

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
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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 ft ³ /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

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

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)
Attenuation, Ambient Temperature	75 °F 23.889 °C
Average Power, Ambient Temperature	104 °F 40 °C
Average Power, Temperature Rise	42 °C 107.6 °F

Packaging and Weights

Cable weight 0.18 kg/m | 0.121 lb/ft

Regulatory Compliance/Certifications

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

