

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

Product Classification

Brand	HELIAX®
Product Type	Elliptical waveguide

Construction Materials

Jacket Material	Unjacketed
Conductor Material	Corrugated copper

Dimensions

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

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

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	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

Performance Note	Values typical, unless otherwise stated
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Standard Conditions

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

