

# 222040-8

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

## Product Classification

**Product Type** Elliptical waveguide

**Product Brand** HELIAX®

## General Specifications

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

## Dimensions

**Diameter Over Jacket (E Plane)** 17.8 mm | 0.701 in

**Diameter Over Jacket (H Plane)** 11.2 mm | 0.441 in

**Cable Volume** 74 L/km | 0.797 ft³/kft

## Electrical Specifications

**eTE11 Mode Cutoff** 13.338 GHz

**Group Delay at Frequency** 127 ns/100 ft @ 22.400 GHz | 415 ns/100 m @ 22.400 GHz

**Operating Frequency Band** 21.2 – 23.6 GHz

## VSWR/Return Loss

Frequency Band	VSWR	Return Loss (dB)
21.2–23.6 GHz	1.15	23.13

## Attenuation

Frequency (GHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)	Group Velocity %
21.2	28.042	8.547	0.398	77.7
21.6	27.799	8.473	0.401	78.7
22.0	27.577	8.406	0.404	79.5
22.4	27.376	8.344	0.407	80.3
22.8	27.192	8.288	0.41	81.1
23.2	27.024	8.237	0.413	81.8
23.6	26.87	8.19	0.415	82.5

## Material Specifications

**Conductor Material** Corrugated copper

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## Jacket Material

Unjacketed

## Mechanical Specifications

<b>Minimum Bend Radius, Multiple Bends (E Plane)</b>	120 mm   4.724 in
<b>Minimum Bend Radius, Multiple Bends (H Plane)</b>	230 mm   9.055 in
<b>Minimum Bend Radius, Single Bend (E Plane)</b>	120 mm   4.724 in
<b>Minimum Bend Radius, Single Bend (H Plane)</b>	230 mm   9.055 in
<b>Maximum Twist</b>	6.562 °/m   2 °/ft

## Environmental Specifications

<b>Installation temperature</b>	-40 °C to +60 °C (-40 °F to +140 °F)
<b>Operating Temperature</b>	-55 °C to +85 °C (-67 °F to +185 °F)
<b>Storage Temperature</b>	-70 °C to +85 °C (-94 °F to +185 °F)
<b>Average Power, Ambient Temperature</b>	104 °F   40 °C
<b>Average Power, Temperature Rise</b>	42 °C   107.6 °F

## Packaging and Weights

<b>Cable weight</b>	0.18 kg/m   0.121 lb/ft
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## Regulatory Compliance/Certifications

### Agency

ISO 9001:2015

### Classification

Designed, manufactured and/or distributed under this quality management system

