

## APPENDIX D: SAR TISSUE SPECIFICATIONS

### Measurement Procedure for Tissue verification:

- 1) The network analyzer and probe system was configured and calibrated.
- 2) The probe was immersed in the tissue. The tissue was placed in a nonmetallic container. Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
- 3) The complex admittance with respect to the probe aperture was measured
- 4) The complex relative permittivity  $\epsilon'$  can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\epsilon_r\epsilon_0}{[\ln(b/a)]^2} \int_a^b \int_a^b \int_0^\pi \cos\phi' \frac{\exp[-j\omega r(\mu_0\epsilon_r'\epsilon_0)^{1/2}]}{r} d\phi' d\rho' d\rho$$

where Y is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively,  $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$ ,  $\omega$  is the angular frequency, and  $j = \sqrt{-1}$ .

### 3 Composition / Information on Ingredients

#### 3.2 Mixtures

**Description:** Aqueous solution with surfactants and inhibitors

#### Declarable, or hazardous components:

|                                                                        |                                                                                                                       |           |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------|
| CAS: 107-21-1<br>EINECS: 203-473-3<br>Reg.nr.: 01-2119456816-28-0000   | <b>Ethanediol</b><br>STOT RE 2, H373;<br>Acute Tox. 4, H302                                                           | >1.0-4.9% |
| CAS: 68608-26-4<br>EINECS: 271-781-5<br>Reg.nr.: 01-2119527859-22-0000 | <b>Sodium petroleum sulfonate</b><br>Eye Irrit. 2, H319                                                               | < 2.9%    |
| CAS: 107-41-5<br>EINECS: 203-489-0<br>Reg.nr.: 01-2119539582-35-0000   | <b>Hexylene Glycol / 2-Methyl-pentane-2,4-diol</b><br>Skin Irrit. 2, H315; Eye Irrit. 2, H319                         | < 2.9%    |
| CAS: 68920-66-1<br>NLP: 500-236-9<br>Reg.nr.: 01-2119489407-26-0000    | <b>Alkoxyated alcohol, &gt; C<sub>16</sub></b><br>Aquatic Chronic 2, H411;<br>Skin Irrit. 2, H315; Eye Irrit. 2, H319 | < 2.0%    |

#### Additional information:

For the wording of the listed risk phrases refer to section 16.

Not mentioned CAS-, EINECS- or registration numbers are to be regarded as Proprietary/Confidential.

The specific chemical identity and/or exact percentage concentration of proprietary components is withheld as a trade secret.

**Figure D-1**

Note: Liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

|                              |                    |                                   |
|------------------------------|--------------------|-----------------------------------|
| FCC ID BCG-A3064             | RF EXPOSURE REPORT | Approved by:<br>Technical Manager |
| DUT Type:<br>Wireless Earbud |                    | APPENDIX D:<br>Page 1 of 2        |

**Measurement Certificate / Material Test**

Item Name Head Tissue Simulating Liquid (HBBL000-10000V6)  
 Product No. SL AAH U16 CA (Batch: 250317-1)  
 Manufacturer SPEAG

**Measurement Method**

TSL dielectric parameters measured using calibrated DAK probe.

**Target Parameters**

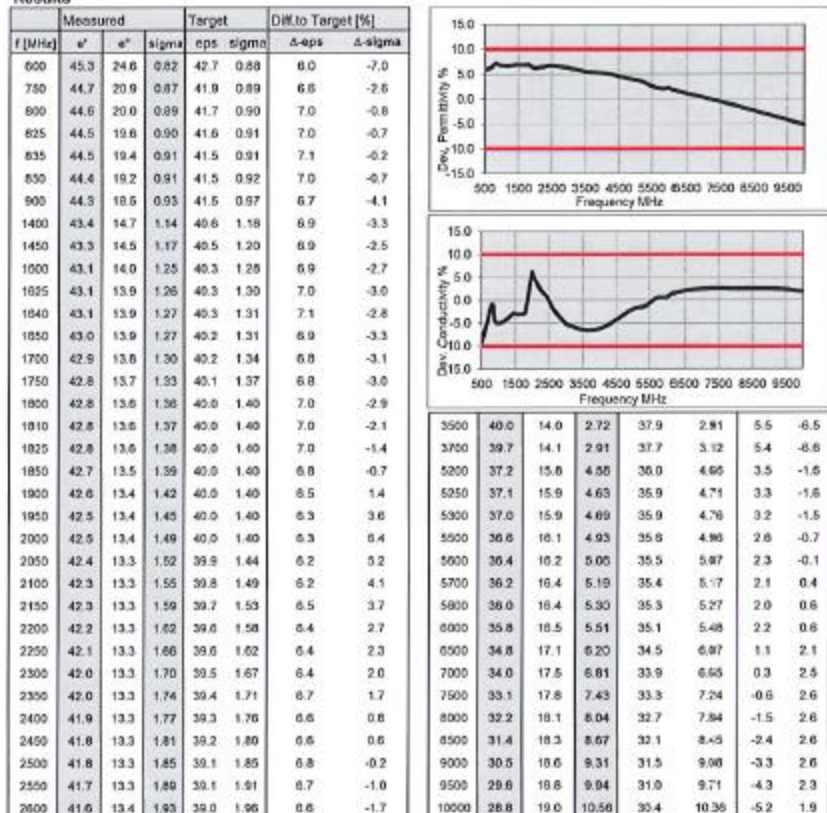
Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

**Test Condition**

Ambient Condition 22°C ; 30% humidity  
 TSL Temperature 22°C  
 Test Date 20-Mar-25  
 Operator CL

**Additional Information**

TSL Density  
 TSL Heat-capacity

**Results**

**Figure D-2**  
**600 –10000 MHz Head Tissue Equivalent Matter**

|                              |                    |                                   |
|------------------------------|--------------------|-----------------------------------|
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