

COBHAM

Specialist Antennas for C-UAS

from Cobham Antenna Systems

(part of Cobham Aerospace Connectivity)



Most counter-drone (C-UAS) systems depend on effective use of RF. All of these need antennas appropriate to the specified mitigation techniques (e.g. jamming, spoofing, monitoring). Cobham Antenna Systems is meeting increasing demands for a wide variety of antennas optimised for a range of different system requirements.

Cobham Antenna Systems' C-UAS-suitable antennas

Cobham Antenna Systems develops and supplies antennas, which are optimised for use as part of counter-drone systems.

The main bands covered are those that are used in many commercial systems, covering ISM, Wi-Fi and GPS (i.e. 413MHz, 915MHz, 1.575GHz, 2.4GHz, 5.8GHz). More advanced systems might need to utilise ultra-wideband antennas, to cover Cellular (LTE), other licenced bands or rogue devices.

A number of Cobham Antenna Systems' products are already in use for counter-drone applications, and many more have all the essential specifications, capabilities and features to make them readily available for incorporation into new counter-drone systems, as they are developed.

Description of main Product Types

◆ **Directional antennas**, both flat-panel and helix, provide high gain and narrow beams which must be steered towards their targets (e.g. handheld and automatic systems), providing maximum range, while leaving other regions of the sky unaffected.

◆ **Sector antennas** provide area coverage with medium gain, where the antenna is likely to be static. They could be used for fixed installation, zonal coverage, for example for specific building protection to avoid interference with the signals of legitimate frequency users.

◆ **Omni Antennas**, provide 360-degree coverage, which can be used for either mobile or static systems / installations.

	Omni	Directional	Sector
433 MHz			
915 MHz			
1.575 GHz			
2.4 GHz			
5.8 GHz			
Multi-band			
Wideband			



1 Ultra wideband Omni antennas

- > 360-degree coverage
- > Frequency bands from 400MHz to 6GHz and above
- > Single input allows for versatility as threats change
- > Wide elevation beamwidth with 2dBi gain.

2 Directional helix antennas

- > Up to four bands can be covered in a single unit
- > Optional mounting for fixed installation or hand-held device
- > Circular polarisation maximises operations in any orientation
- > Up to 17dBIC gain and 30deg x 30deg coverage which reduces interference with other legitimate users
- > All bands from 400MHz to 5.8GHz covered.

3 Ultra wideband directional antennas

- > Bands from 400MHz to 6GHz for commercial and military applications
- > Up to 9dBic with 60deg x 60deg beam for zonal coverage
- > Future-proof by providing continuous frequency coverage
- > Can handle up to 100W power across the bands.

4 Omni directional Antennas

- > 360-degree coverage
- > Gains of up to 9dBi
- > Best solution where target drone's location is unknown
- > Single bands or several antennas stacked in a single housing
- > The two antennas featured each cover two bands (433MHz, 915MHz, 2.4GHz, 5.8GHz), each with single connector.

5 Sector Antennas

- > Zonal coverage from 30deg to 180degrees
- > Gains from 6-18dBi
- > Linear or circular polarisations to provide optimum solution
- > Several sectors can be installed in one housing, using one connector
- > Narrow elevation beamwidth reduces interference with ground or airborne systems outside zonal coverage.

Technologies

Depending on the application, Cobham Antenna Systems can provide:

- ◆ Single-band antennas covering one specific frequency.
- ◆ Multi-frequency antennas, covering several specific bands, with single or multiple connectors. This technique can be applied to Omni, Directional or Sector antennas within a single housing to reduce size and weight. Examples are the Tri-band Helix, or stacking patch elements, to cover two or more bands within the same footprint.
- ◆ Ultra-wideband directional or Omni antennas, with single input covering multiple bands (and usually everything in between), which could be used to mitigate non-standard bands, for future-proofing systems.
- ◆ All products can provide Linear or Circular polarisation, to optimise the ability to counter the target drone.

Meeting our customers' needs

Cobham Antenna Systems can customise its antennas to meet your particular requirements, if the very wide range of standard products we offer does not provide a perfect fit for your system.



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