

EW220, HELIAX® Standard Elliptical Waveguide, 21.2–23.6 GHz, unjacketed

Product Classification

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|---------------------|----------------------|
| Brand | HELIAX® |
| Product Type | Elliptical waveguide |

Construction Materials

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|---------------------------|-------------------|
| Jacket Material | Unjacketed |
| Conductor Material | Corrugated copper |

Dimensions

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|---------------------------------------|--------------------------------------|
| Cable Volume | 74.0 L/km 0.8 ft ³ /kft |
| Cable Weight | 0.18 kg/m 0.12 lb/ft |
| Diameter Over Jacket (E Plane) | 17.80 mm 0.70 in |
| Diameter Over Jacket (H Plane) | 11.20 mm 0.40 in |

Electrical Specifications

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|---------------------------------|---|
| Operating Frequency Band | 21.2 – 23.6 GHz |
| eTE11 Mode Cutoff | 13.338 GHz |
| Group Delay | 127 ns/100 ft @ 22.400 GHz 415 ns/100 m @ 22.400 GHz |

Environmental Specifications

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

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|--|----------------------|
| Maximum Twist | 6.00 °/m 2.00 °/ft |
| Minimum Bend Radius, Multiple Bends (E Plane) | 120.00 mm 4.00 in |
| Minimum Bend Radius, Multiple Bends (H Plane) | 230.00 mm 9.00 in |
| Minimum Bend Radius, Single Bend (E Plane) | 120.00 mm 4.00 in |
| Minimum Bend Radius, Single Bend (H Plane) | 230.00 mm 9.00 in |

Note

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|-------------------------|---|
| Performance Note | Values typical, unless otherwise stated |
|-------------------------|---|

Standard Conditions

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|---|----------------|
| Attenuation, Ambient Temperature | 24 °C 75 °F |
| Average Power, Ambient Temperature | 40 °C 104 °F |
| Average Power, Temperature Rise | 42 °C 76 °F |

Return Loss/VSWR

| Frequency Band | VSWR | Return Loss (dB) |
|----------------|------|------------------|
| 21.2–23.6 GHz | 1.15 | 23.10 |

* 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

| Frequency (GHz) | Attenuation (dB/100 ft) | Attenuation (dB/100 m) | Average Power (kW) | Group Velocity % |
|-----------------|-------------------------|------------------------|--------------------|------------------|
| 21.2 | 8.547 | 28.042 | 0.398 | 77.7 |
| 21.6 | 8.473 | 27.799 | 0.401 | 78.7 |
| 22 | 8.406 | 27.577 | 0.404 | 79.5 |
| 22.4 | 8.344 | 27.376 | 0.407 | 80.3 |
| 22.8 | 8.288 | 27.192 | 0.41 | 81.1 |
| 23.2 | 8.237 | 27.024 | 0.413 | 81.8 |
| 23.6 | 8.19 | 26.87 | 0.415 | 82.5 |

Regulatory Compliance/Certifications

| Agency | Classification |
|---------------|--|
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |

