | 1900.000000 |
| Relative permittivity (real part) | 39.402471 |
| Conductivity (S/m) | 1.425793 |
| Power drift (%) | 1.260000 |
| Ambient Temperature: | 21.8°C |
| Liquid Temperature: | 21.2°C |
| ConvF: | 2.35 |
| Crest factor: | 1:1 |

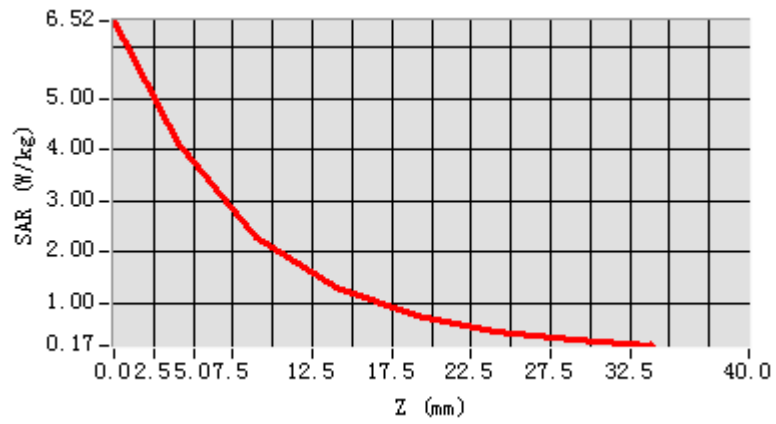


Maximum location: X=0.00, Y=0.00

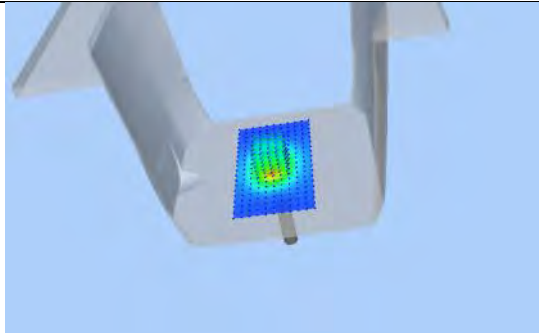
SAR Peak: 6.46W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 1.967525 |
| SAR 1g (W/Kg) | 3.890170 |

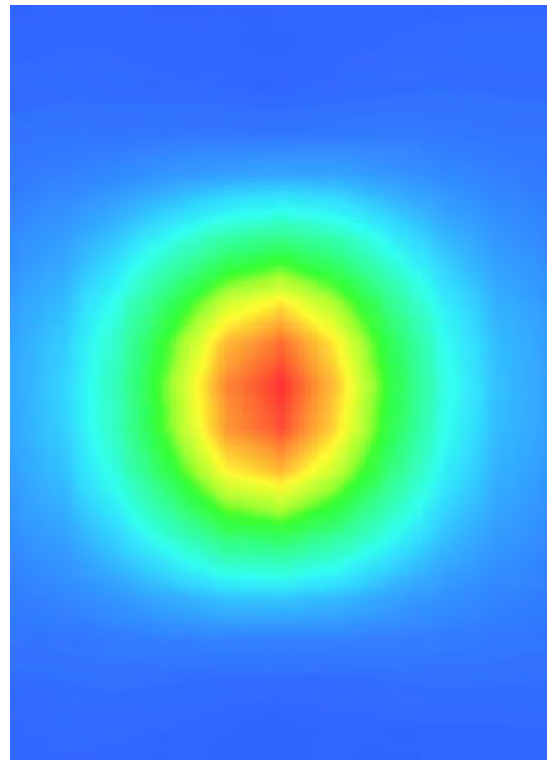
Z Axis Scan



3D screen shot



Hot spot position



5.7.2 Dipole 1900 MHz Validation Measurement for Body Tissue

System Performance Check Data(1900 MHz Body)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
 Date of measurement: 2016.03.02
 Measurement duration: 13 minutes 20 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 1900 MHz |
| Signal | CW |
| Frequency (MHz) | 1900.000000 |
| Relative permittivity (real part) | 53.158287 |
| Conductivity (S/m) | 1.534258 |
| Power drift (%) | 0.180000 |
| Ambient Temperature: | 21.8°C |
| Liquid Temperature: | 21.2°C |
| ConvF: | 2.42 |
| Crest factor: | 1:1 |

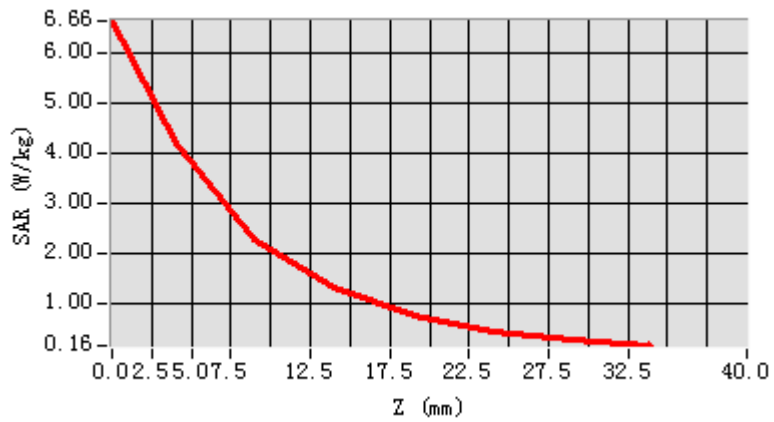


Maximum location: X=0.00, Y=0.00

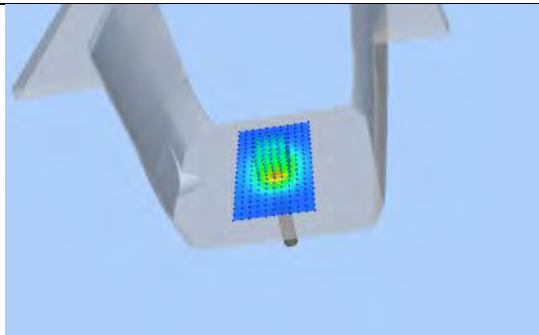
SAR Peak: 6.64W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 2.001651 |
| SAR 1g (W/Kg) | 3.943225 |

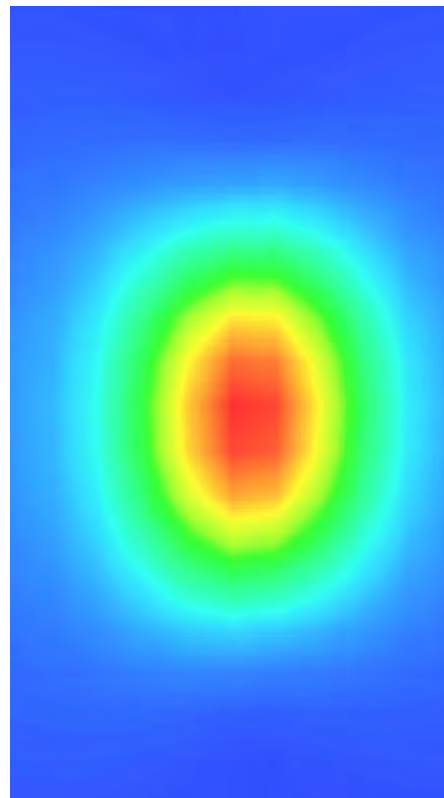
Z Axis Scan



3D screen shot



Hot spot position



5.8 DIP 2G000

5.8.1 Dipole 2000 MHz Validation Measurement for Head Tissue

System Performance Check Data(2000 MHz Head)

Type: Phone measurement (Complete)

E-Field Probe: SN 34/15 SSE2 EPGO265

Area scan resolution: dx=8 mm,dy=8 mm

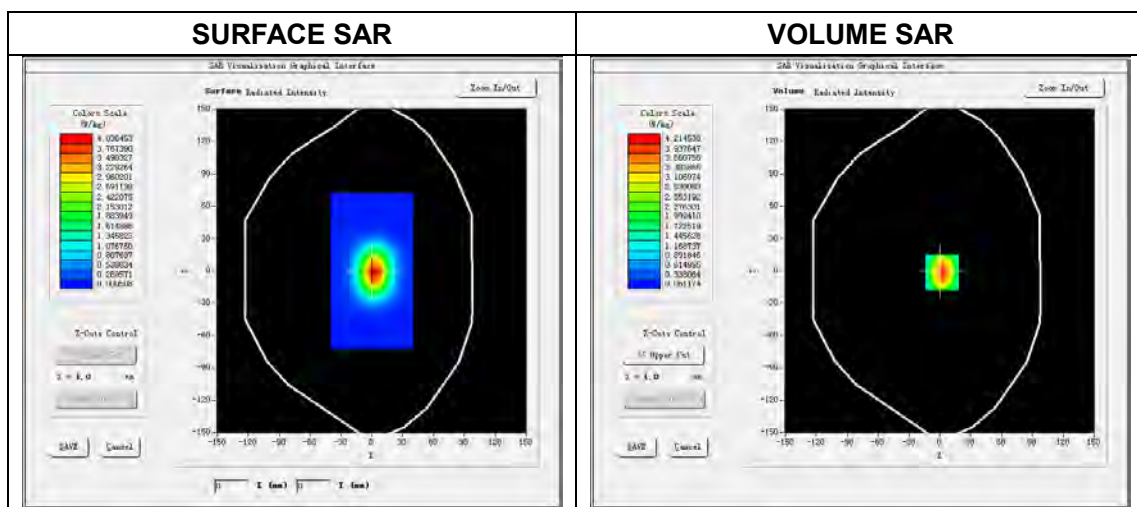
Zoom scan resolution: dx=8 mm, dy=8 mm, dz=5 mm

Date of measurement: 2016.03.02

Measurement duration: 14 minutes 17 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 2000 MHz |
| Signal | CW |
| Frequency (MHz) | 2000.000000 |
| Relative permittivity (real part) | 38.957269 |
| Conductivity (S/m) | 1.426154 |
| Power drift (%) | 1.20000 |
| Ambient Temperature: | 21.8°C |
| Liquid Temperature: | 21.2°C |
| ConvF: | 2.23 |
| Crest factor: | 1:1 |

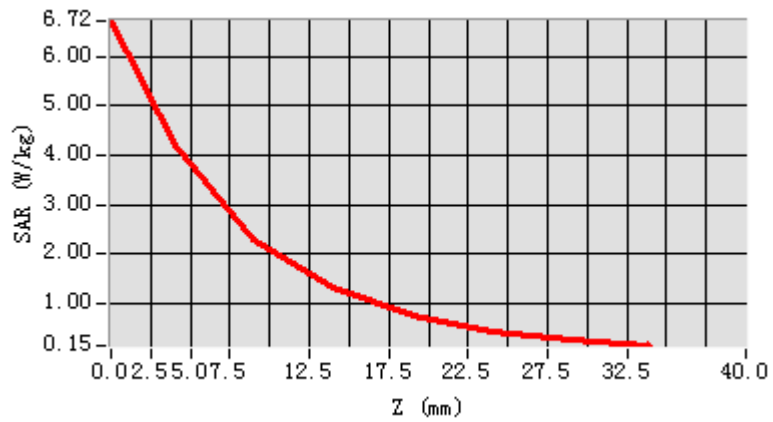


Maximum location: X=0.00, Y=0.00

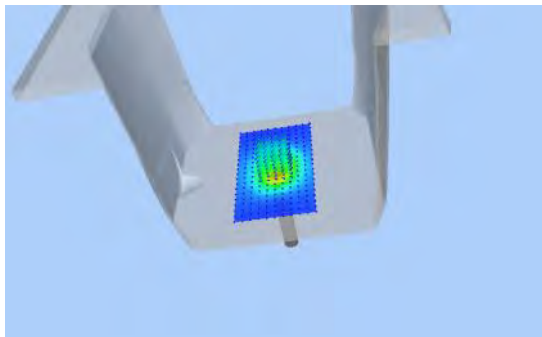
SAR Peak: 6.69 W/kg

| | |
|-----------------|----------|
| SAR 10 g (W/Kg) | 2.094211 |
| SAR 1 g (W/Kg) | 4.029382 |

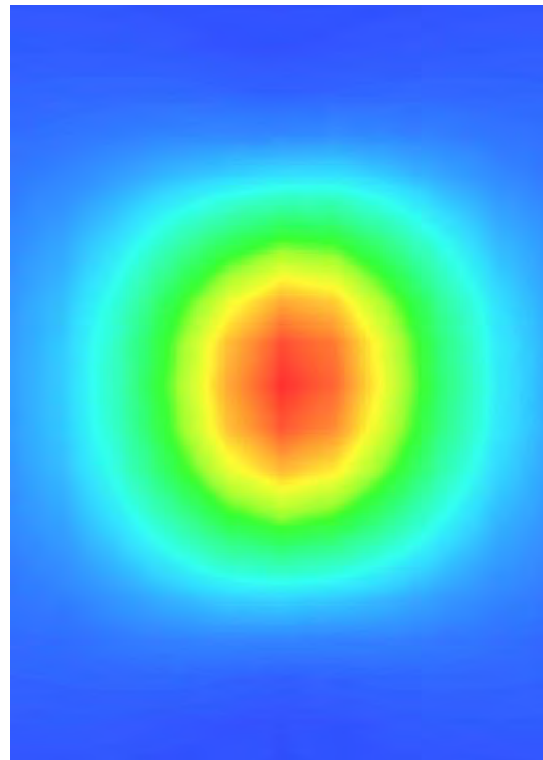
Z Axis Scan



3D screen shot



Hot spot position



5.8.2 Dipole 2000 MHz Validation Measurement for Body Tissue

System Performance Check Data(2000 MHz Body)

Type: Phone measurement (Complete)

E-Field Probe: SN 34/15 SSE2 EPGO265

Area scan resolution: dx=8 mm,dy=8 mm

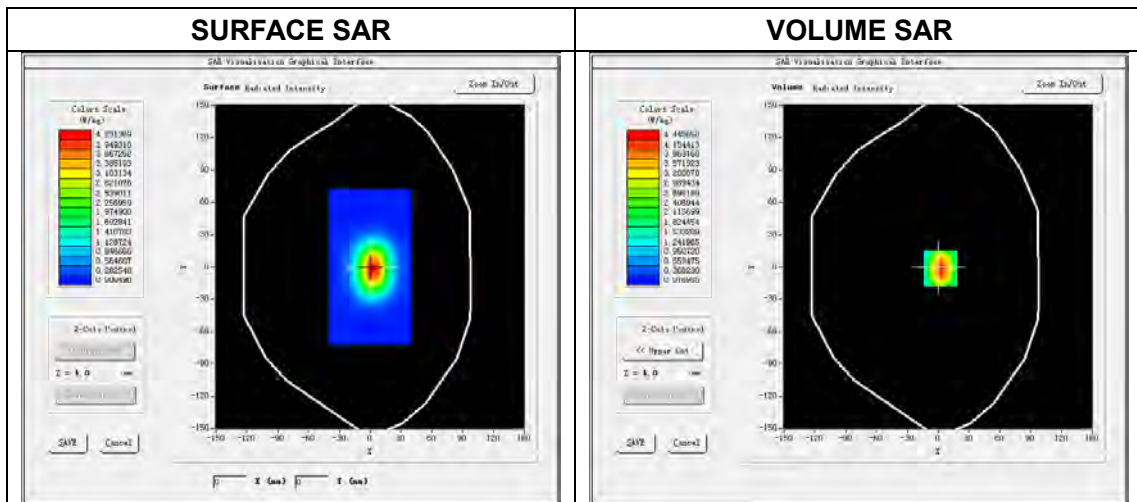
Zoom scan resolution: dx=8 mm, dy=8 mm, dz=5 mm

Date of measurement: 2016.03.02

Measurement duration: 14 minutes 17 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 2000 MHz |
| Signal | CW |
| Frequency (MHz) | 2000.000000 |
| Relative permittivity (real part) | 51.526653 |
| Conductivity (S/m) | 1.551869 |
| Power drift (%) | 0.380000 |
| Ambient Temperature: | 21.8°C |
| Liquid Temperature: | 21.2°C |
| ConvF: | 2.32 |
| Crest factor: | 1:1 |

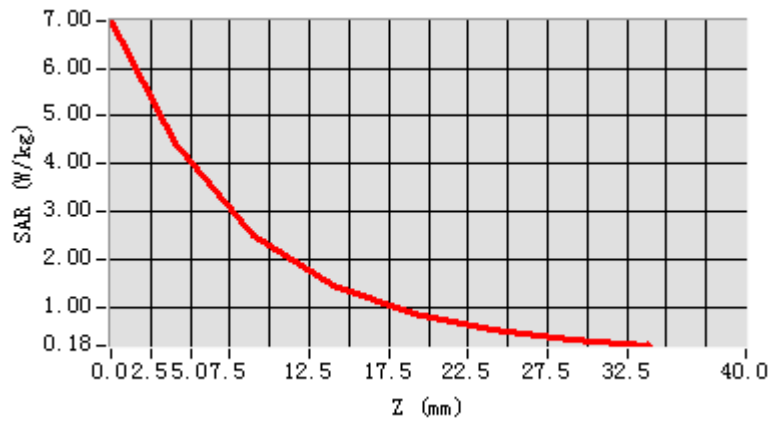


Maximum location: X=0.00, Y=0.00

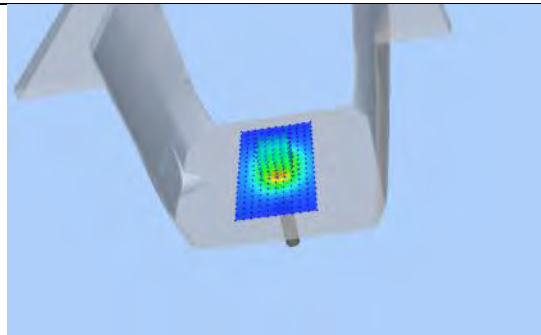
SAR Peak: 6.97 W/kg

| | |
|-----------------|----------|
| SAR 10 g (W/Kg) | 2.185249 |
| SAR 1 g (W/Kg) | 4.196616 |

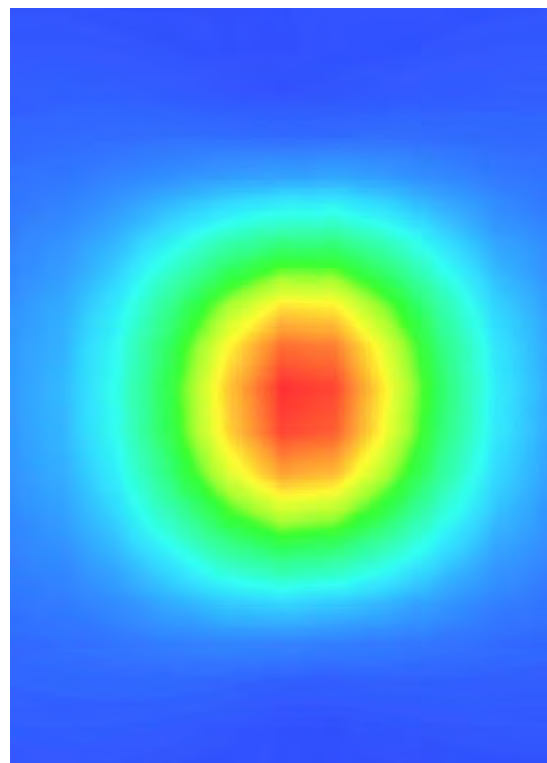
Z Axis Scan



3D screen shot



Hot spot position



5.9 DIP 2G450

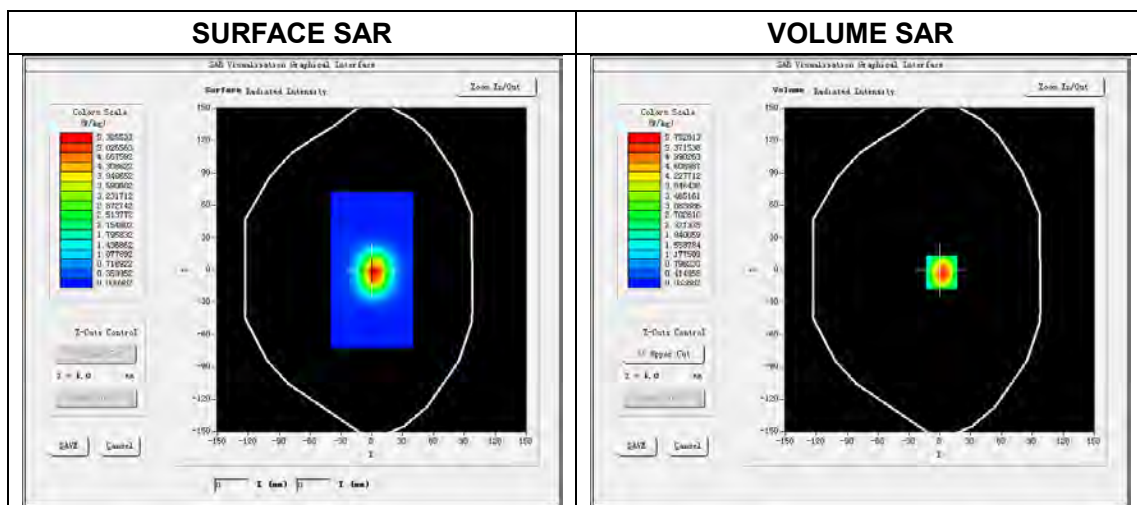
5.9.1 Dipole 2450 MHz Validation Measurement for Head Tissue

System Performance Check Data(2450 MHz Head)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=5mm, dy=5mm, dz=5mm
 Date of measurement: 2016.03.02
 Measurement duration: 18 minutes 47 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 2450MHz |
| Signal | CW |
| Frequency (MHz) | 2450.000000 |
| Relative permittivity (real part) | 38.916950 |
| Conductivity (S/m) | 1.816079 |
| Power drift (%) | 2.570000 |
| Ambient Temperature: | 21.8°C |
| Liquid Temperature: | 21.2°C |
| ConvF: | 2.47 |
| Crest factor: | 1:1 |

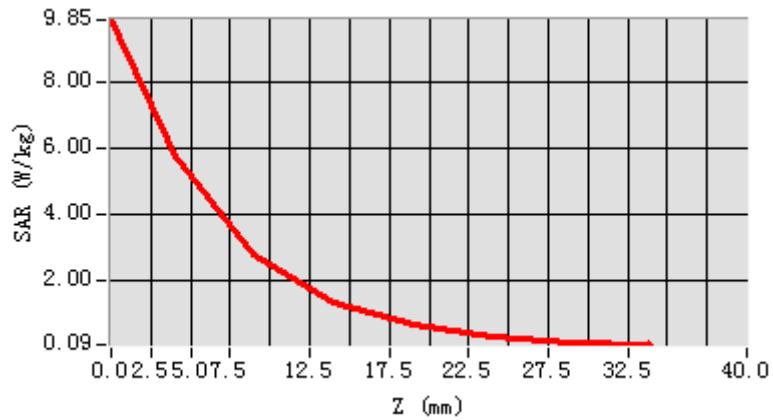


Maximum location: X=0.00, Y=0.00

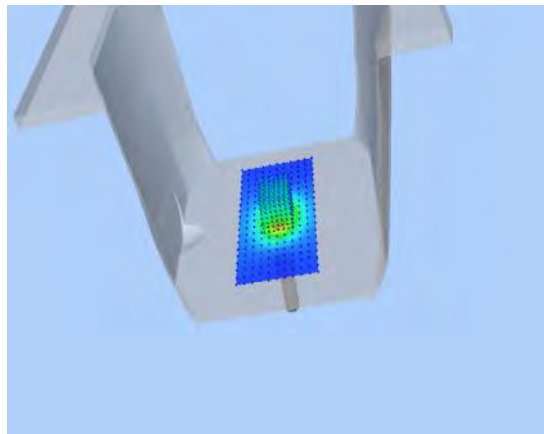
SAR Peak: 9.52 W/kg

| | |
|----------------|----------|
| SAR 10g (W/Kg) | 2.483244 |
| SAR 1g (W/Kg) | 5.328480 |

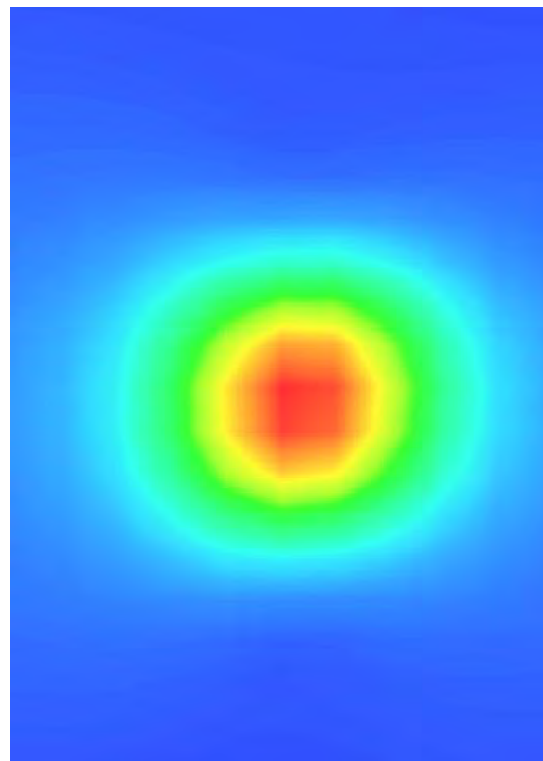
Z Axis Scan



3D screen shot



Hot spot position



5.9.2 Dipole 2450 MHz Validation Measurement for Body Tissue

System Performance Check Data(2450 MHz Body)

Type: Phone measurement (Complete)

E-Field Probe: SN 34/15 SSE2 EPGO265

Area scan resolution: dx=8 mm,dy=8 mm

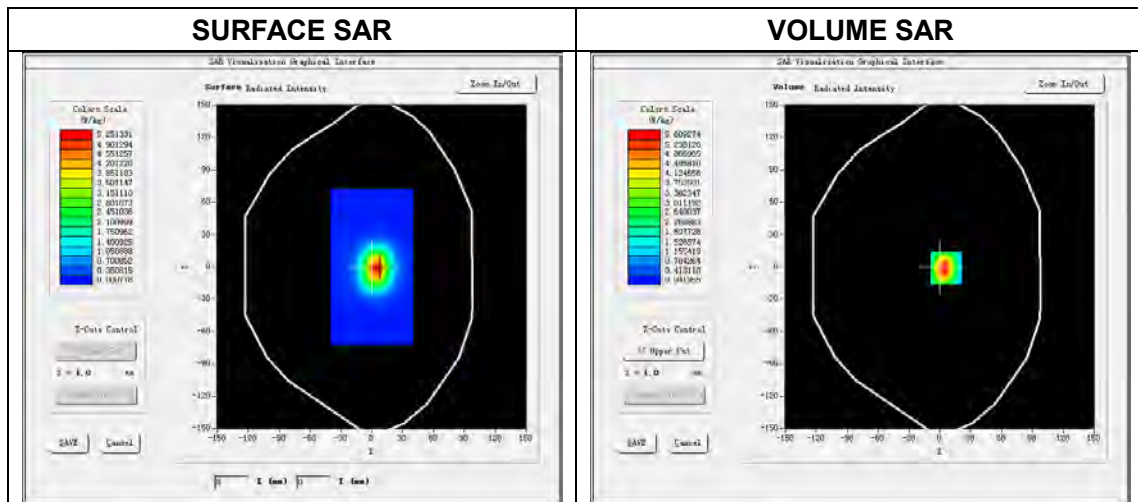
Zoom scan resolution: dx=5 mm, dy=5 mm, dz=5 mm

Date of measurement: 2016.03.02

Measurement duration: 19 minutes 58 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 2450 MHz |
| Signal | CW |
| Frequency (MHz) | 2450.000000 |
| Relative permittivity (real part) | 52.962515 |
| Conductivity (S/m) | 1.960472 |
| Power drift (%) | -0.560000 |
| Ambient Temperature: | 21.8°C |
| Liquid Temperature: | 21.2°C |
| ConvF: | 2.55 |
| Crest factor: | 1:1 |

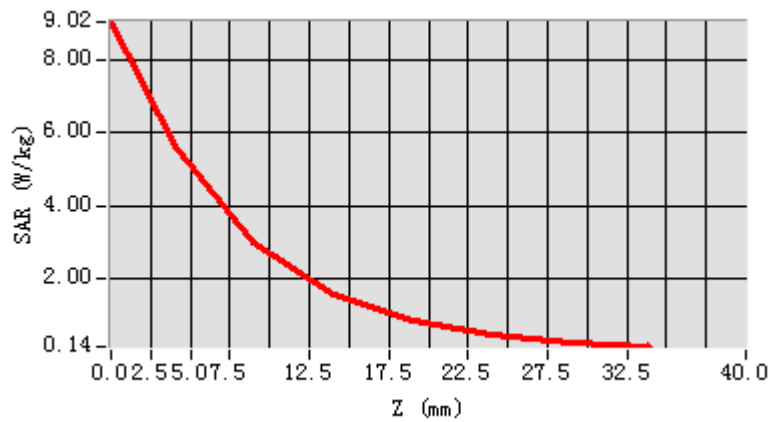


Maximum location: X=0.00, Y=0.00

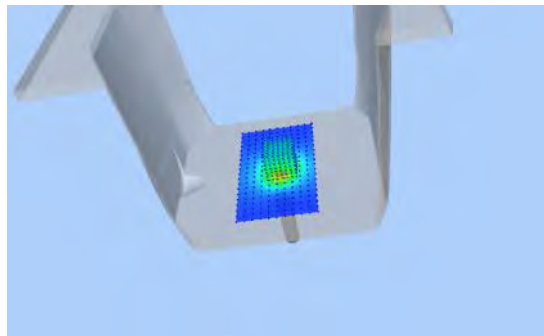
SAR Peak: 9.02 W/kg

| | |
|-----------------|----------|
| SAR 10 g (W/Kg) | 2.450144 |
| SAR 1 g (W/Kg) | 5.094052 |

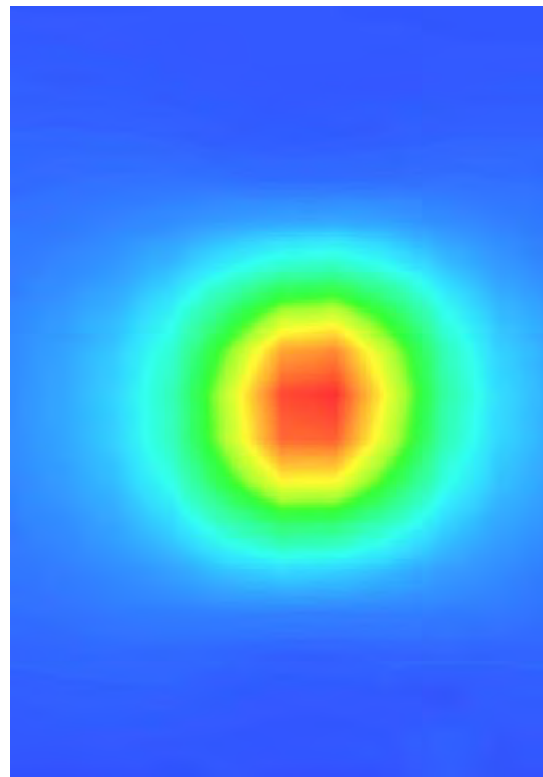
Z Axis Scan



3D screen shot



Hot spot position



5.10DIP 2G600

5.10.1 Dipole 2600 MHz Validation Measurement for Head Tissue

System Performance Check Data(2600 MHz Head)

Type: Phone measurement (Complete)

E-Field Probe: SN 34/15 SSE2 EPGO265

Area scan resolution: dx=8 mm,dy=8 mm

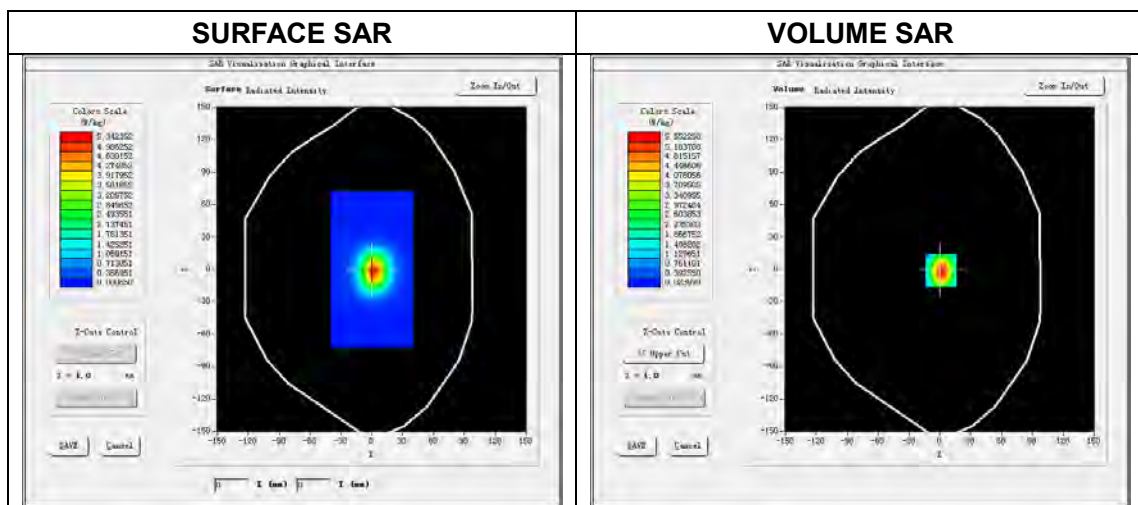
Zoom scan resolution: dx=5 mm, dy=5 mm, dz=5 mm

Date of measurement: 2016.03.03

Measurement duration: 19 minutes 3 seconds

Experimental conditions.

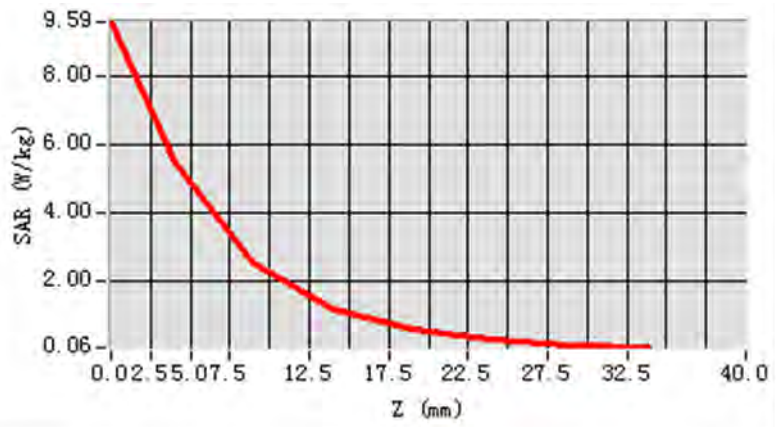
| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 2600 MHz |
| Signal | CW |
| Frequency (MHz) | 2600.000000 |
| Relative permittivity (real part) | 38.097251 |
| Conductivity (S/m) | 1.978736 |
| Power drift (%) | -0.050000 |
| Ambient Temperature: | 21.8°C |
| Liquid Temperature: | 21.2°C |
| ConvF: | 2.36 |
| Crest factor: | 1:1 |



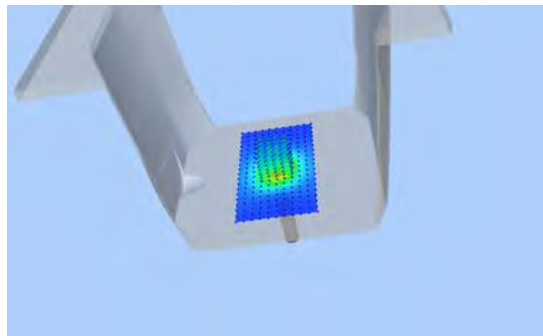
Maximum location: X=0.00, Y=0.00
 SAR Peak: 9.58 W/kg

| | |
|-----------------|----------|
| SAR 10 g (W/Kg) | 2.514654 |
| SAR 1 g (W/Kg) | 5.322832 |

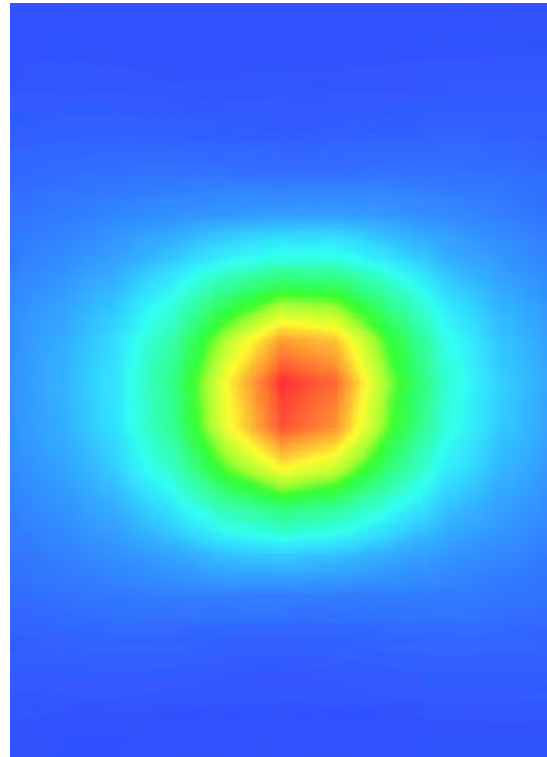
Z Axis Scan



3D screen shot



Hot spot position



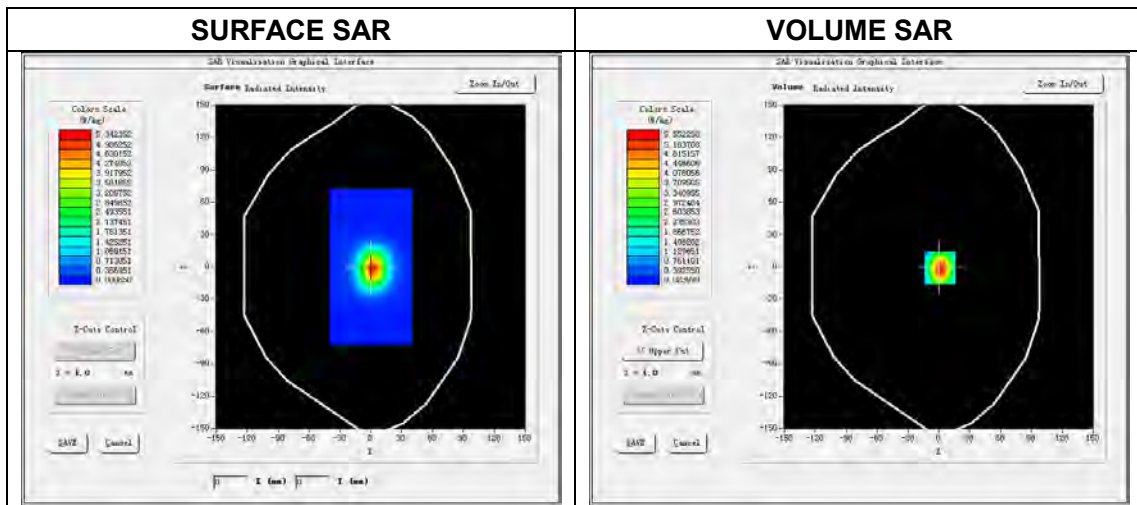
5.10.2 Dipole 2600 MHz Validation Measurement for Body Tissue

System Performance Check Data(2600 MHz Body)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8 mm,dy=8 mm
 Zoom scan resolution: dx=5 mm, dy=5 mm, dz=5 mm
 Date of measurement: 2016.03.03
 Measurement duration: 19 minutes 1 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 2600 MHz |
| Signal | CW |
| Frequency (MHz) | 2600.000000 |
| Relative permittivity (real part) | 53.509271 |
| Conductivity (S/m) | 2.150646 |
| Power drift (%) | 0.180000 |
| Ambient Temperature: | 21.8°C |
| Liquid Temperature: | 21.2°C |
| ConvF: | 2.43 |
| Crest factor: | 1:1 |

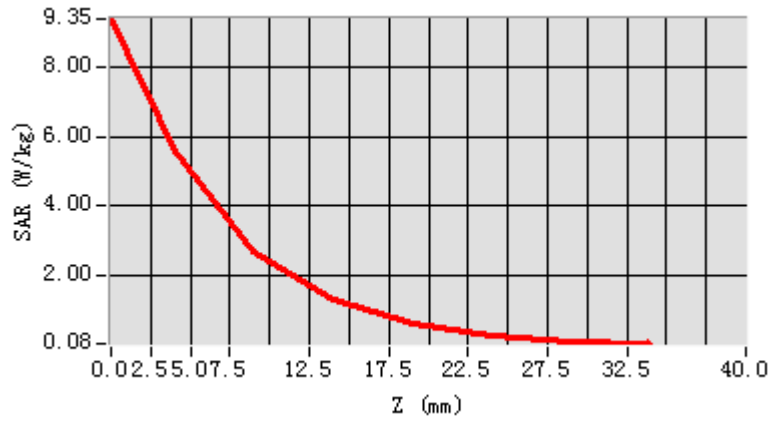


Maximum location: X=0.00, Y=0.00

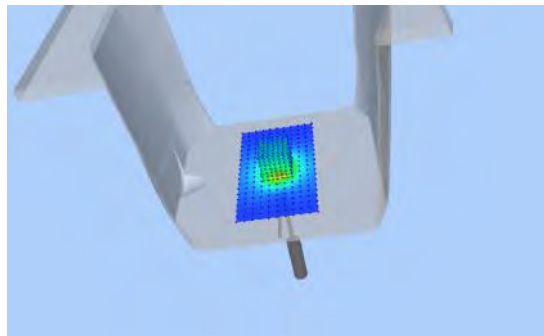
SAR Peak: 9.36 W/kg

| | |
|-----------------|----------|
| SAR 10 g (W/Kg) | 2.376986 |
| SAR 1 g (W/Kg) | 5.174332 |

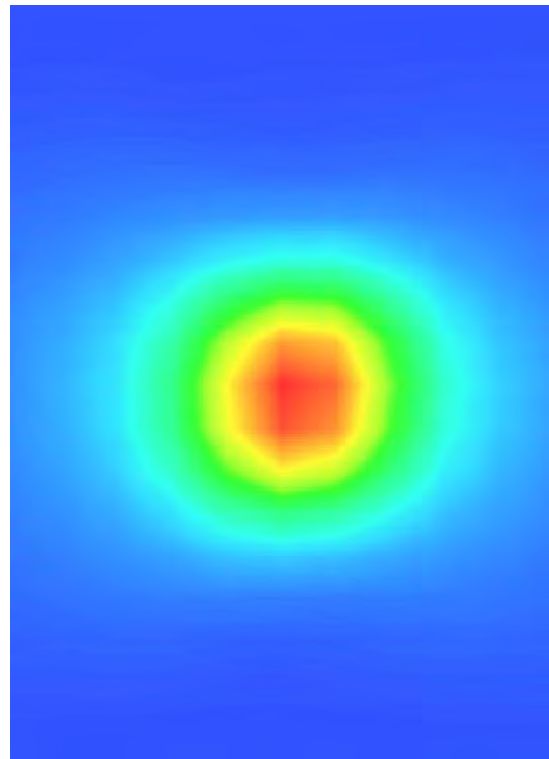
Z Axis Scan



3D screen shot



Hot spot position



5.11 SWG5500

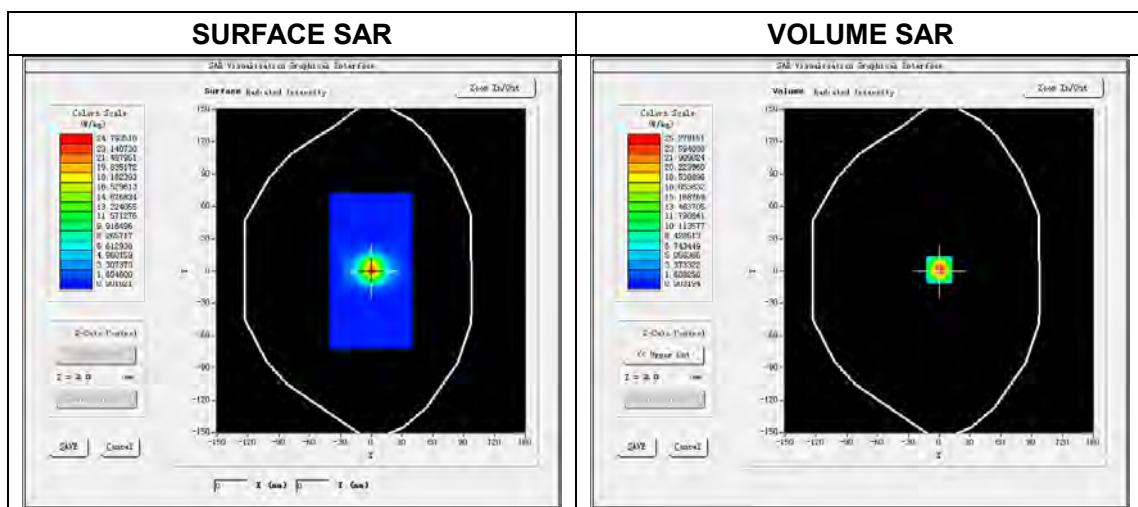
5.11.1 Waveguide 5 GHz Validation Measurement for Head Tissue

System Performance Check Data(5200 MHz Head)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
 Date of measurement: 2016.03.03
 Measurement duration: 29 minutes 32 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 5200 MHz |
| Signal | CW |
| Frequency (MHz) | 5200.000000 |
| Relative permittivity (real part) | 36.867518 |
| Conductivity (S/m) | 4.644428 |
| Power drift (%) | 1.570000 |
| Ambient Temperature: | 21.5°C |
| Liquid Temperature: | 21.0°C |
| ConvF: | 1.81 |
| Crest factor: | 1:1 |

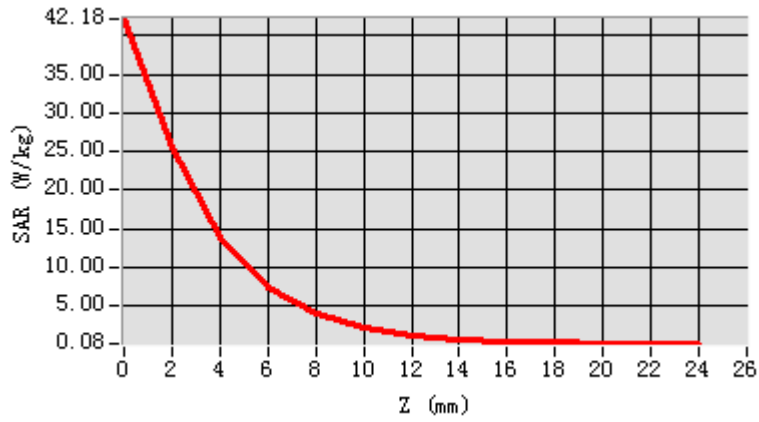


Maximum location: X=3.00, Y=1.00

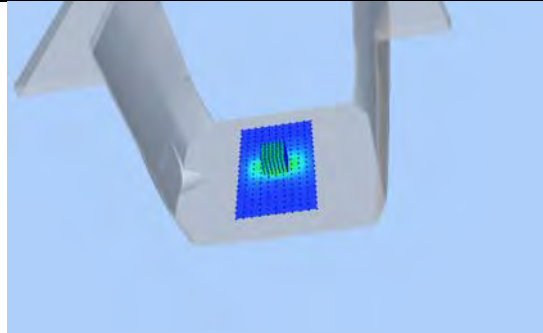
SAR Peak: 42.15 W/kg

| | |
|----------------|-----------|
| SAR 10g (W/Kg) | 5.4633244 |
| SAR 1g (W/Kg) | 15.378286 |

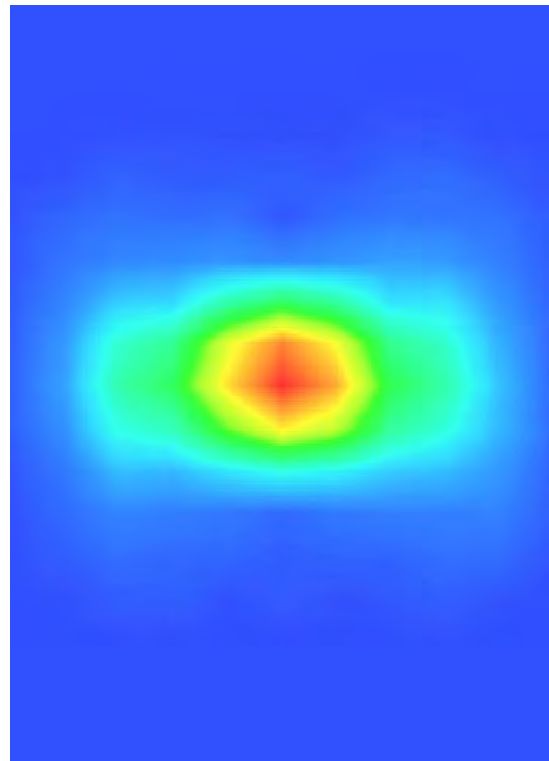
Z Axis Scan



3D screen shot



Hot spot position

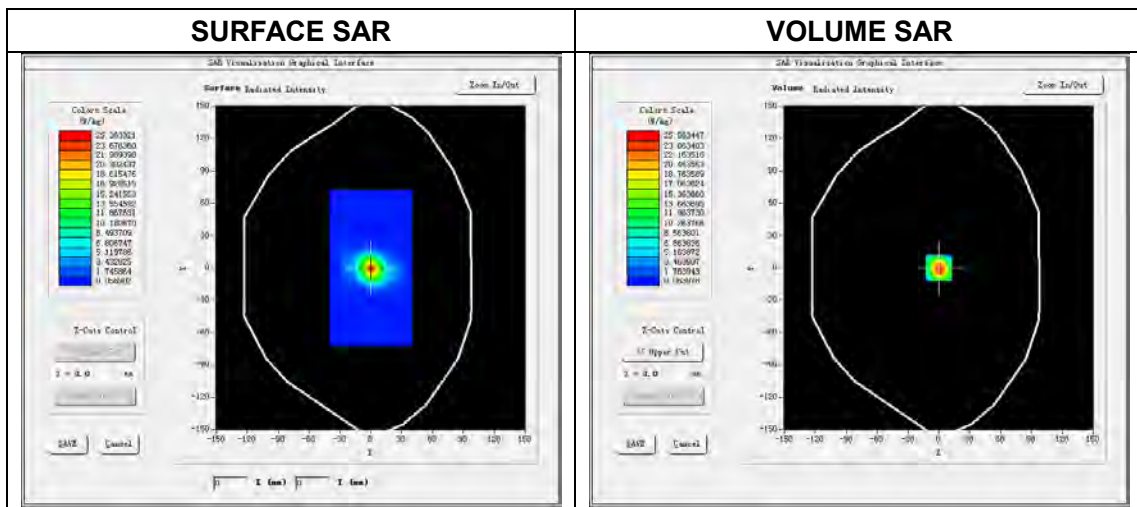


System Performance Check Data(5400 MHz Head)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
 Date of measurement: 2016.03.03
 Measurement duration: 29 minutes 33 seconds

Experimental conditions.

| | |
|-----------------------------------|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 5400 MHz |
| Signal | CW |
| Frequency (MHz) | 5400.000000 |
| Relative permittivity (real part) | 36.426257 |
| Conductivity (S/m) | 4.831236 |
| Power drift (%) | 1.120000 |
| Ambient Temperature: | 21.5°C |
| Liquid Temperature: | 21.0°C |
| ConvF: | 2.04 |
| Crest factor: | 1:1 |

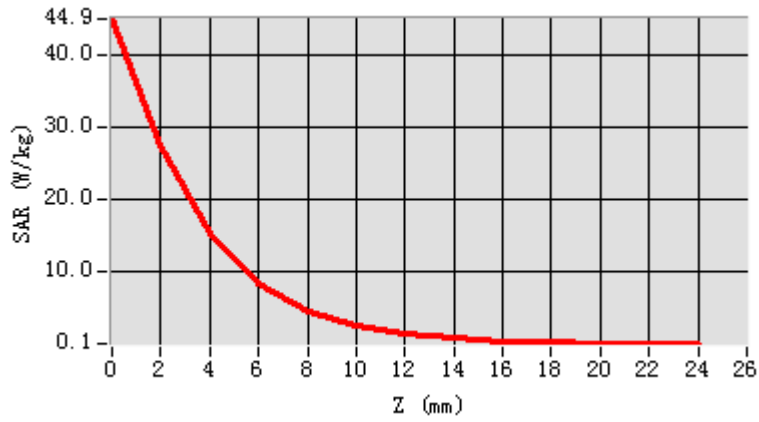


Maximum location: X=0.00, Y=0.00

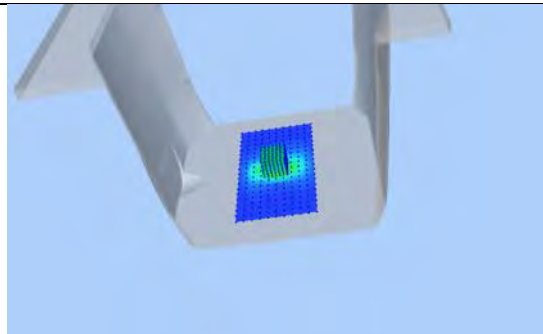
SAR Peak: 44.03 W/kg

| | |
|----------------|-----------|
| SAR 10g (W/Kg) | 5.517354 |
| SAR 1g (W/Kg) | 15.876169 |

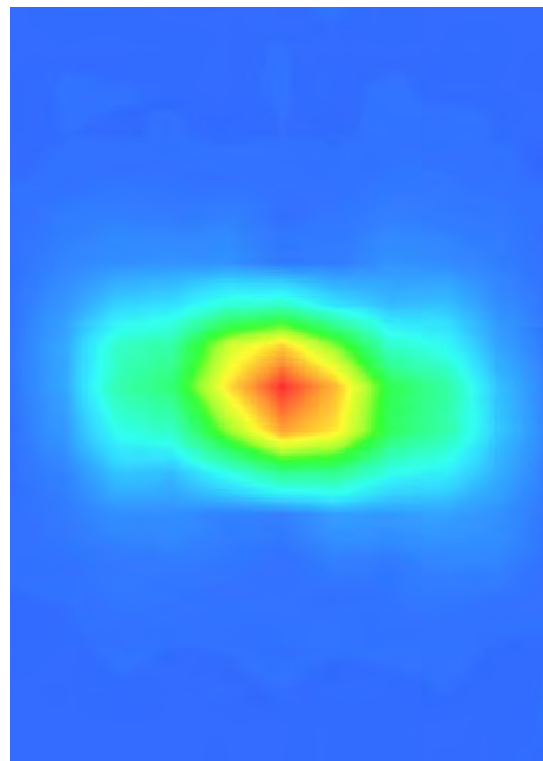
Z Axis Scan



3D screen shot



Hot spot position

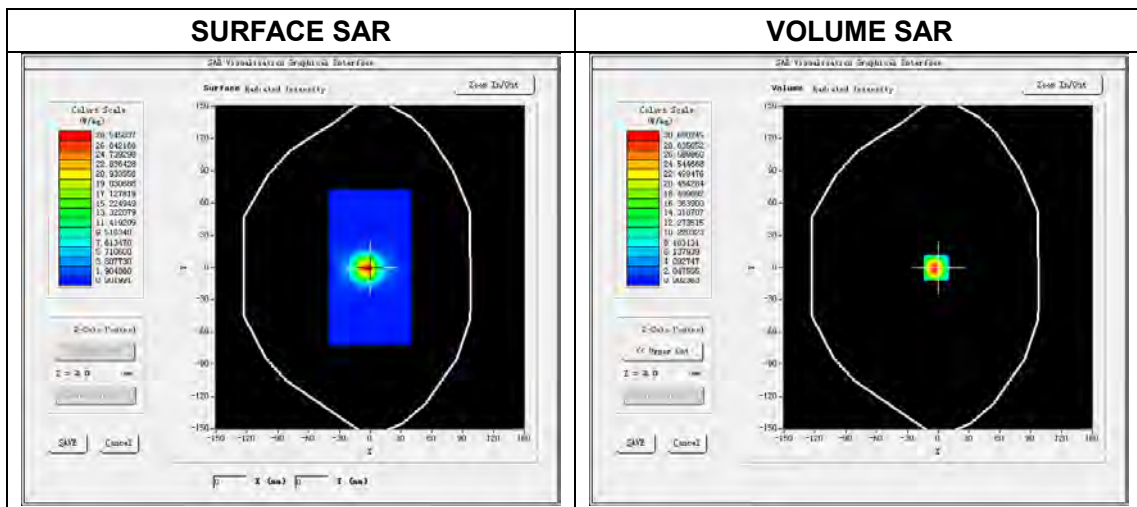


System Performance Check Data(5600 MHz Head)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
 Date of measurement: 2016.03.03
 Measurement duration: 29 minutes 30 seconds

Experimental conditions.

| | |
|-----------------------------------|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 5600 MHz |
| Signal | CW |
| Frequency (MHz) | 5600.000000 |
| Relative permittivity (real part) | 34.462351 |
| Conductivity (S/m) | 5.137525 |
| Power drift (%) | 0.800000 |
| Ambient Temperature: | 21.5°C |
| Liquid Temperature: | 21.0°C |
| ConvF: | 2.08 |
| Crest factor: | 1:1 |

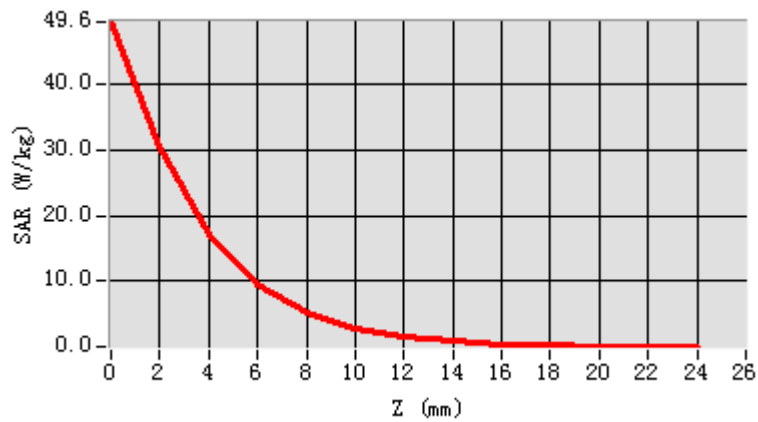


Maximum location: X=1.00, Y=1.00

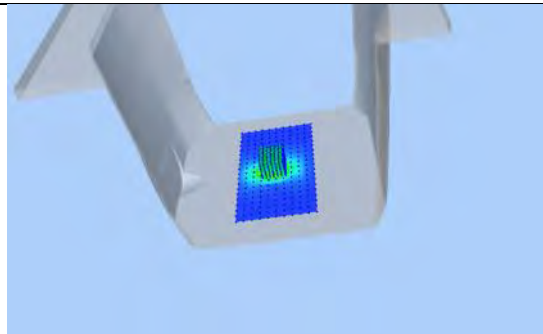
SAR Peak: 49.52 W/kg

| | |
|----------------|-----------|
| SAR 10g (W/Kg) | 5.791756 |
| SAR 1g (W/Kg) | 16.475376 |

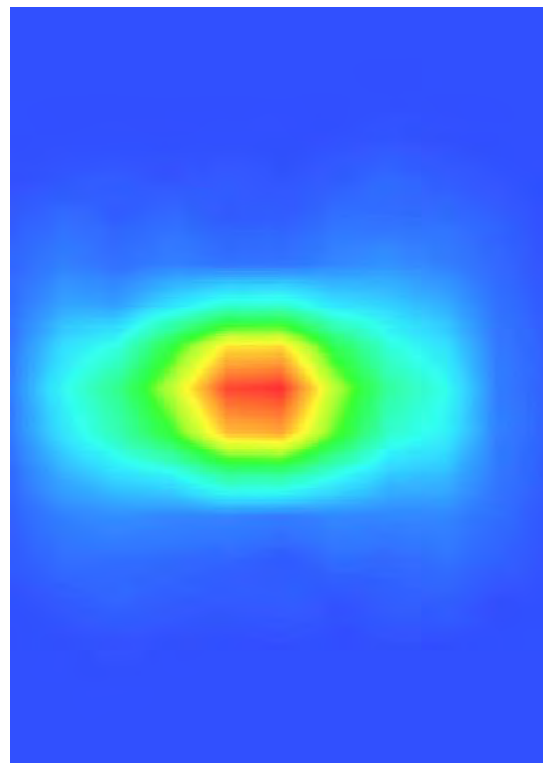
Z Axis Scan



3D screen shot



Hot spot position

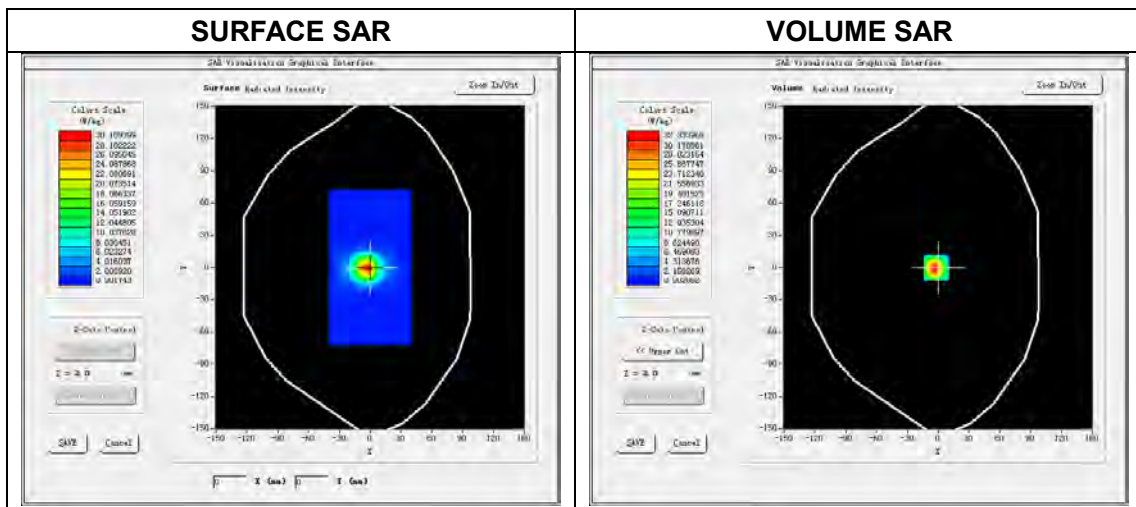


System Performance Check Data(5800 MHz Head)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
 Date of measurement: 2016.03.03
 Measurement duration: 29 minutes 31 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 5800 MHz |
| Signal | CW |
| Frequency (MHz) | 5800.000000 |
| Relative permittivity (real part) | 34.327163 |
| Conductivity (S/m) | 5.305872 |
| Power drift (%) | 1.660000 |
| Ambient Temperature: | 21.5°C |
| Liquid Temperature: | 21.0°C |
| ConvF: | 1.88 |
| Crest factor: | 1:1 |

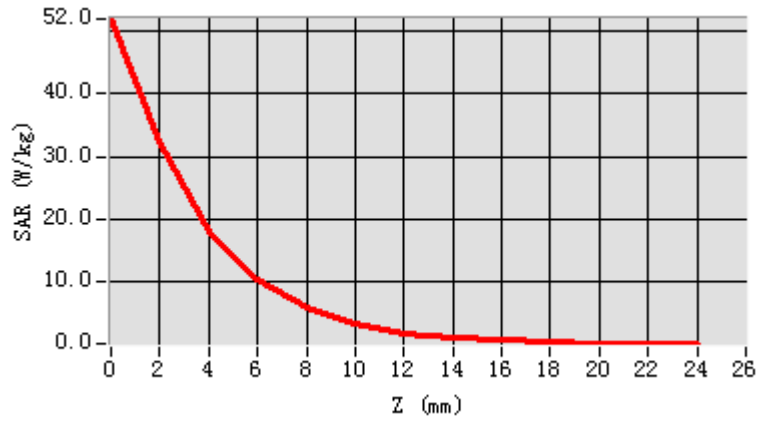


Maximum location: X=0.00, Y=0.00

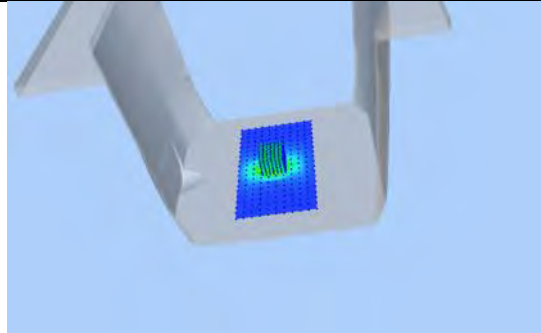
SAR Peak: 51.16 W/kg

| | |
|----------------|-----------|
| SAR 10g (W/Kg) | 5.983526 |
| SAR 1g (W/Kg) | 17.687528 |

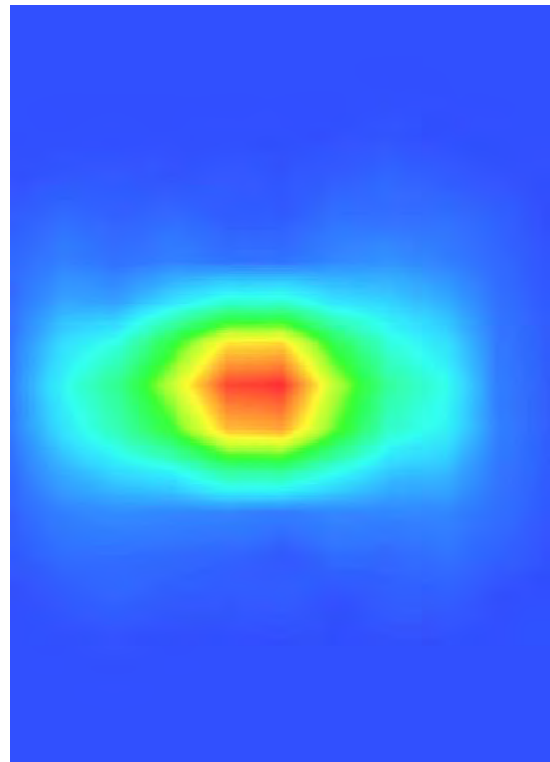
Z Axis Scan



3D screen shot



Hot spot position

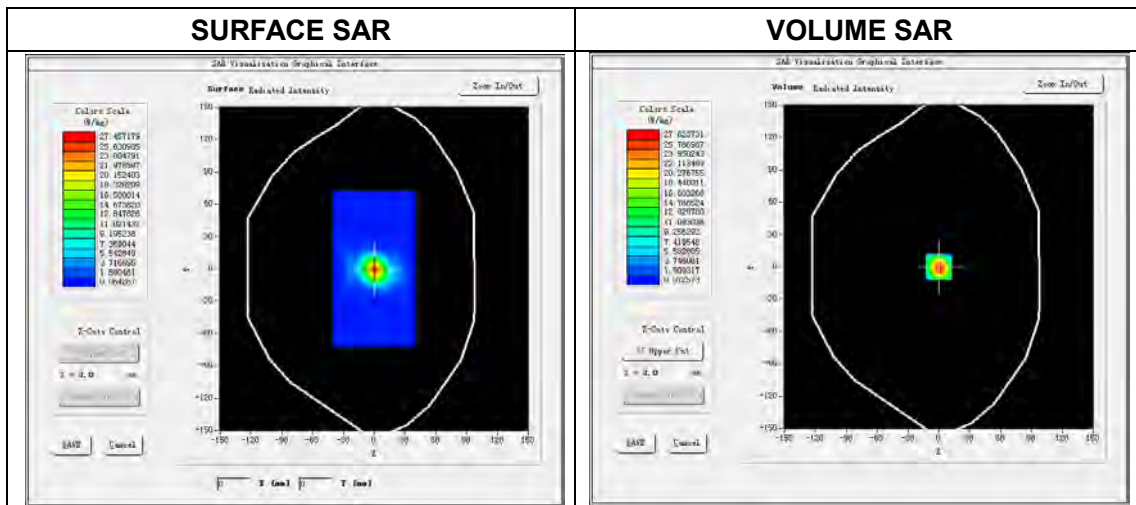


System Performance Check Data(5200MHz Body)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
 Date of measurement: 2016.03.03
 Measurement duration: 29 minutes 32 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 5200 MHz |
| Signal | CW |
| Frequency (MHz) | 5200.000000 |
| Relative permittivity (real part) | 50.126533 |
| Conductivity (S/m) | 5.256854 |
| Power drift (%) | 2.320000 |
| Ambient Temperature: | 21.5°C |
| Liquid Temperature: | 21.0°C |
| ConvF: | 1.85 |
| Crest factor: | 1:1 |

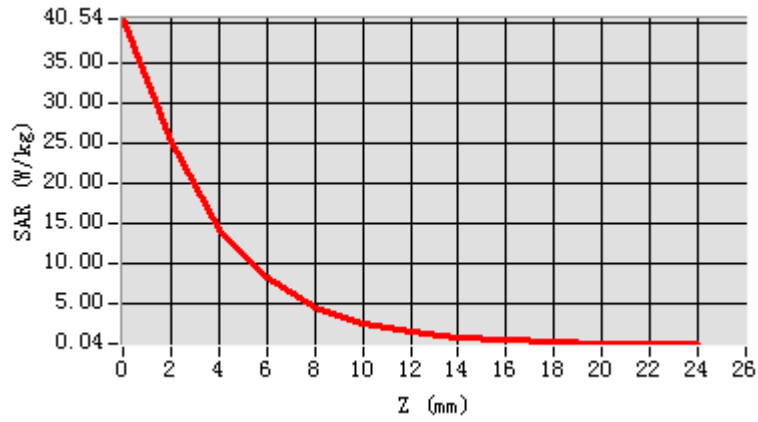


Maximum location: X=0.00, Y=0.00

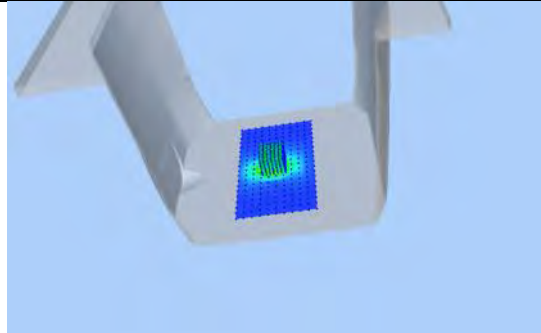
SAR Peak: 40.51 W/kg

| | |
|----------------|-----------|
| SAR 10g (W/Kg) | 5.340976 |
| SAR 1g (W/Kg) | 15.223962 |

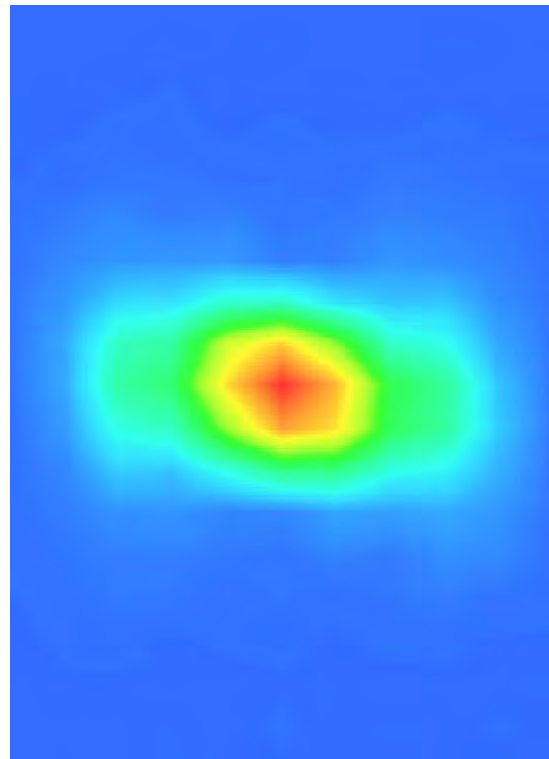
Z Axis Scan



3D screen shot



Hot spot position

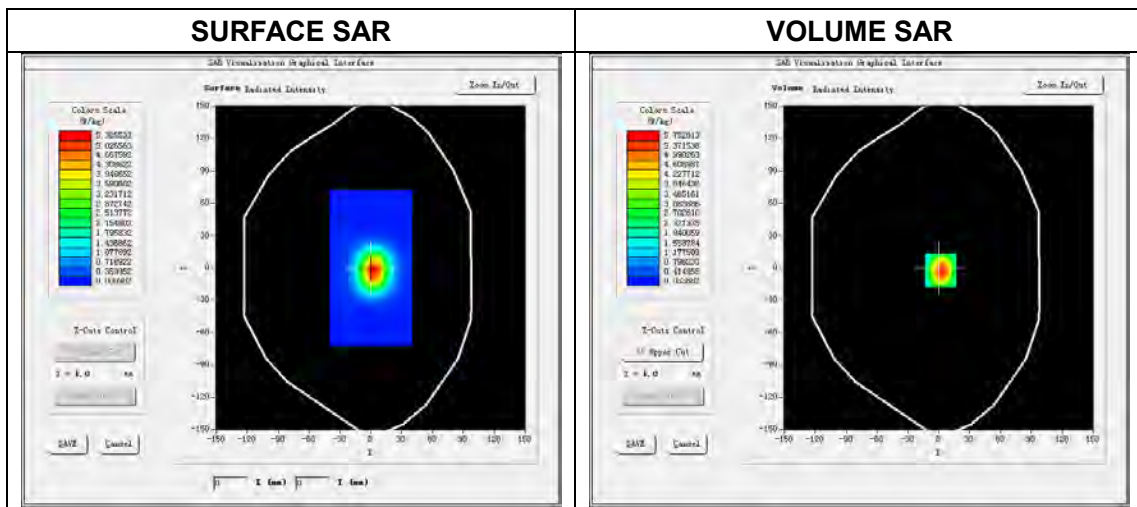


System Performance Check Data (5400 MHz Body)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
 Date of measurement: 2016.03.03
 Measurement duration: 29 minutes 32 seconds

Experimental conditions.

| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 5400 MHz |
| Signal | CW |
| Frequency (MHz) | 5400.000000 |
| Relative permittivity (real part) | 50.016325 |
| Conductivity (S/m) | 5.513862 |
| Power drift (%) | 1.160000 |
| Ambient Temperature: | 21.5°C |
| Liquid Temperature: | 21.0°C |
| ConvF: | 2.11 |
| Crest factor: | 1:1 |

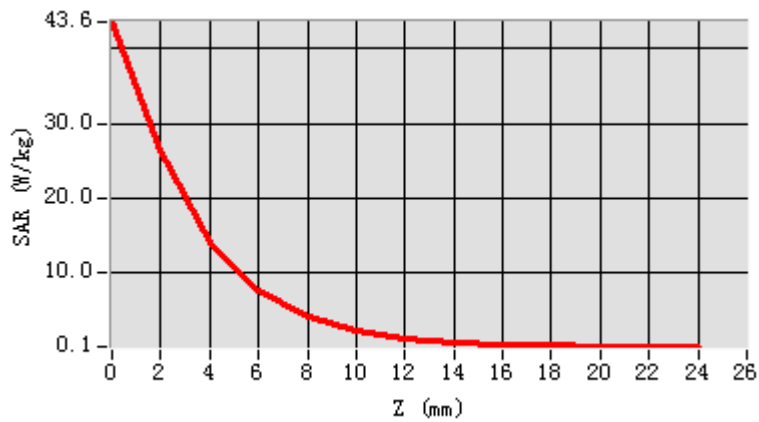


Maximum location: X=0.00, Y=0.00

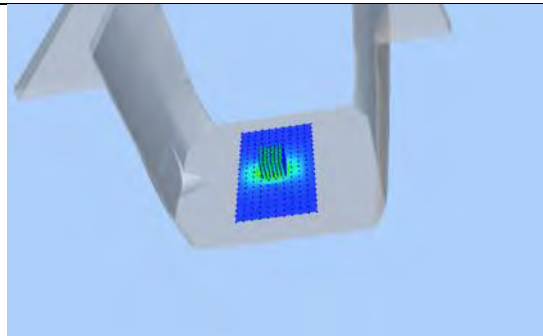
SAR Peak: 43.26 W/kg

| | |
|----------------|-----------|
| SAR 10g (W/Kg) | 5.615362 |
| SAR 1g (W/Kg) | 15.762167 |

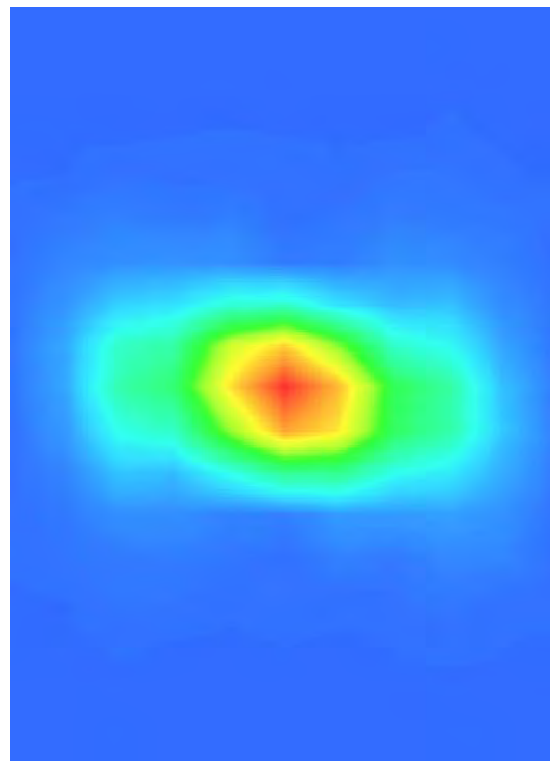
Z Axis Scan



3D screen shot



Hot spot position

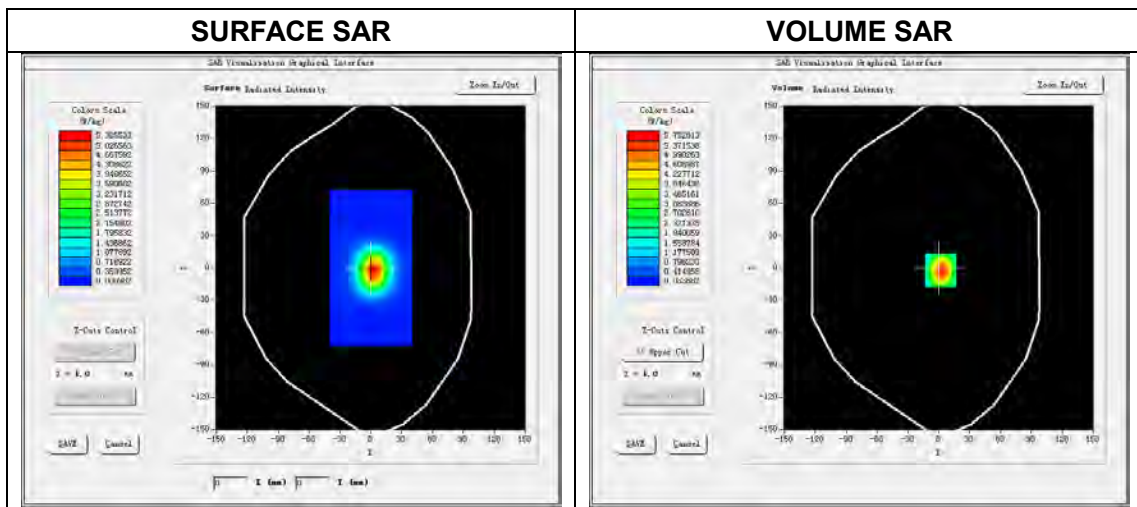


System Performance Check Data (5600 MHz Body)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
 Date of measurement: 2016.03.03
 Measurement duration: 29 minutes 32 seconds

Experimental conditions.

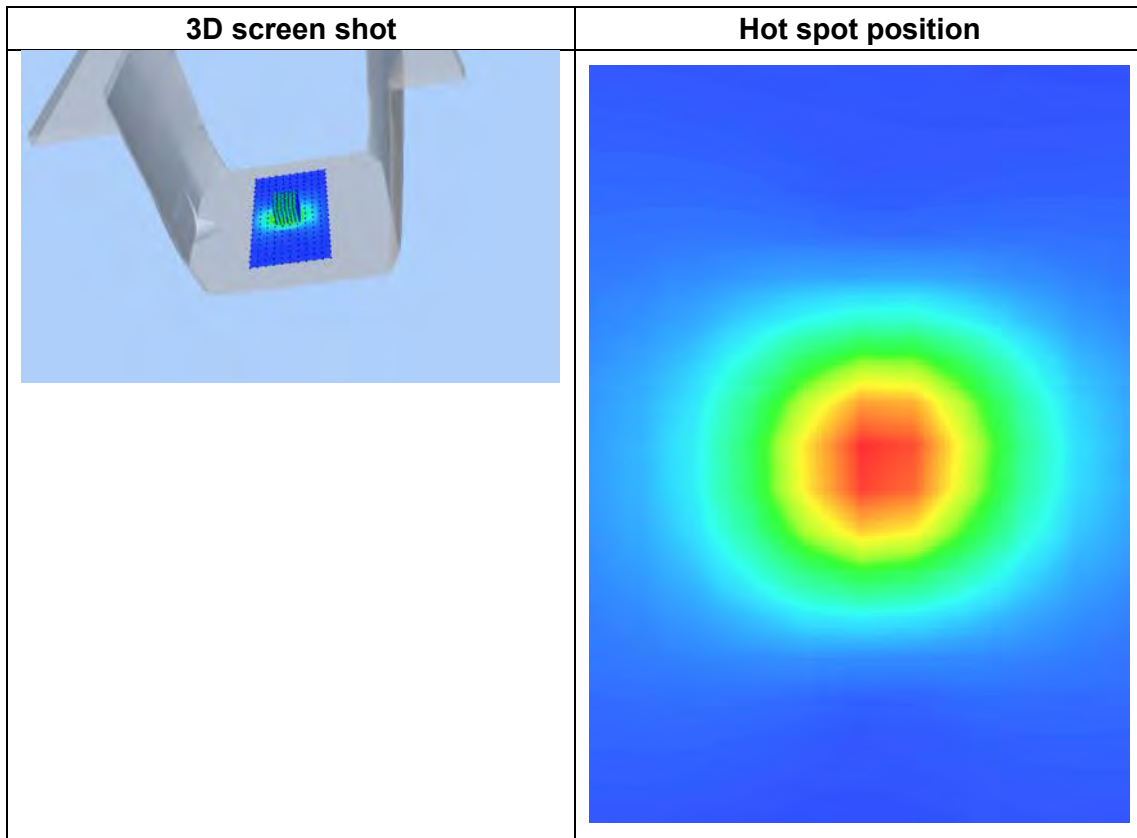
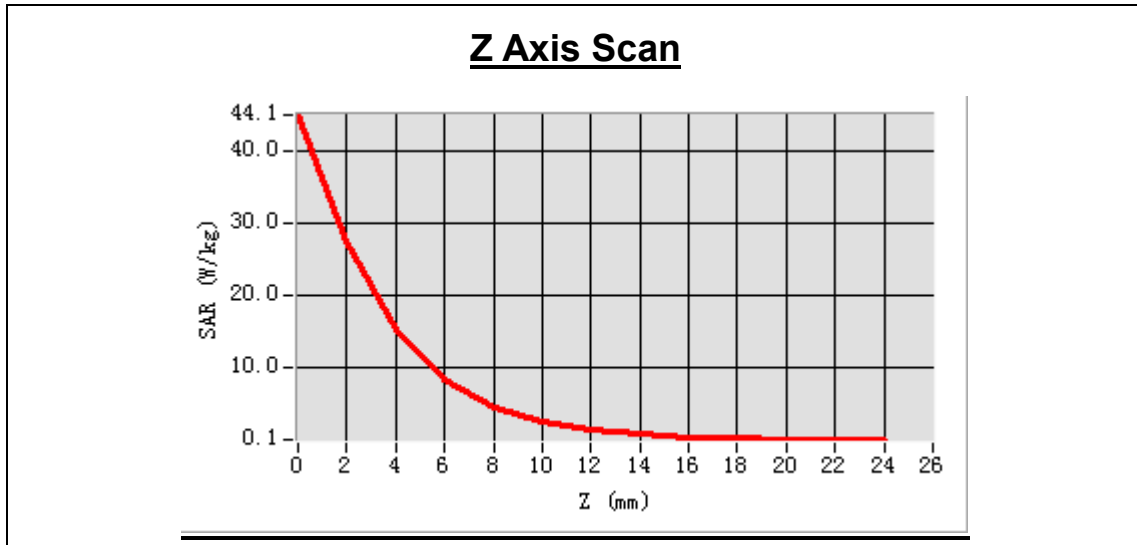
| | |
|--|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 5600 MHz |
| Signal | CW |
| Frequency (MHz) | 5600.000000 |
| Relative permittivity (real part) | 48.041782 |
| Conductivity (S/m) | 5.932687 |
| Power drift (%) | 2.130000 |
| Ambient Temperature: | 21.5°C |
| Liquid Temperature: | 21.0°C |
| ConvF: | 2.15 |
| Crest factor: | 1:1 |



Maximum location: X=0.00, Y=0.00

SAR Peak: 52.10W/kg

| | |
|----------------|-----------|
| SAR 10g (W/Kg) | 5.645281 |
| SAR 1g (W/Kg) | 15.812583 |



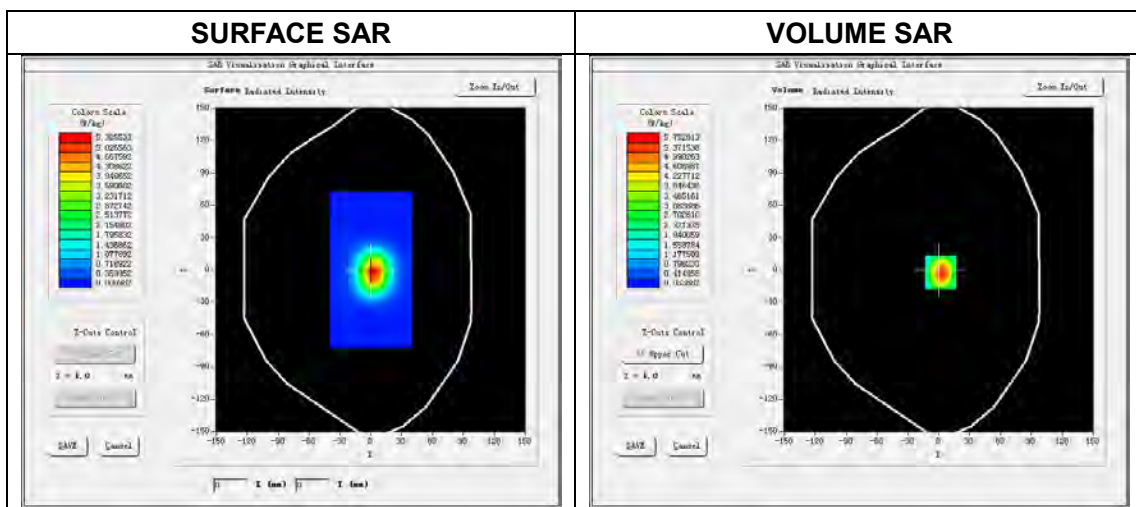


System Performance Check Data (5800 MHz Body)

Type: Phone measurement (Complete)
 E-Field Probe: SN 34/15 SSE2 EPGO265
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
 Date of measurement: 2016.03.03
 Measurement duration: 29 minutes 32 seconds

Experimental conditions.

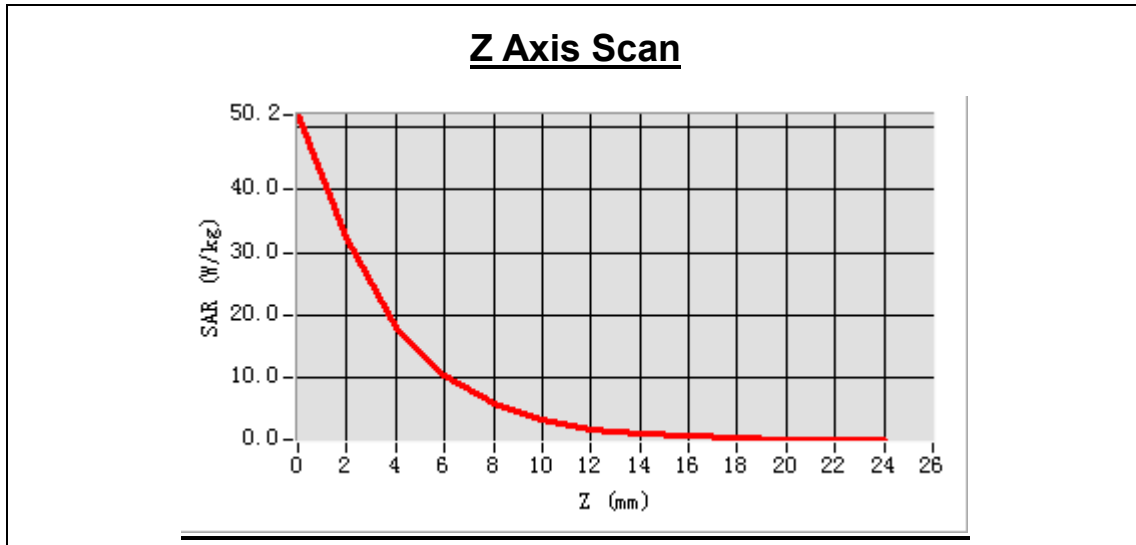
| | |
|-----------------------------------|-------------------|
| Phantom File | surf_sam_plan.txt |
| Phantom | Validation plane |
| Band | 5800 MHz |
| Signal | CW |
| Frequency (MHz) | 5800.000000 |
| Relative permittivity (real part) | 47.135215 |
| Conductivity (S/m) | 6.071259 |
| Power drift (%) | 2.130000 |
| Ambient Temperature: | 21.5°C |
| Liquid Temperature: | 21.0°C |
| ConvF: | 1.93 |
| Crest factor: | 1:1 |



Maximum location: X=0.00, Y=0.00

SAR Peak: 50.10W/kg

| | |
|----------------|-----------|
| SAR 10g (W/Kg) | 5.836267 |
| SAR 1g (W/Kg) | 16.942574 |



| 3D screen shot | Hot spot position |
|----------------|-------------------|
| | |

--END OF REPORT--