



Ref: ACR.118.24.22.BES.A

# 7.3 BODY LIQUID MEASUREMENT

| Frequency<br>MHz | Relative permittivity $(\mathbf{\epsilon_r}')$ |          | Conductivity (σ) S/m |          |
|------------------|--|----------|----------------------|----------|
|                  | required                                       | measured | required             | measured |
| 5200             | 49.0 <b>±10</b> %                              | 45.50    | 5.30 <b>±10</b> %    | 5.63     |
| 5300             | 48.9 <b>±10</b> %                              |          | 5.42 <b>±10</b> %    |          |
| 5400             | 48.7 <b>±10</b> %                              | 44.78    | 5.53 <b>±10</b> %    | 5.95     |
| 5500             | 48.6 <b>±10</b> %                              |          | 5.65 <b>±10</b> %    |          |
| 5600             | 48.5 <b>±10</b> %                              | 44.85    | 5.77 <b>±10</b> %    | 6.26     |
| 5800             | 48.2 <b>±10</b> %                              | 44.45    | 6.00 <b>±10</b> %    | 6.58     |

# 7.4 SAR MEASUREMENT RESULT WITH BODY LIQUID

| Software                           | OPENSAR V5   |  |  |  |
|------------------------------------|--|--|--|--|
| Phantom                            | SN 13/09 SAM68   |  |  |  |
| Probe                              | SN 41/18 EPGO333   |  |  |  |
| Liquid                             | Body Liquid Values 5200 MHz: eps': 45.50 sigma: 5.63<br>Body Liquid Values 5400 MHz: eps': 44.78 sigma: 5.95<br>Body Liquid Values 5600 MHz: eps': 44.85 sigma: 6.26<br>Body Liquid Values 5800 MHz: eps': 44.45 sigma: 6.58 |  |  |  |
| Distance between dipole and liquid | 10 mm  |  |  |  |
| Area scan resolution               | dx=8mm/dy=8mm  |  |  |  |
| Zoon Scan Resolution               | dx=4mm/dy=4m/dz=2mm  |  |  |  |
| Frequency                          | 5200 MHz<br>5400 MHz<br>5600 MHz<br>5800 MHz   |  |  |  |
| Input power                        | 20 dBm   |  |  |  |
| Liquid Temperature                 | 20 +/- 1 °C  |  |  |  |
| Lab Temperature                    | 20 +/- 1 °C  |  |  |  |
| Lab Humidity                       | 30-70 %  |  |  |  |

| Frequency (MHz) | 1 g SAR (W/kg) | 10 g SAR (W/kg) |
|-----------------|----------------|-----------------|
|                 | measured       | measured        |
| 5200            | 72.30 (7.23)   | 22.09 (2.21)    |
| 5400            | 75.13 (7.51)   | 22.91 (2.29)    |
| 5600            | 74.81 (7.48)   | 23.01 (2.30)    |
| 5800            | 71.92 (7.19)   | 22.41 (2.24)    |

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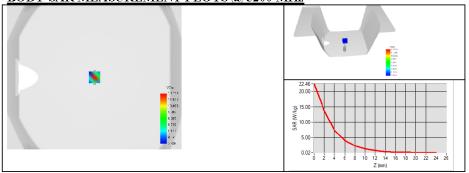
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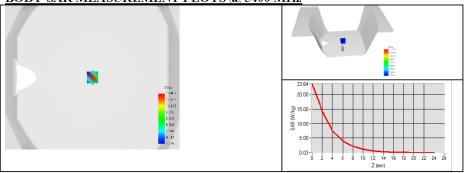




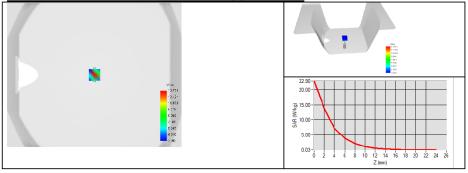
BODY SAR MEASUREMENT PLOTS @ 5200 MHz



BODY SAR MEASUREMENT PLOTS @ 5400 MHz



BODY SAR MEASUREMENT PLOTS @ 5600 MHz



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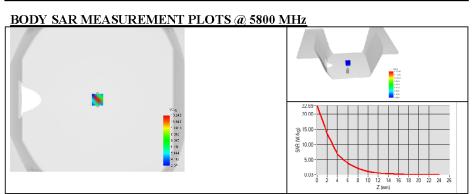
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# 8 LIST OF EQUIPMENT

| Equipment Summary Sheet               |                            |                    |   |   |  |  |  |  |
|---------------------------------------|----------------------------|--------------------|---|---|--|--|--|--|
| Equipment<br>Description              | Manufacturer /<br>Model    | Identification No. | Current<br>Calibration Date                   | Next Calibration<br>Date                      |  |  |  |  |
| SAM Phantom                           | MVG                        | SN 13/09 SAM68     | Validated. No cal<br>required.                | Validated. No cal<br>required.                |  |  |  |  |
| COMOSAR Test Bench                    | Version 3                  | NA                 | Validated. No cal<br>required.                | Validated. No cal<br>required.                |  |  |  |  |
| Network Analyzer                      | Rohde & Schwarz<br>ZVM     | 100203             | 08/2021                                       | 08/2024                                       |  |  |  |  |
| Network Analyzer                      | Agilent 8753ES             | MY40003210         | 10/2019                                       | 10/2022                                       |  |  |  |  |
| Network Analyzer –<br>Calibration kit | Rohde & Schwarz<br>ZV-Z235 | 101223             | 05/2019                                       | 05/2022                                       |  |  |  |  |
| Network Analyzer –<br>Calibration kit | HP 85033D                  | 3423A08186         | 06/2021                                       | 06/2027                                       |  |  |  |  |
| Calipers                              | Mitutoyo                   | SN 0009732         | 10/2019                                       | 10/2022                                       |  |  |  |  |
| Reference Probe                       | MVG                        | SN 41/18 EPGO333   | 10/2021                                       | 10/2022                                       |  |  |  |  |
| Multimeter                            | Keithley 2000              | 1160271            | 02/2020                                       | 02/2023                                       |  |  |  |  |
| Signal Generator                      | Rohde & Schwarz<br>SMB     | 106589             | 03/2022                                       | 03/2025                                       |  |  |  |  |
| 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                                       | 06/2024                                       |  |  |  |  |
| Power Meter                           | Rohde & Schwarz<br>NRVD    | 832839-056         | 11/2019                                       | 11/2022                                       |  |  |  |  |
| Directional Coupler                   | Krytar 158020              | 131467             | Characterized prior to test. No cal required. | Characterized prior to test. No cal required. |  |  |  |  |
| Temperature / Humidity<br>Sensor      | Testo 184 H1               | 44225320           | 06/2021                                       | 06/2024                                       |  |  |  |  |

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