

# Cobham Antenna Systems

## Microwave Antennas

**COBHAM**

IED Countermeasures

Ultra Wideband and Multiband Antennas

The most important thing we build is trust



Man Pack  
Antennas



Antennas  
for Light  
Vehicles



Antennas  
for  
Armoured  
Vehicles



Antennas  
for Vehicles  
on Patrol



## IED Countermeasures Ultra Wideband and Multiband Antennas

Man-pack and  
wearable antennas  
for foot patrol



### IED Countermeasures are no longer an option, but a necessity.

Effective countermeasures for field operations are becoming mandatory as commercially available RF products continue to be used by insurgents to set off IEDs, 'the road side bomb'.

Denying use of the RF spectrum to the enemy is critical for the protection of convoys, individual vehicles, and the dismounted soldier who is vulnerable to this form of covert and lethal attack.

As RF sources and amplifiers used for jamming are developed to cover wider bands at higher power, it is important that antennas are developed in parallel. The antennas must be wide-open (covering all specified bands); peak gain must be on the horizon at all frequencies; they must be small enough to be used by foot

soldiers and rugged for vehicle applications; high efficiency extends battery life.

Cobham Antenna Systems (Microwave Antennas) has developed a portfolio of ultra wideband omni antennas in the range 100MHz to 18GHz to cover all of the bands in which high power amplifiers currently operate. Multistack omni arrangements have been developed as well as specific products with high gain for cellular band countermeasures.

Cobham Antenna Systems (Microwave Antennas) are developing antennas in conjunction with radio/HPA manufacturers to meet these demanding RF requirements to provide wide area safe zones for military personnel.



Left to right  
XPO2V-2.0-18.0/1397  
XPO2V-0.8-6.0GF/1441

### Ultra Wideband Omni

Biconical omnis are fully efficient, vertically polarised broadband antennas.

Depending on configuration, bandwidths from 3:1 to 30:1 are achievable.

- Frequencies from 100MHz to 18GHz
- Ground plane independent
- Vertically polarised
- Elevation HPBW typically 30°
- Typically 0 to 2dBi gain across the band
- Excellent azimuth ripple patterns
- High power
- Peak gain on horizon across all bands

### Multistacked Omni

Wideband omni antennas can be 'stacked' so that several antennas may be designed into a single housing, and more importantly a single mounting point on any vehicle.

- New feed through technology allows multiple antennas to be co-located, saving space and shadowing
- Overlapping frequencies for multiple applications
- High isolation between bands
- 200W per band simultaneously
- Good return loss across all bands
- Optional NATO spring mount



### Directional Antennas

Directional, ultra wideband, high power, vertical and circular polarised antennas are available. This range is expanding with new developments to meet customers' deployment requirements.

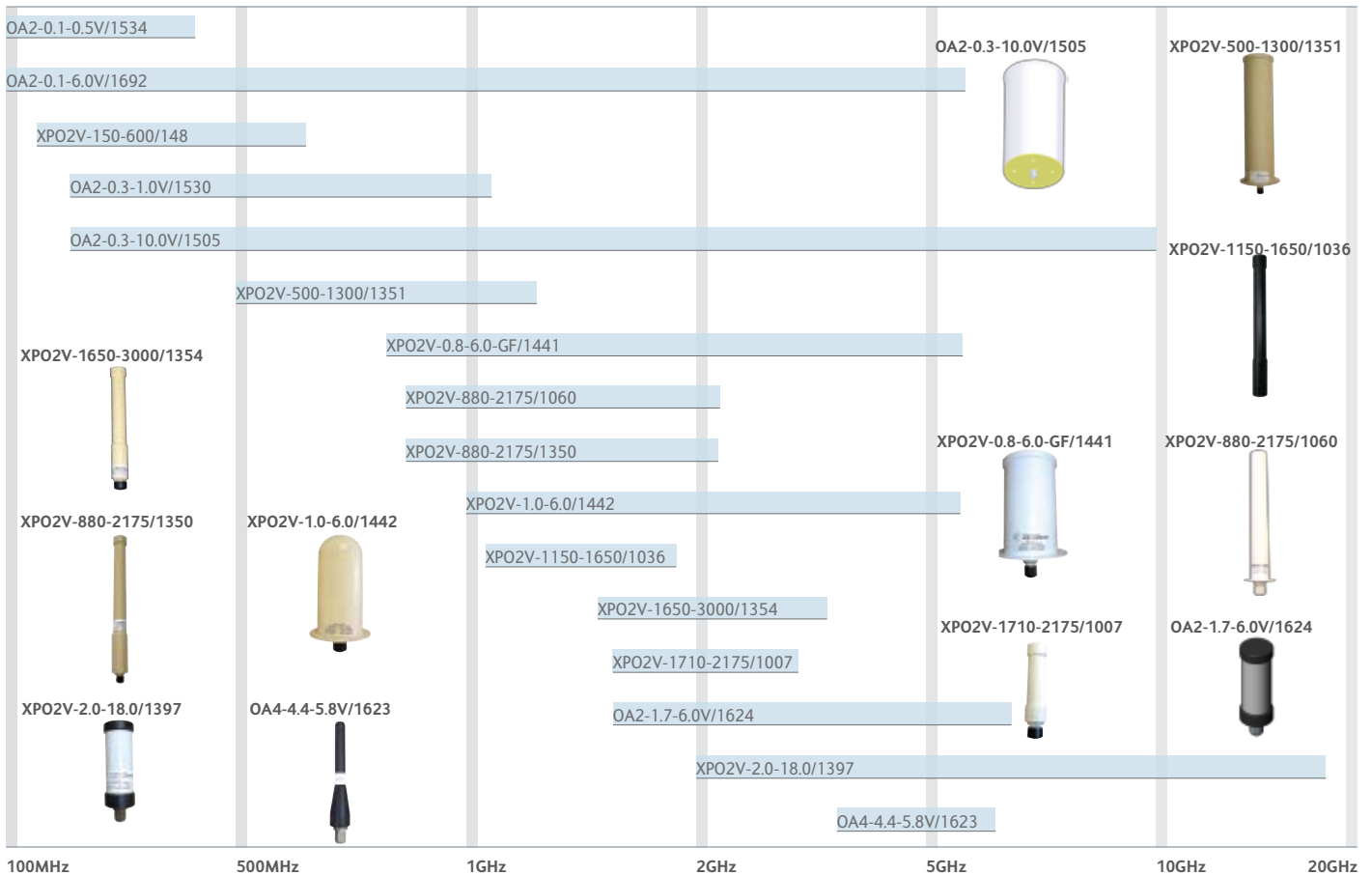
Omni antennas on light vehicles for army patrols



Omni antennas on armoured vehicles



Standard ultra wideband omni antennas which form the cornerstone of development projects for specific applications



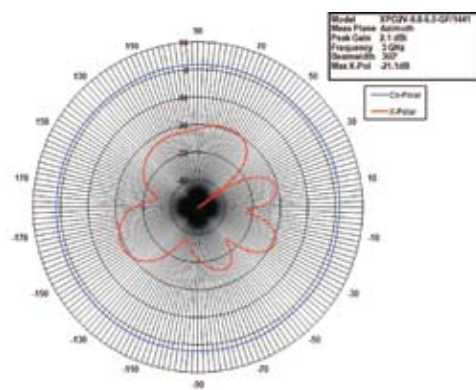
Model	Frequency GHz	Gain dBi	Beamwidth az°	Beamwidth el°	Polarisation	Dimensions mm	Connector	Photo ▲
OA2-0.1-6.0V/1692	0.10 - 0.50 0.50 - 6.00	2	360	80	Vertical	1250x140 Ø	N(F) x2	
OA2-0.1-0.5V/1534	0.13 - 0.50	2	360	60	Vertical	855x104 Ø	N(F)	
OA2-0.3-1.0V/1530	0.30 - 1.00	2	360	60	Vertical	472x104 Ø	N(F)	
XPO2V-150-600/148	0.15 - 0.60	2	360	80	Vertical	805x155 Ø	N(F)	
OA2-0.3-10.0V/1505	0.30 - 10.0	2	360	65	Vertical	305x161 Ø	N(F)	▲
XPO2V-500-1300/1351	0.50 - 1.30	2	360	80	Vertical	333x79 Ø	N(F)	▲
XPO2V-0.8-6.0-GF/1441	0.80 - 6.00	2	360	75	Vertical	143x108 Ø	N(F)	▲
XPO2V-880-2175/1060	0.80 - 2.40	2	360	50	Vertical	221x31 Ø	N(F)	▲
XPO2V-880-2175/1350	0.80 - 2.40	2	360	50	Vertical	344x36 Ø	N(F)	▲
XPO2V-1.0-6.0/1442	1.00 - 6.00	2	360	70	Vertical	134x59 Ø	N(F)	▲
XPO2V-1150-1650/1036	1.15 - 1.65	2	360	70	Vertical	249x25 Ø	N(M)	▲
XPO2V-1650-3000/1354	1.65 - 3.00	2	360	80	Vertical	253x25 Ø	N(F)	▲
XPO2V-1710-2175/1007	1.70 - 2.17	2	360	50	Vertical	147x26 Ø	N(F)	▲
OA2-1.7-6.0V/1624	1.70 - 6.00	2	360	70	Vertical	104x35 Ø	N(F)	▲
XPO2V-2.0-18.0/1397	2.00 - 18.0	2	360	70	Vertical	104x39 Ø	N(F)	▲
OA4-4.4-5.8V/1623	4.40 - 5.80	4	360	40	Vertical	153x14 Ø	N(M)	▲

## RF Performance

Antennas used for IED countermeasures must provide high efficiency coupled with exceptional ground area coverage. The radiation patterns must be consistent across the whole band of operation.

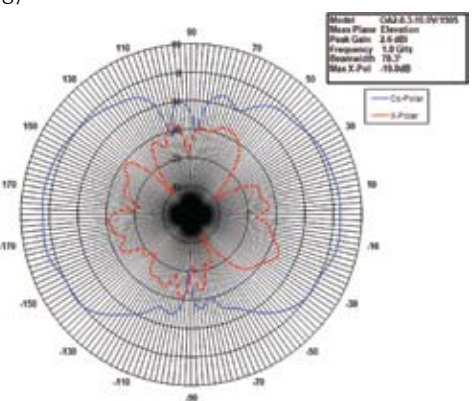
### Azimuth pattern

The measured azimuth pattern shown for model XPO2V-0.8-6.0GF/1441 demonstrates positive gain on the horizon and very low azimuth ripple, which is essential to ensure maximum area protection.



### Elevation pattern

The measured elevation pattern shown for OA2-0.3-10.0V/1505 demonstrates that the peak gain is on the horizon and remains so across all frequencies. This is a feature of our centre-fed antennas and is vital to ensure that the RF energy is not wasted. The elevation beamwidth of at least 60° allows for vehicles or man-pack units to be off vertical but still maintain the protection area coverage.



## Other antenna brochures



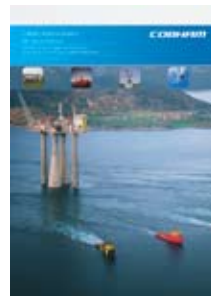
Commercial -  
Vector and LTE



Defence -  
Unmanned Systems



Defence -  
C-Band



Commercial and  
Satellite



Antenna Catalogue

## Cobham Antenna Systems, Microwave Antennas

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