# Appendix A: SAR System performance Check Plots

| Measurement | Liquid | Frequency | Test Date |
|---|---|---|---|
| System Check | Body | 750 | 2020-08-28 |
| System Check | Body | 835 | 2020-08-28 |
| System Check | Body | 1800 | 2020-08-31 |
| System Check | Body | 1900 | 2020-08-31 |
| System Check | Body | 2450 | 2020-08-26 |
| System Check | Body | 5200 | 2020-08-27 |
| System Check | Body | 5800 | 2020-08-27 |

# System Performance Check (Body, 750MHz)

Type: Phone measurement

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

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

Date of measurement: 08/28/2020

Measurement duration: 22 minutes 04 seconds

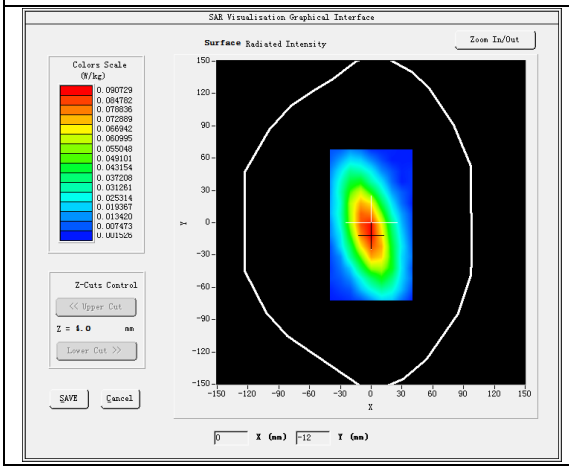
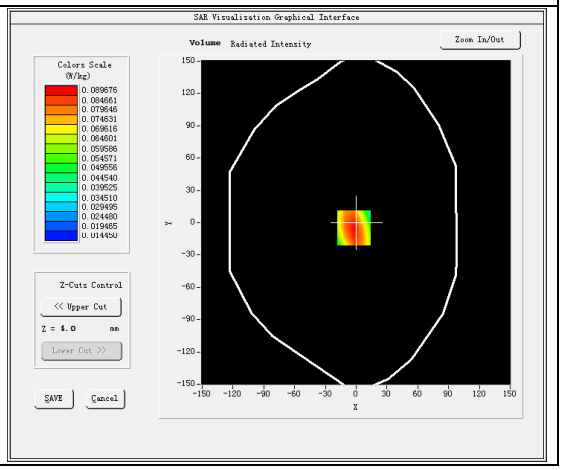
**A. Experimental conditions.**

| | |
|---|---|
| **Phantom File** | dx=8mm dy=8mm |
| **Phantom** | 5x5x7,dx=8mm dy=8mm dz=5mm |
| **Device Position** | Dipole |
| **Band** | 750MHz |
| **Channels** | |
| **Signal** | CW |

**B. SAR Measurement Results**

Band SAR

| | |
|---|---|
| **E-Field Probe** | SATIMO SN_27/15_EPG0261 |
| **Frequency (MHz)** | 750 |
| **Relative permittivity (real part)** | 55.47 |
| **Relative permittivity** | 22.56 |
| **Conductivity (S/m)** | 0.94 |
| **Power drift (%)** | -0.49 |
| **Ambient Temperature:** | 22.2℃ |
| **Liquid Temperature:** | 22.6℃ |
| **ConvF:** | 1.88 |
| **Crest factor:** | 1:1 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

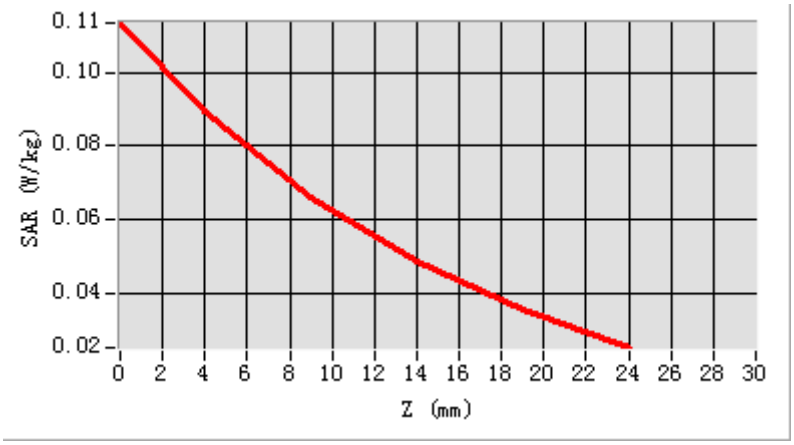


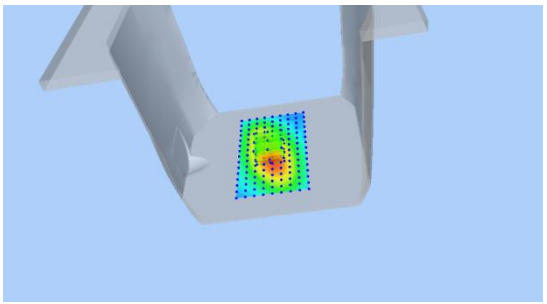
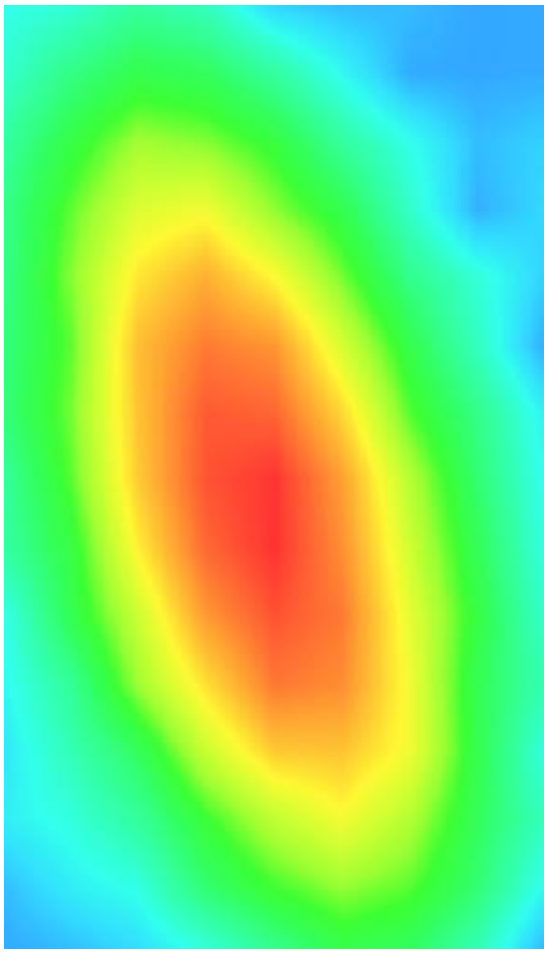
**Maximum location: X=-2.00, Y=-5.00**

**SAR Peak: 0.11 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.058944 |
| **SAR 1g (W/Kg)** | 0.085966 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.1136 | 0.0897 | 0.0662 | 0.0486 | 0.0354 |




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

# System Performance Check (Body, 835MHz)

Type: Phone measurement

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

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

Date of measurement: 08/28/2020

Measurement duration: 22 minutes 01 seconds

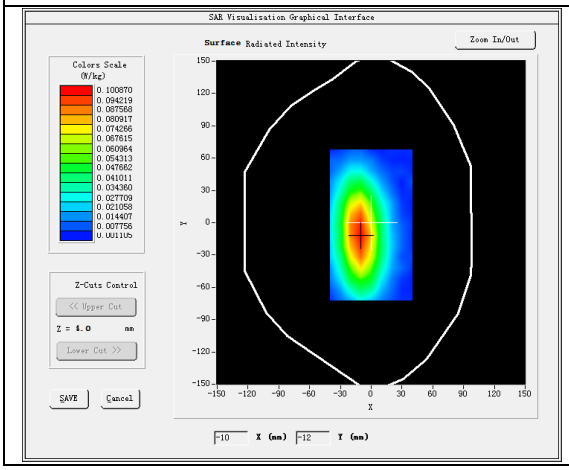
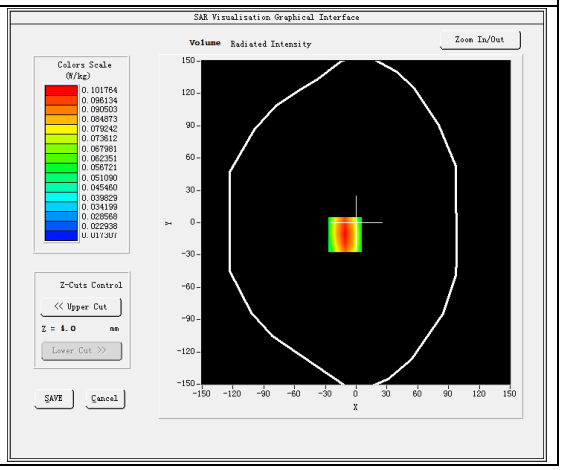
**A. Experimental conditions.**

| | |
|---|---|
| **Phantom File** | dx=8mm dy=8mm |
| **Phantom** | 5x5x7,dx=8mm dy=8mm dz=5mm |
| **Device Position** | Dipole |
| **Band** | 835MHz |
| **Channels** | |
| **Signal** | CW |

**B. SAR Measurement Results**

Band SAR

| | |
|---|---|
| **E-Field Probe** | SATIMO SN_27/15_EPG0261 |
| **Frequency (MHz)** | 835 |
| **Relative permittivity (real part)** | 55.16 |
| **Relative permittivity** | 20.50 |
| **Conductivity (S/m)** | 0.95 |
| **Power drift (%)** | -3.64 |
| **Ambient Temperature:** | 22.2℃ |
| **Liquid Temperature:** | 22.6℃ |
| **ConvF:** | 1.90 |
| **Crest factor:** | 1:1 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

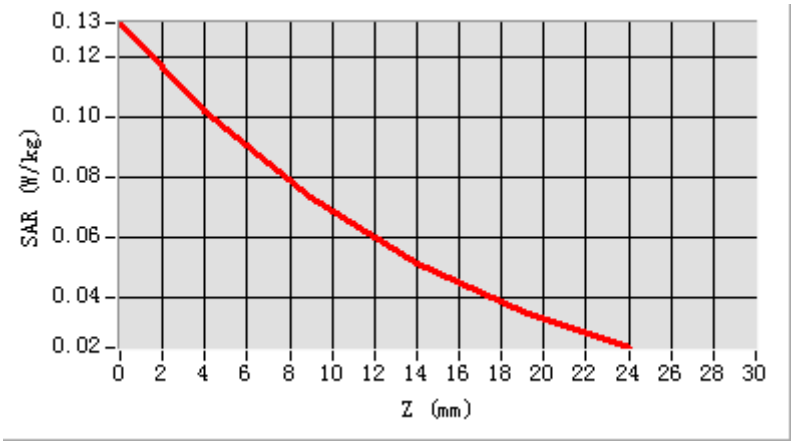


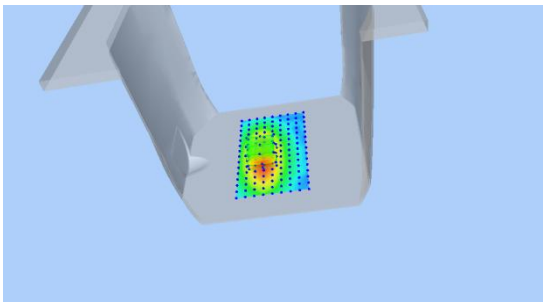
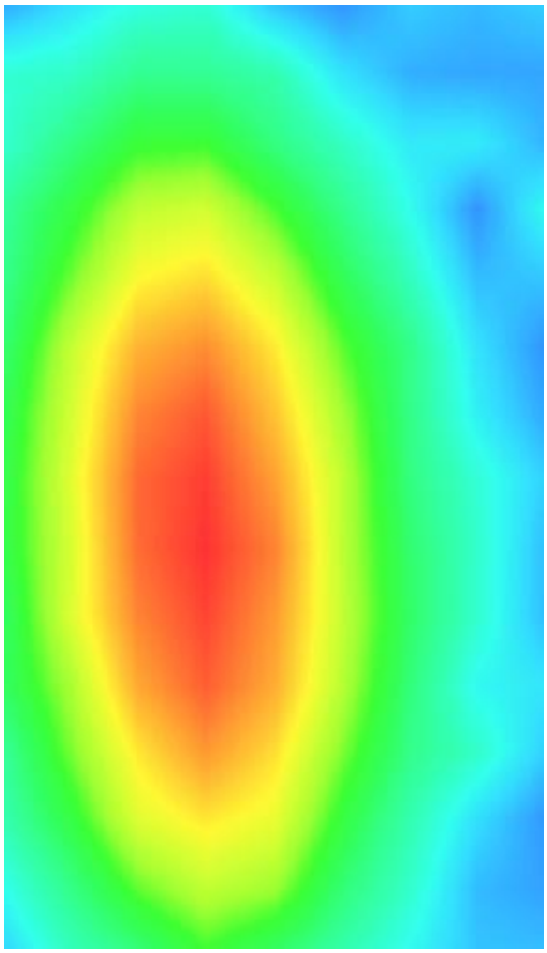
**Maximum location: X=-11.00, Y=-11.00**

**SAR Peak: 0.13 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.065170 |
| **SAR 1g (W/Kg)** | 0.098201 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.1312 | 0.1018 | 0.0730 | 0.0515 | 0.0356 |




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

# System Performance Check (Body, 1800MHz)

Type: Validation measurement

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

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

Date of measurement: 08/31/2020

Measurement duration: 22 minutes 05 seconds

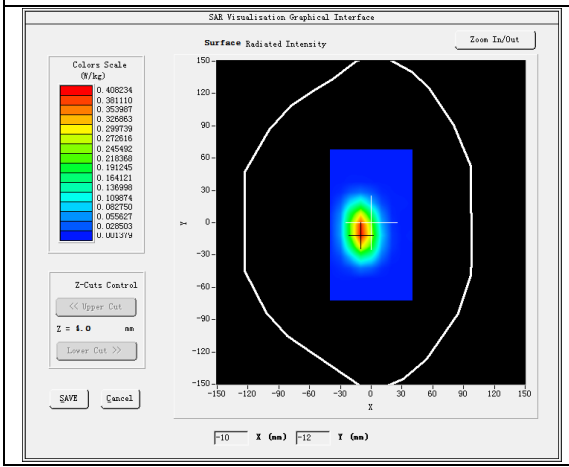
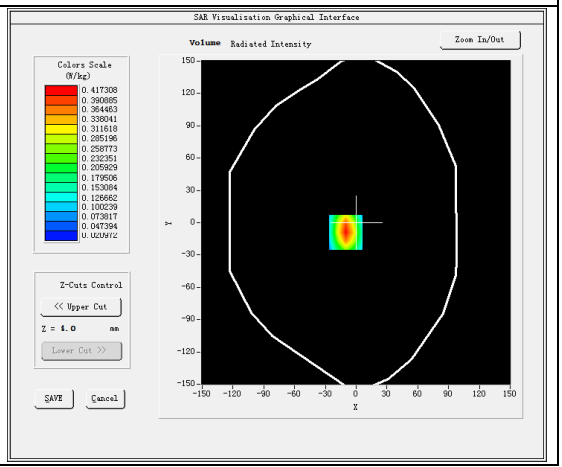
**A. Experimental conditions.**

| | |
|---|---|
| **Phantom File** | dx=8mm dy=8mm |
| **Phantom** | 5x5x7,dx=8mm dy=8mm dz=5mm |
| **Device Position** | Dipole |
| **Band** | 1800MHz |
| **Channels** | |
| **Signal** | CW |

**B. SAR Measurement Results**

Band SAR

| | |
|---|---|
| **E-Field Probe** | SATIMO SN_27/15_EPG0261 |
| **Frequency (MHz)** | 1800 |
| **Relative permittivity (real part)** | 53.33 |
| **Relative permittivity** | 15.50 |
| **Conductivity (S/m)** | 1.55 |
| **Power Drift (%)** | -0.86 |
| **Ambient Temperature:** | 22.1℃ |
| **Liquid Temperature:** | 22.6℃ |
| **ConvF:** | 2.09 |
| **Duty factor:** | 1:1 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

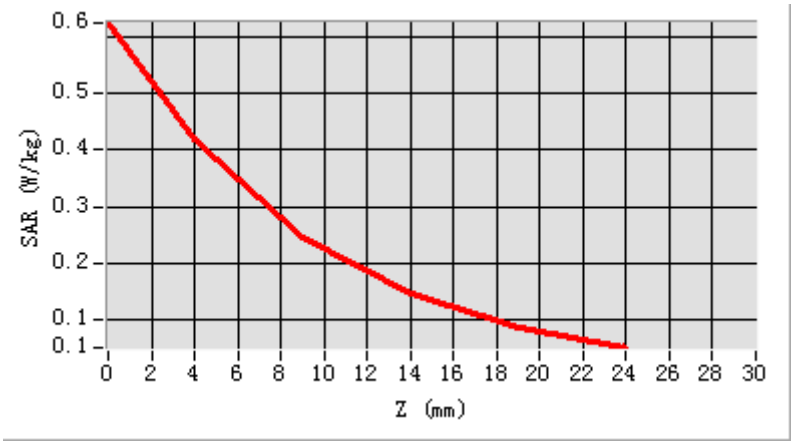


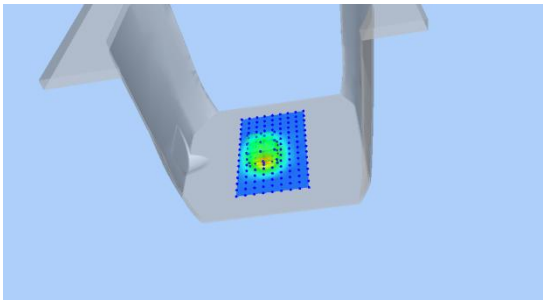
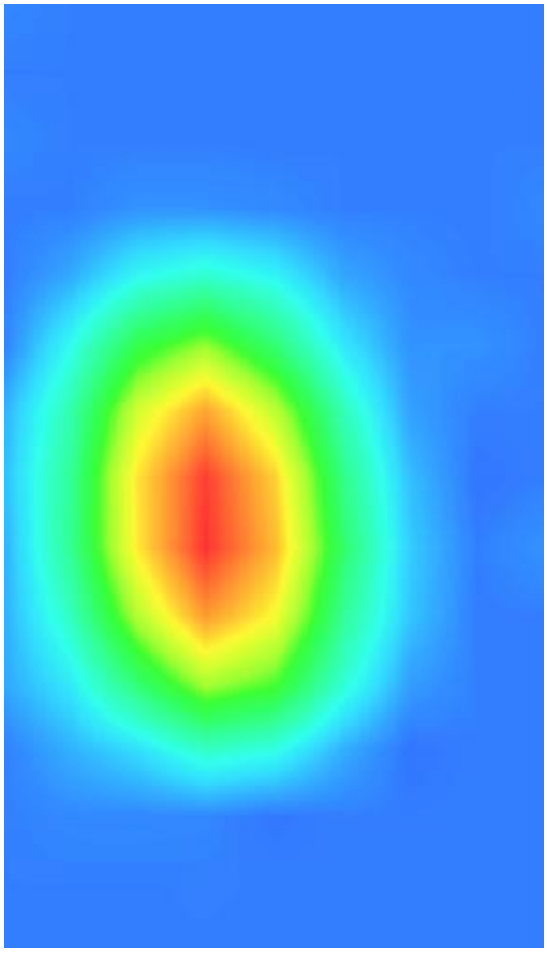
**Maximum location: X=-10.00, Y=-9.00**

**SAR Peak: 0.63 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.207046 |
| **SAR 1g (W/Kg)** | 0.384970 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.6243 | 0.4173 | 0.2468 | 0.1457 | 0.0874 |




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

# System Performance Check (Body, 1900MHz)

Type: Validation measurement

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

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

Date of measurement: 08/31/2020

Measurement duration: 22 minutes 07 seconds

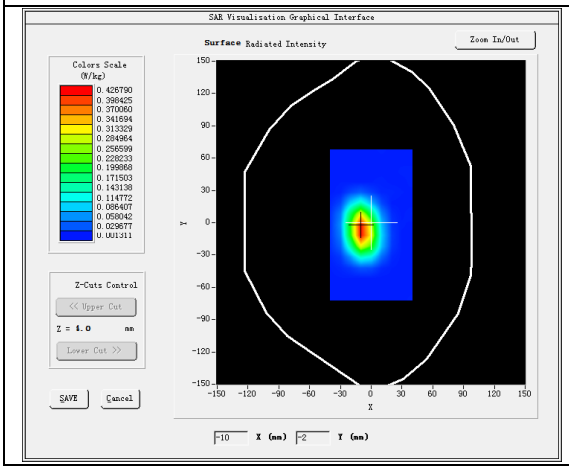
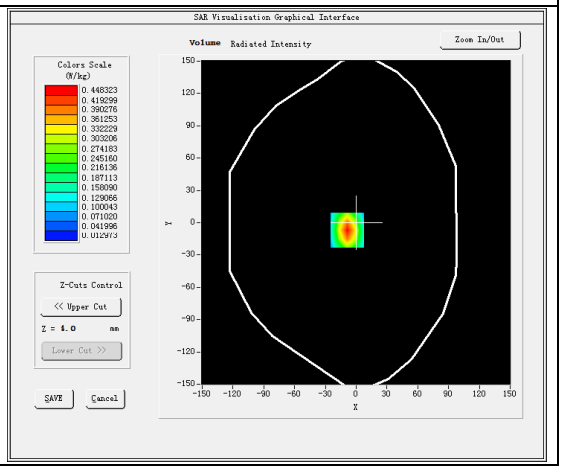
**A. Experimental conditions.**

| | |
|---|---|
| **Phantom File** | dx=8mm dy=8mm |
| **Phantom** | 5x5x7,dx=8mm dy=8mm dz=5mm |
| **Device Position** | Dipole |
| **Band** | 1900MHz |
| **Channels** | |
| **Signal** | CW |

**B. SAR Measurement Results**

Band SAR

| | |
|---|---|
| **E-Field Probe** | SATIMO SN_27/15_EPG0261 |
| **Frequency (MHz)** | 1900 |
| **Relative permittivity (real part)** | 53.25 |
| **Relative permittivity** | 14.02 |
| **Conductivity (S/m)** | 1.48 |
| **Power Drift (%)** | -0.38 |
| **Ambient Temperature:** | 22.1℃ |
| **Liquid Temperature:** | 22.6℃ |
| **ConvF:** | 2.26 |
| **Duty factor:** | 1:1 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

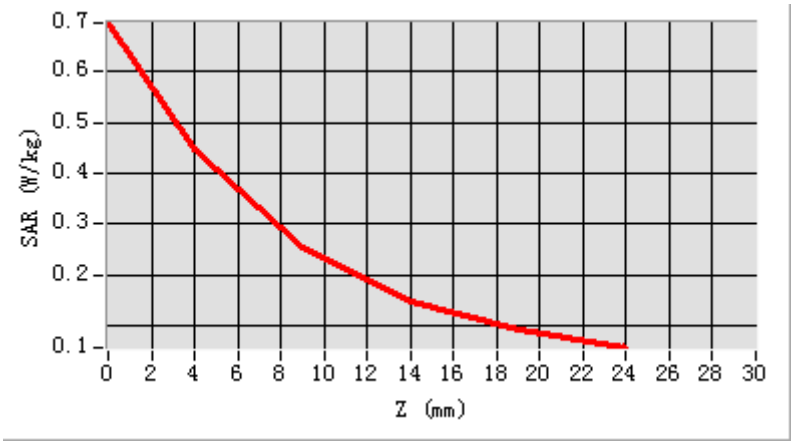


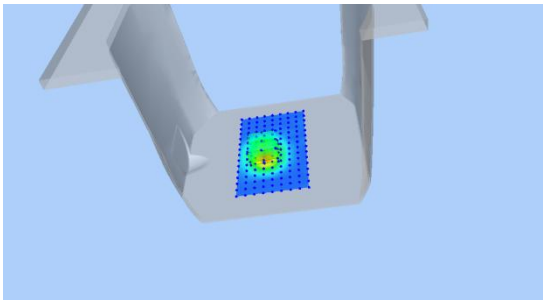
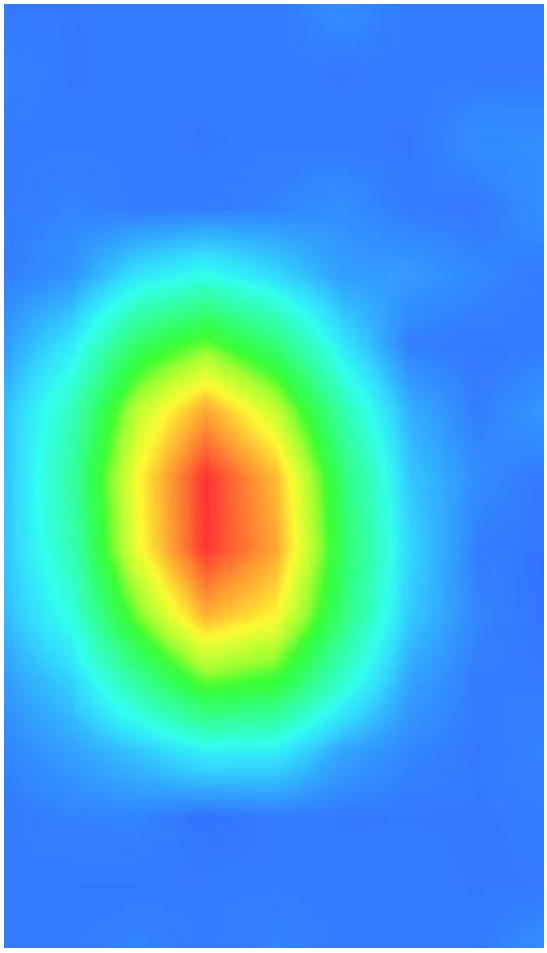
**Maximum location: X=-9.00, Y=-7.00**

**SAR Peak: 0.70 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.215707 |
| **SAR 1g (W/Kg)** | 0.412170 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.6968 | 0.4483 | 0.2536 | 0.1464 | 0.0902 |




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

# System Performance Check (Body, 2450MHz)

Type: Phone measurement

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

Zoom scan resolution: dx=5mm, dy=5mm, dz=4mm

Date of measurement: 08/26/2020

Measurement duration: 22 minutes 02 seconds

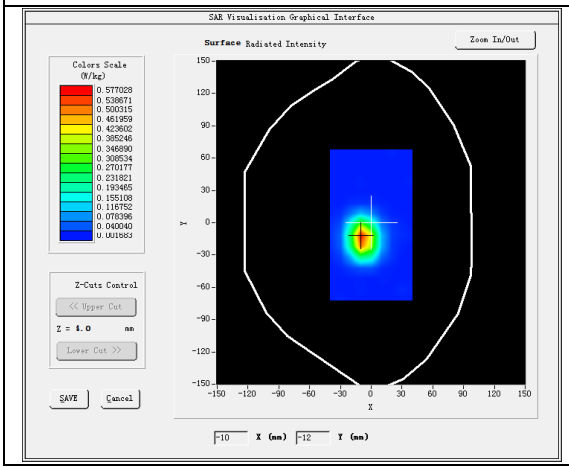
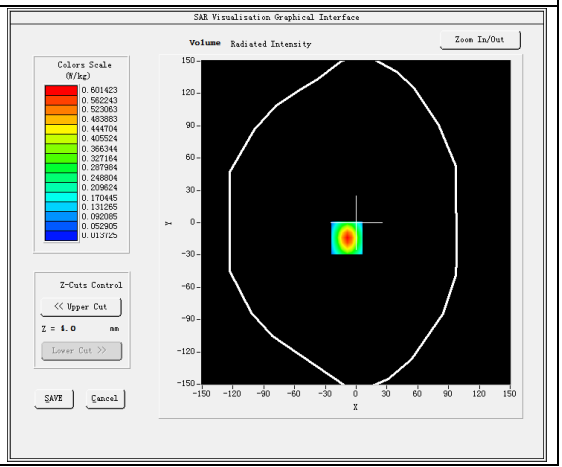
**A. Experimental conditions.**

| | |
|---|---|
| **Phantom File** | dx=8mm dy=8mm |
| **Phantom** | 7x7x8,dx=5mm dy=5mm dz=4mm |
| **Device Position** | Dipole |
| **Band** | 2450MHz |
| **Channels** | |
| **Signal** | CW |

**B. SAR Measurement Results**

Band SAR

| | |
|---|---|
| **E-Field Probe** | SATIMO SN_27/15_EPG0261 |
| **Frequency (MHz)** | 2450 |
| **Relative permittivity (real part)** | 52.69 |
| **Relative permittivity** | 14.33 |
| **Conductivity (S/m)** | 1.95 |
| **Power Drift (%)** | -0.69 |
| **Ambient Temperature:** | 22.1℃ |
| **Liquid Temperature:** | 22.6℃ |
| **ConvF:** | 2.47 |
| **Duty factor:** | 1:1 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

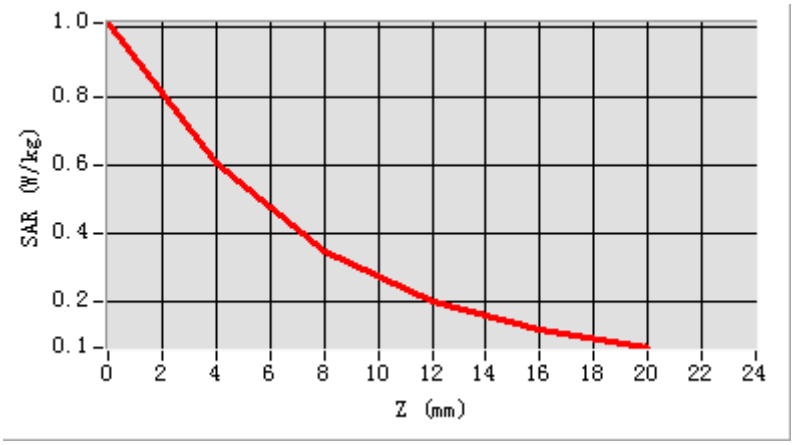


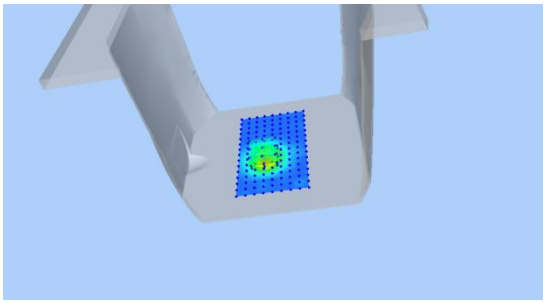
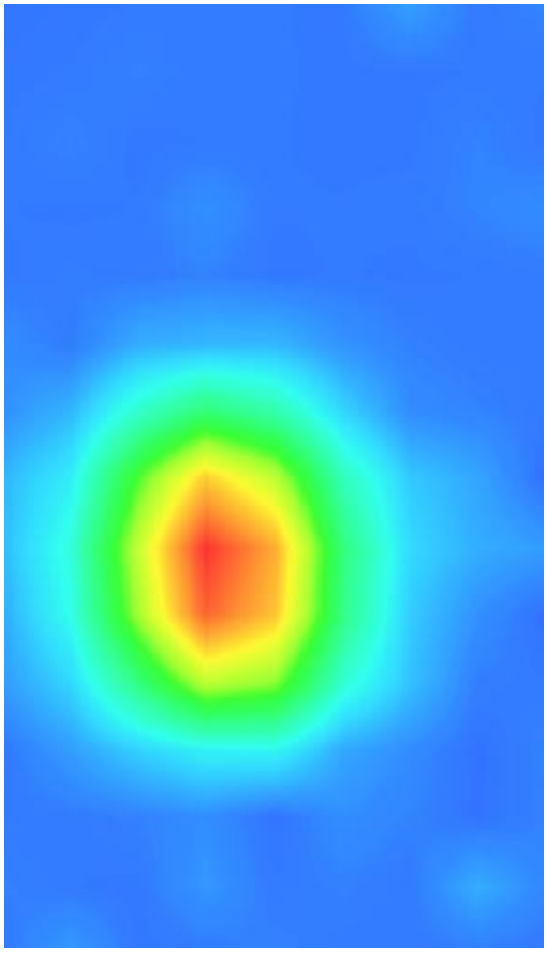
**Maximum location: X=-9.00, Y=-14.00**

**SAR Peak: 1.01 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.252599 |
| **SAR 1g (W/Kg)** | 0.542181 |

| Z (mm) | 0.00 | 4.00 | 8.00 | 12.00 | 16.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 1.0146 | 0.6014 | 0.3460 | 0.1978 | 0.1148 |




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

# System Performance Check (Body, 5200MHz)

Type: Phone measurement

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

Zoom scan resolution: dx=5mm, dy=5mm, dz=4mm

Date of measurement: 08/27/2020

Measurement duration: 22 minutes 06 seconds

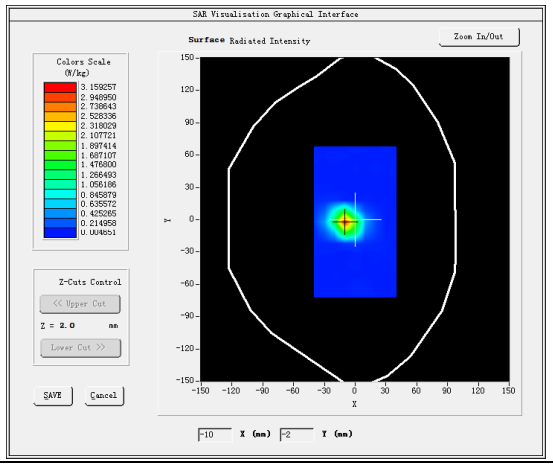
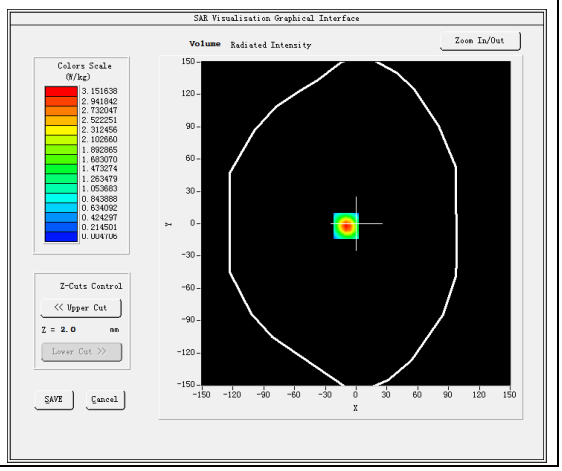
**A. Experimental conditions.**

| | |
|---|---|
| **Phantom File** | dx=8mm dy=8mm |
| **Phantom** | 7x7x8,dx=4mm dy=4mm dz=2mm |
| **Device Position** | Dipole |
| **Band** | 5200MHz |
| **Channels** | |
| **Signal** | CW |

**B. SAR Measurement Results**

Band SAR

| | |
|---|---|
| **E-Field Probe** | SATIMO SN_27/15_EPG0261 |
| **Frequency (MHz)** | 5200 |
| **Relative permittivity (real part)** | 49.02 |
| **Relative permittivity** | 18.38 |
| **Conductivity (S/m)** | 5.31 |
| **Power drift (%)** | -0.50 |
| **Ambient Temperature:** | 22.2℃ |
| **Liquid Temperature:** | 22.5℃ |
| **Crest factor:** | 1:1 |
| **ConvF:** | 2.09 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

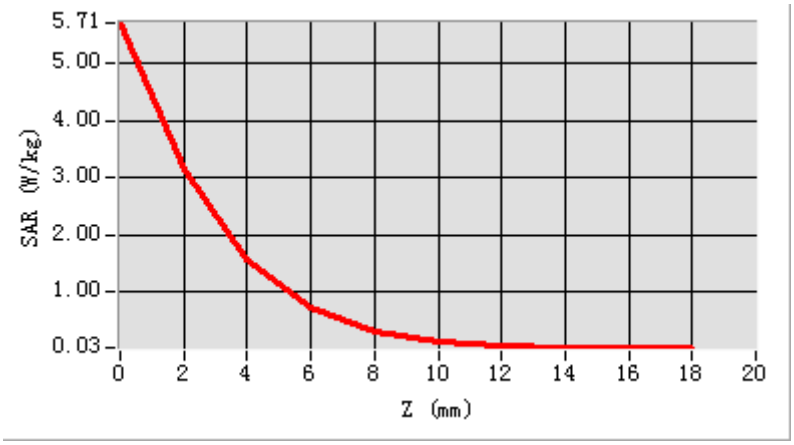


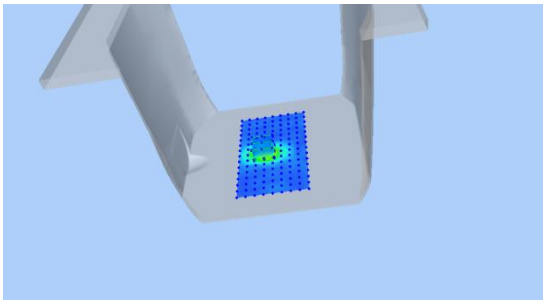
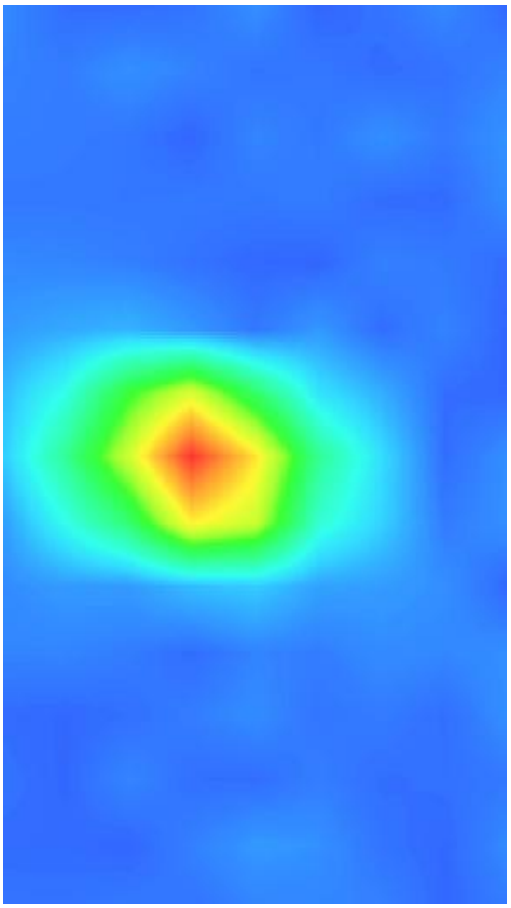
**Maximum location: X=-10.00, Y=-2.00**

**SAR Peak: 5.95 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.459372 |
| **SAR 1g (W/Kg)** | 1.539659 |

| Z (mm) | 0.00 | 2.00 | 4.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 |
|---|---|---|---|---|---|---|---|---|---|
| SAR (W/Kg) | 5.7054 | 3.1516 | 1.5848 | 0.7259 | 0.3148 | 0.1345 | 0.0624 | 0.0364 | 0.0290 |




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

# System Performance Check (Body, 5800MHz)

Type: Phone measurement

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

Zoom scan resolution: dx=5mm, dy=5mm, dz=4mm

Date of measurement: 08/27/2020

Measurement duration: 22 minutes 03 seconds

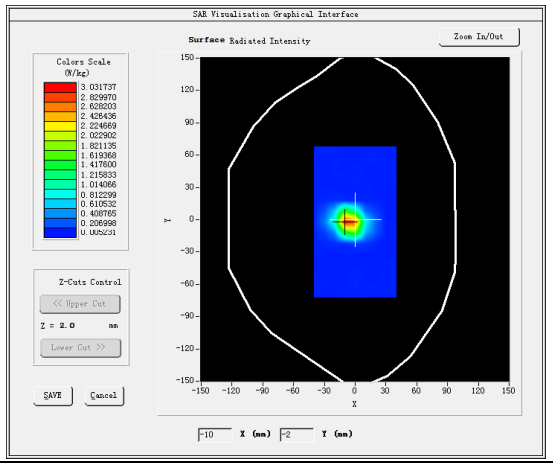
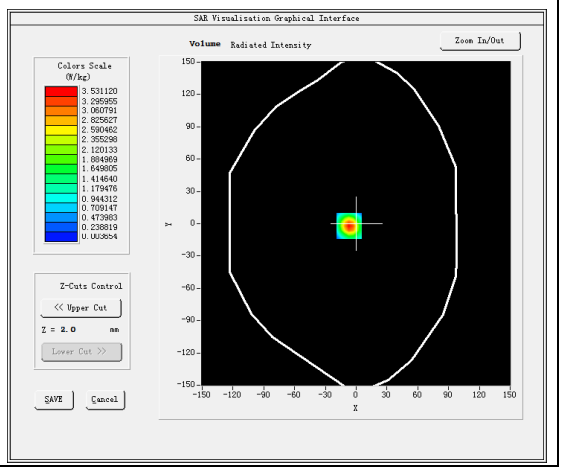
**A. Experimental conditions.**

| | |
|---|---|
| **Phantom File** | dx=8mm dy=8mm |
| **Phantom** | 7x7x8,dx=4mm dy=4mm dz=2mm |
| **Device Position** | Dipole |
| **Band** | 5800MHz |
| **Channels** | |
| **Signal** | CW |

**B. SAR Measurement Results**

Band SAR

| | |
|---|---|
| **E-Field Probe** | SATIMO SN_27/15_EPG0261 |
| **Frequency (MHz)** | 5800 |
| **Relative permittivity (real part)** | 48.23 |
| **Relative permittivity** | 18.68 |
| **Conductivity (S/m)** | 6.02 |
| **Power drift (%)** | -0.23 |
| **Ambient Temperature:** | 22.2℃ |
| **Liquid Temperature:** | 22.5℃ |
| **Crest factor:** | 1:1 |
| **ConvF:** | 2.34 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |



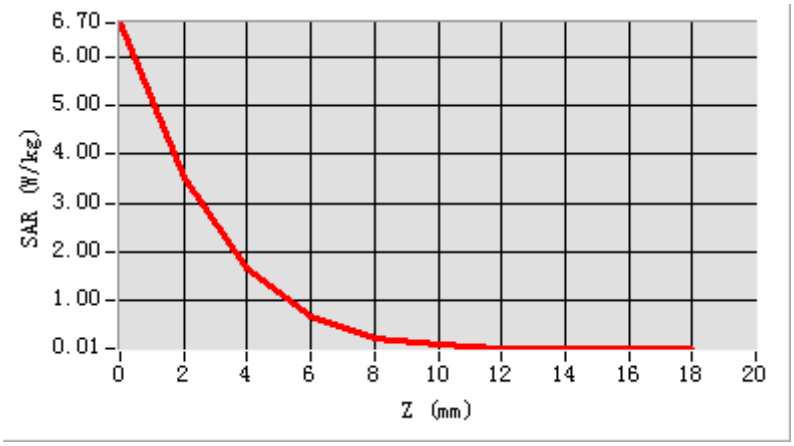


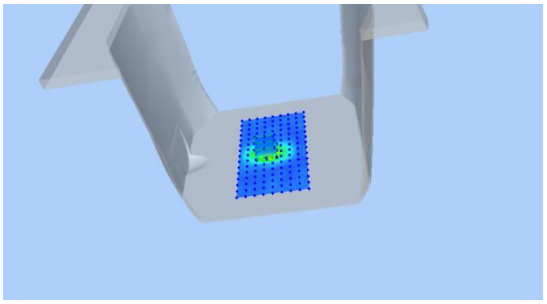
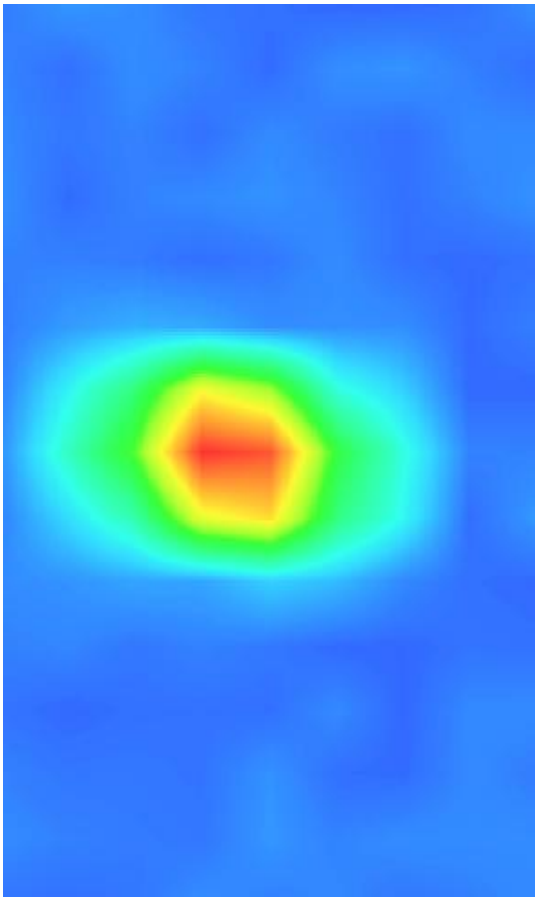
**Maximum location: X=-7.00, Y=-2.00**

**SAR Peak: 7.02 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.466524 |
| **SAR 1g (W/Kg)** | 1.659467 |

| Z (mm) | 0.00 | 2.00 | 4.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 |
|---|---|---|---|---|---|---|---|---|---|
| SAR (W/Kg) | 6.6956 | 3.5311 | 1.6419 | 0.6639 | 0.2372 | 0.0757 | 0.0242 | 0.0112 | 0.0104 |




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