High performance & cost effective Microwave cable

Axowave™ AW2.2

ADVANTAGES

> Excellent attenuation values
> Temperature rating: -65°C / +155°C
> Small diameter: 2.2 mm
> Approximate weight: 12 g/m
> Designed and manufactured by using a cost effective process
> Suitable to all microwave transmissions
> Other size microwave cables available on request
> Cabling by using SMA connector or other on request
> Integration of all Axon' components: conductor, Celloflon® dielectric, shielding tape and braid
> Integration of all manufacturing steps including conductors
> Aerospace application heritage

www.axon-cable.com
Axowave™ AW2.2

Construction

1. Core
   - Inner conductor: Solid silver plated copper
   - Ø0.51 mm

2. Taped shield
   - Silver plated copper

3. Separation tape
   - Polyester tape

4. Braided shield
   - Silver plated copper

5. Outer jacket
   - FEP
   - Ø2.2 mm

Characteristics

- Insertion loss up to 18 GHz: 3.0 dB/m max.
- Characteristic impedance: 50 ±2 Ω
- Capacitance: 87 pF/m
- Velocity of propagation: 77 %
- Nominal phase: 1555 °/GHz/m
- Cut off frequency: 70 GHz
- Shielding efficiency at 1 GHz: -100 dB max.
- VSWR (DC at 18 GHz): 1.15 max.
- Insertion loss stability after bending at 18GHz (R=30 mm): 0.1 dB max.
- Phase stability after bending (R=30mm) at 18GHz (3 turns): 9° max.
- Phase stability vs temperature (-65°C / + 155°C): 2.2 °/GHz/m max.

Calculation of insertion loss

\[ \alpha_{\text{max}}(F) = 0.63 \times \sqrt{F} + 0.017 \times F \]

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>Max insertion loss (dB/m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.65</td>
</tr>
<tr>
<td>2</td>
<td>0.95</td>
</tr>
<tr>
<td>4</td>
<td>1.35</td>
</tr>
<tr>
<td>6</td>
<td>1.65</td>
</tr>
<tr>
<td>8</td>
<td>1.95</td>
</tr>
<tr>
<td>12</td>
<td>2.40</td>
</tr>
<tr>
<td>18</td>
<td>3.00</td>
</tr>
</tbody>
</table>

Insertion loss by frequency at 23°C

Insertion loss by temperature at 18 GHz