HELI-6

ANTENNAS | HELI-6 SERIES

690-960 MHZ HIGH GAIN LTE MINE/TUNNEL ANTENNA

DIRECTIONAL 690 – 960 MHZ CIRCULAR POLARIZED ANTENNA

690 – 960 MHz | 13 dBi | Increase x Mb/s | 4G LTE | IoT | LoRa

Fire Resistant | -40°C to +70°C | IP 65 | Directional | Machine to Machine

- **Circular Polarised HELI antenna provides enhanced signal propagation and connection stability within a tunnel**
- **Left Hand Circular (LHC) polarised**
- **Uni-directional – radiates in one direction in a tunnel**
- **Ruggedized & water ingress protected**
- **Ideal for Mining & Tunnel M2M and IoT deployments**
- **Covers traditional ISM bands for 868/915 MHz, LoRa and other technologies**

APPLICATION AREAS

MASC Mining and Surface

Mining

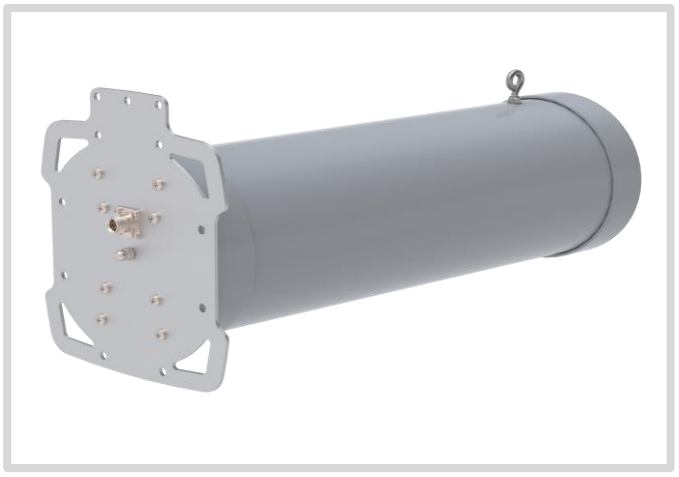
Tunnel

Product Overview

This high gain LTE directional antenna compliments our MinePoynt mine and tunnel antennas. MinePoynt antennas exploits Poynting's fifteen years' experience in designing and manufacturing antennas for underground mining communication and data networks. This antenna is also suitable for oil/gas chemical environments as well as fiery mines where IS equipment is required. In tests, the data rate and range achieved with this antenna was substantially greater than obtained when using linear polarised panel antennas of the same gain. The hardy construction of the antenna makes it ideal for a mining environment. The HELI 6 operates from 690 MHz – 960 MHz while the HELI 5 operates from 1710 MHz – 2170 MHz.

Features

- Proven antenna performance giving maximum range
- Ideal where other devices used polarisation could change
- High gain over the 690 – 960 MHz range
- Intrinsically safe version available



Application Areas

- Supplementing fibre/cable networks "Hotspots" to areas to enhance mobility or extend networks to inaccessible areas such as mines and tunnels.
- Underground telemetry.
- Creating of complete underground in tunnel wide data networks and internet/LTE connectivity.
- Seamless connection to personnel using cellular phones and smart devices and tablets.

Revised: February 2020

Regulatory Compliance: RoHS 2011/65/EU Compliant | ISO 9001:2015
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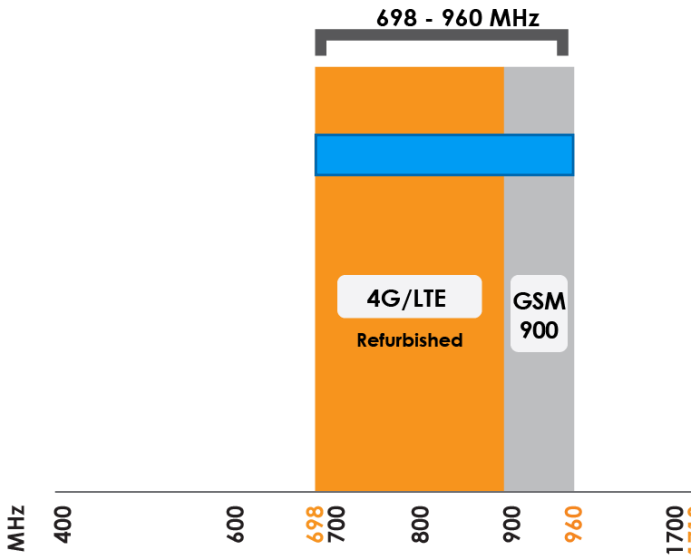
Frequency Bands

The HELI-6 is a wide-band antenna that works from 690 -960 MHz



Indicates the LTE bands on which **HELI-6 works**

Antenna Overview

Antenna Variant	A-HELI-0006-V1-01
Ports	1
SISO / MIMO	1 x SISO
Frequency Bands	690 MHz – 960 MHz
Peak Gain	13 dBi
Connector Type	N-Type Female Bulkhead connector

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Electrical Specifications

Frequency bands:	690 – 960 MHz
Gain (max):	13 dBi
VSWR:	<2:1 Over 90% of the band
Feed power handling:	30 W
Input impedance:	50 Ohm (nominal)
Polarisation:	Circular Polarised
Coax cable loss:	N/A
DC short:	N/A

Coax Cable & Connector Type

Cable length:	N/A
Coax cable type:	N/A
Connector type:	N-Type (Female)Bulkhead

**The coax cable & connector is factory mounted to the antenna*

Product Box Contents

Antenna:	A-HELI-0006-V1-01
Mounting bracket:	Mounting bracket

Ordering Information

Commercial name:	HELI-6
Order product code:	A-HELI-0006-V1-01
EAN number:	6009880915453

Mechanical Specifications

Product dimensions	705 mm x 244 mm x 197 mm
Packaged dimensions:	707 mm x 246 mm x 199 mm
Weight:	3.71 kg
Packaged weight:	3.8 kg
Radome material:	PVC
Radome colour:	Grey
Mounting Type:	Eyebolt hanging mounting bracket

Environmental Specifications, Certification & Approvals

Wind Survival:	<120 km/h
Temperature Range (Operating):	-40°C to +70°C
Environmental Conditions:	Outdoor/Indoor
Water ingress protection ratio/standard:	IP 65
Salt Spray:	MIL-STD 810F/ASTM B117
Operating Relative Humidity:	Up to 98%
Storage Humidity:	5% to 95% - non-condensing
Storage Temperature:	-40°C to +70°C
Enclosure Flammability Rating:	UL 94-HB
Impact resistance:	IK 08
Product Safety & Environmental:	Complies with CE and RoHS standards

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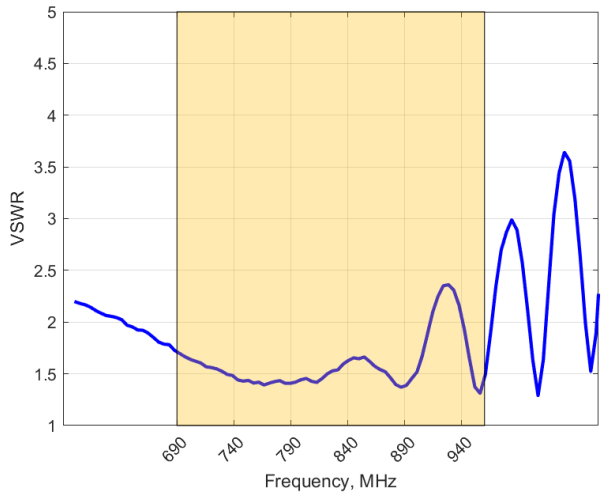
Antenna Performance Plots

VSWR

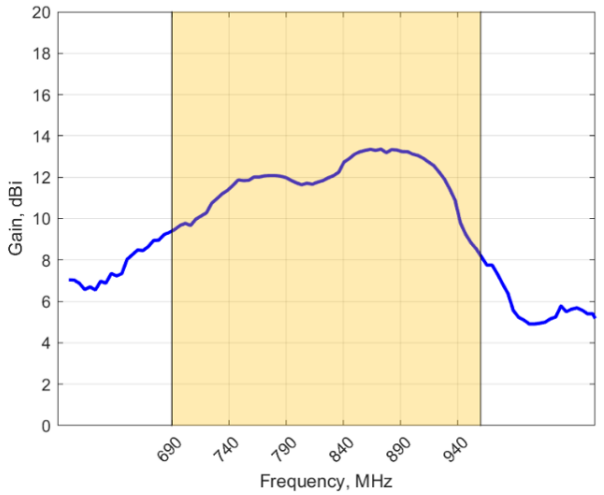


Voltage Standing Wave Ratio (VSWR)

VSWR is a measure of how efficiently radio-frequency power is transmitted from a power source, through a transmission line, into a load. In an ideal system, 100% of the energy is transmitted which corresponds to a VSWR of 1:1.

The HELI-6 delivers superior performance across all bands with a VSWR of 2:1 or better across 90% of the bands.

GAIN



Gain* in dBi

13 dBi is the peak gain from 690 – 960 MHz.

**Antenna gain measured with circular polarised standard antenna*

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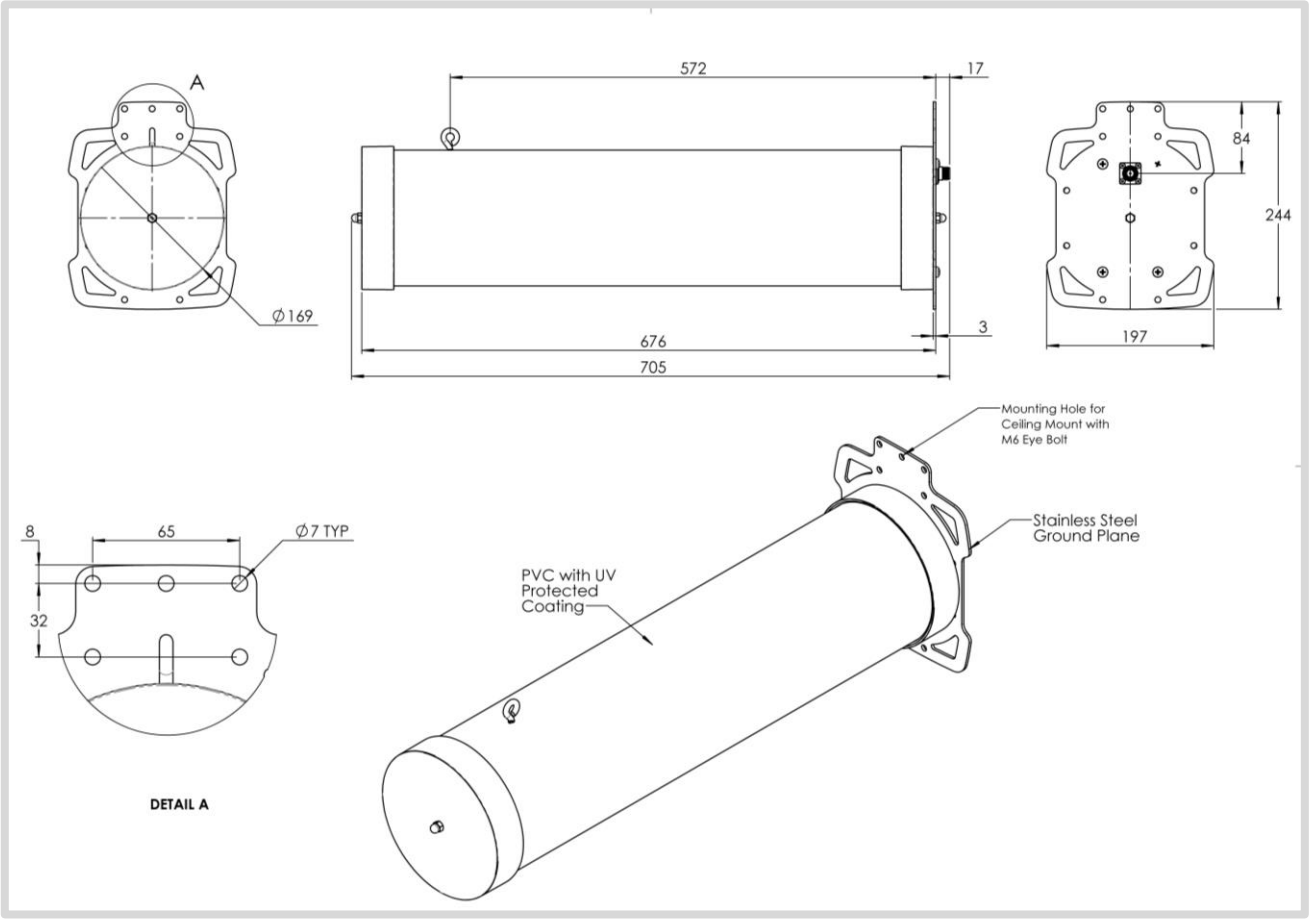
Technical Drawings



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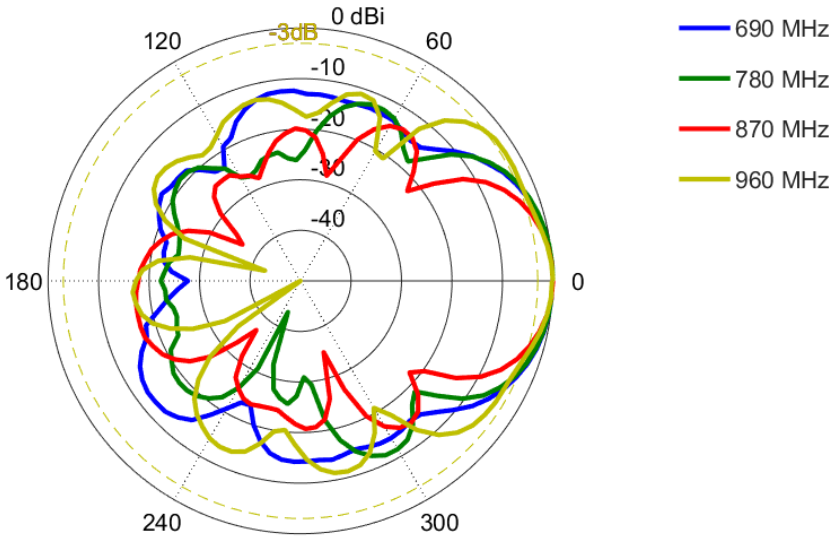
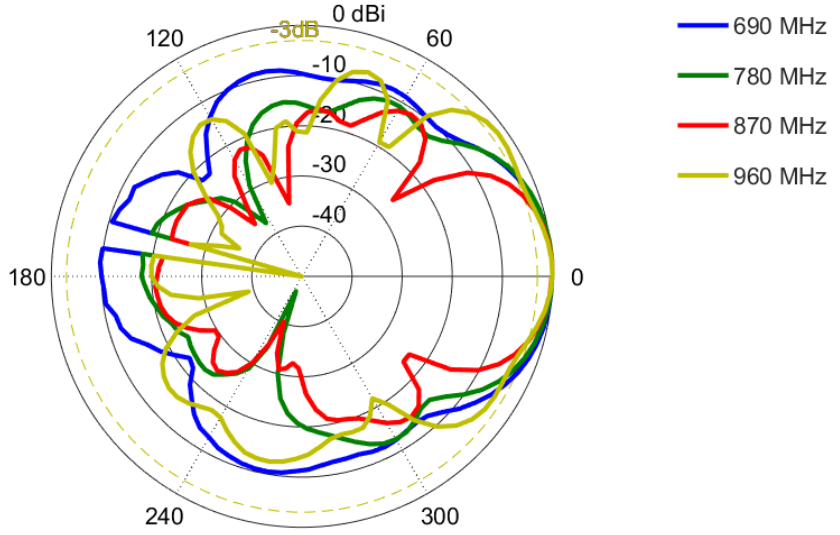
Radiation Patterns

Elevation: 690 MHz – 960 MHz



Azimuth: 690 MHz – 960 MHz



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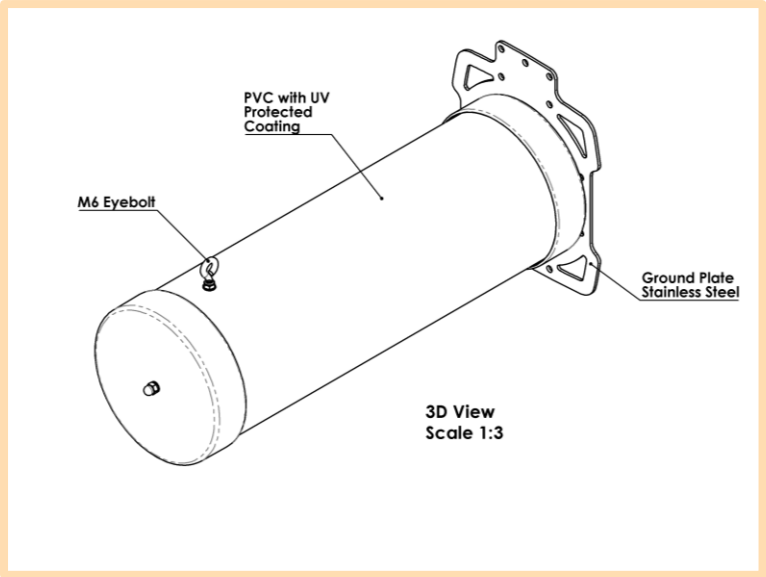
Mounting Options



Ceiling Mount

Hang from ceiling to desired height with cable attached to M6 Eye bolts and mounting hole on Ground Plate.

Contact Poynting

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