EW20, HELIAK® Standard Elliptical Waveguide, 2.3–2.4 GHz, unjacketed

**Product Classification**
- **Brand**: HELIAX®
- **Product Type**: Elliptical waveguide

**Construction Materials**
- **Jacket Material**: Unjacketed
- **Conductor Material**: Corrugated copper

**Dimensions**
- **Cable Volume**: 5621.0 L/km
- **Cable Weight**: 2.76 kg/m
- **Diameter Over Jacket (E Plane)**: 127.50 mm | 5.02 in
- **Diameter Over Jacket (H Plane)**: 71.90 mm | 2.83 in

**Electrical Specifications**
- **Operating Frequency Band**: 2.3 – 2.4 GHz
- **eTE11 Mode Cutoff**: 1.570 GHz
- **Group Delay at Frequency**: 128 ns/100 ft @ 2.600 GHz | 418 ns/100 m @ 2.600 GHz

**Environmental Specifications**
- **Installation Temperature**: -40 °C to +60 °C (-40 °F to +140 °F)
- **Operating Temperature**: -55 °C to +85 °C (-67 °F to +185 °F)
- **Storage Temperature**: -70 °C to +85 °C (-94 °F to +185 °F)

**Mechanical Specifications**
- **Maximum Twist**: 0.03 °/ft
- **Minimum Bend Radius, Multiple Bends (E Plane)**: 660.00 mm | 25.98 in
- **Minimum Bend Radius, Multiple Bends (H Plane)**: 1800.00 mm | 70.87 in
- **Minimum Bend Radius, Single Bend (E Plane)**: 460.00 mm | 18.11 in
- **Minimum Bend Radius, Single Bend (H Plane)**: 1270.00 mm | 50.00 in

**Note**
- **Performance Note**: Values typical, unless otherwise stated

**Standard Conditions**
### Regulatory Compliance/Certifications

<table>
<thead>
<tr>
<th>Agency</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO 9001:2015</td>
<td>Designed, manufactured and/or distributed under this quality management system</td>
</tr>
</tbody>
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### Return Loss/VSWR

<table>
<thead>
<tr>
<th>Frequency Band</th>
<th>VSWR</th>
<th>Return Loss (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3–2.4 GHz</td>
<td>1.15</td>
<td>23.10</td>
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</tbody>
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* VSWR/Return Loss indicated is for lengths up to 300 ft (91.4 m)
* VSWR/Return Loss is guaranteed for factory-fit and typical for field-fit assemblies
* Custom length performance: Call 828-324-2200 or 1-800-982-1708 (toll free), or your local CommScope representative

### Attenuation

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>Attenuation (dB/100 ft)</th>
<th>Attenuation (dB/100 m)</th>
<th>Average Power (kW)</th>
<th>Group Velocity %</th>
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</thead>
<tbody>
<tr>
<td>2.3</td>
<td>0.468</td>
<td>1.534</td>
<td>31.501</td>
<td>73.1</td>
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<tr>
<td>2.4</td>
<td>0.452</td>
<td>1.484</td>
<td>32.559</td>
<td>75.6</td>
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