



# CBL 6143A COMPACT X-WING® BILOG® ANTENNA 30 MHz to 3 GHz



### The Compact X-Wing® BiLog® for RF EMC immunity testing

The combination of BiLog® technology with novel low frequency, folded elements (X-Wings®) allows low frequency power to be efficiently projected forward without significantly affecting the high frequency performance and, at the same time, reduces the chamber coupling effects. The CBL 6143A has a unique matching network which will allow powers of up to 300 watts CW to be transmitted, making it suitable for most immunity measurements requiring fields of 10 V/m, or even greater.

### Emission testing

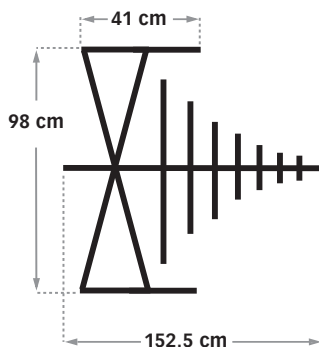
The innovative geometry of the log periodic section of the CBL 6143A has been created using advanced modelling techniques of the University of York. This shape optimizes the gain performance over conventional log periodic antennas at frequencies above 700 MHz and extends the useful operating range to 3 GHz. This improvement is invaluable in measurement systems using receiving instruments with high noise floors at high frequencies, saving preamplification which is not always desirable or practical when measuring high level signals or broadband impulsive noise.

CBL 6143A vertical onto tripod  
BTP 6020A

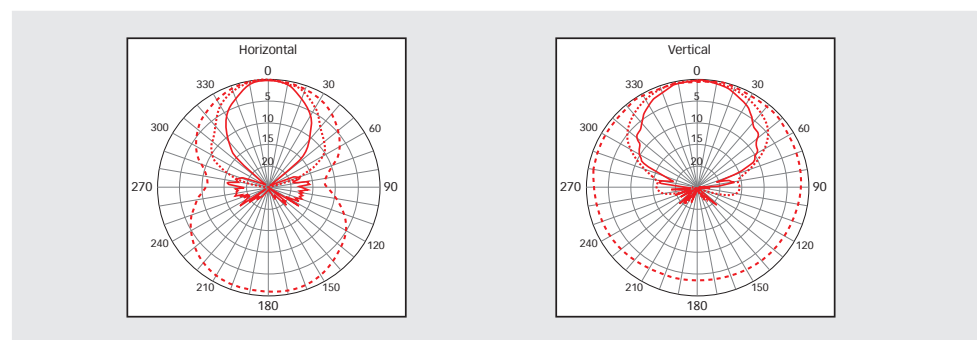
- Immunity testing to 300 watts
- Excellent symmetry ±1 dB (typically better than ±0.5 dB)
- Improved high frequency gain
- No rotational offsets

### Technical specifications

Frequency range:	30 MHz to 3 GHz (useable to 20 MHz)
Typical gain:	6 dB (200 MHz to 3 GHz) / 8 dB (700 MHz to 2.5 GHz)
Impedance (nominal):	50 Ω
Maximum continuous power:	300 W
Connector:	N type female
VSWR:	Average 2:1 max
Size antenna (L x H x W in mm):	approx. 1525 X 980 X 410 (see drawing)
Weight:	approx. 4.2 kg
Recommended tripod:	BTP 6020A

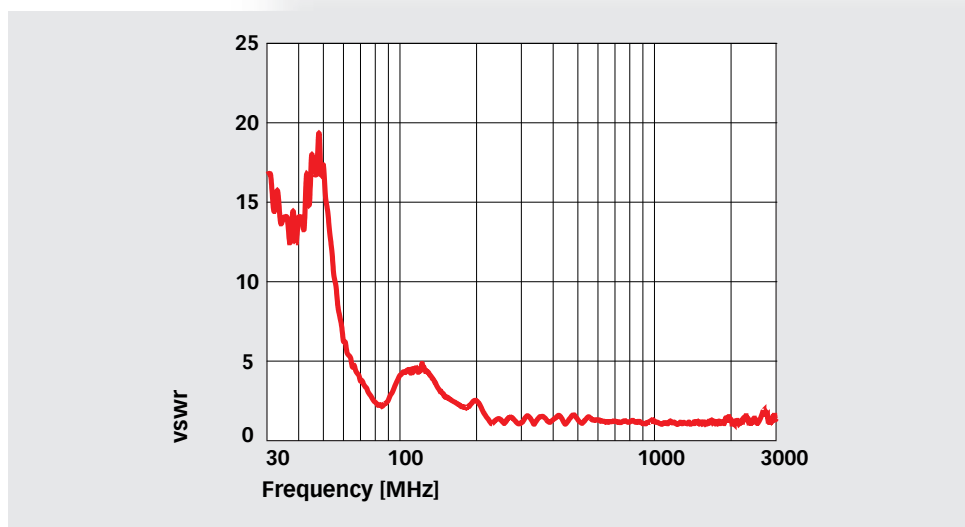


Typical E field polar patterns for - - 30 MHz, ···· 1000 MHz and — 3000 MHz

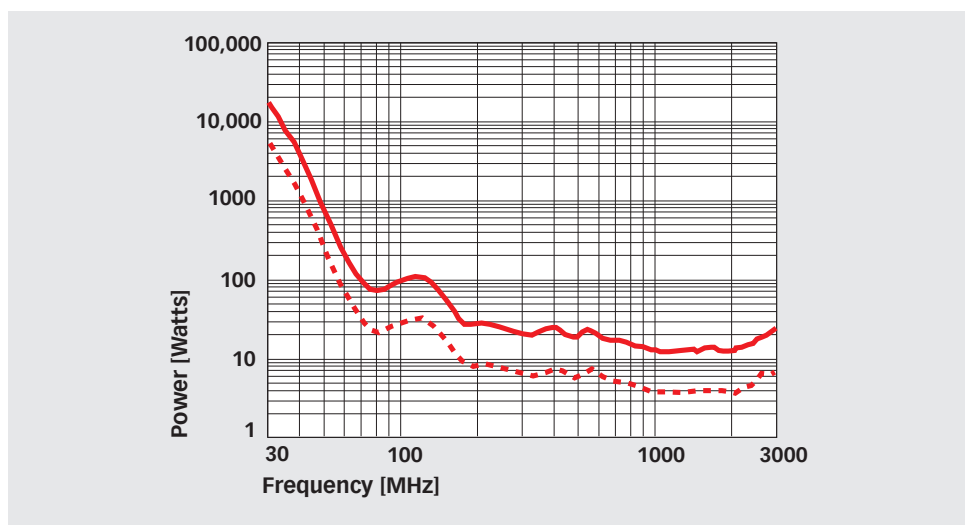


**CBL 6143A**  
**COMPACT X-WING® BILOG® ANTENNA**  
**30 MHz to 3 GHz**

Typical VSWR



Typical drive power for 10 V/m at 3 m, - - - CW power, — power with 80% modulation

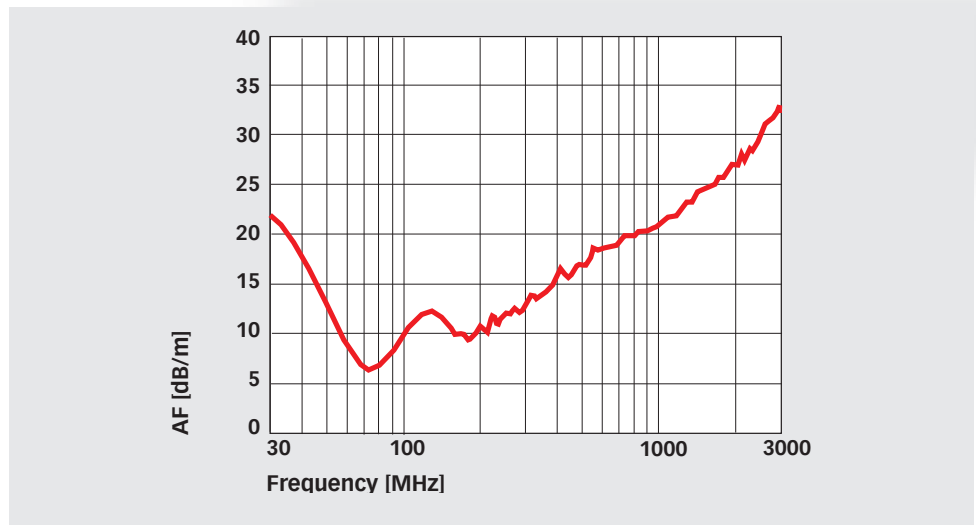




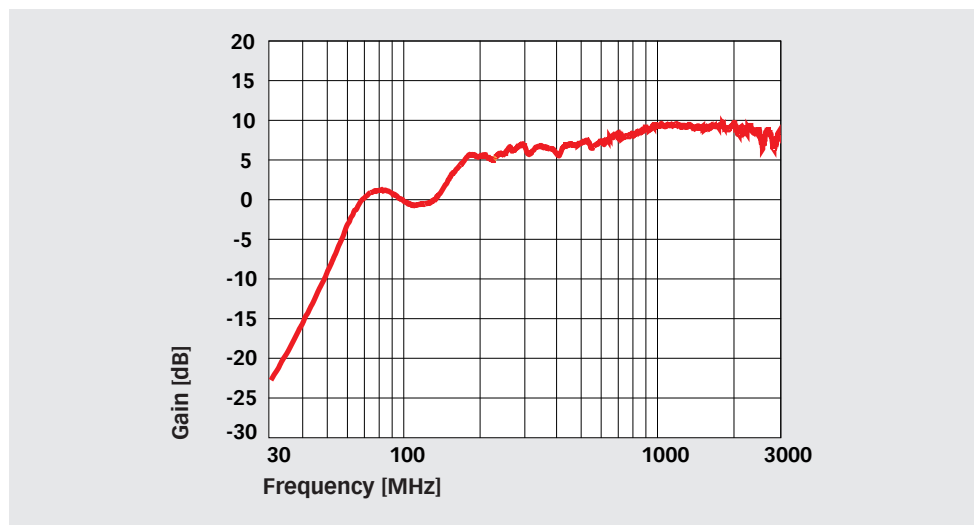
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Typical antenna factor



Typical gain

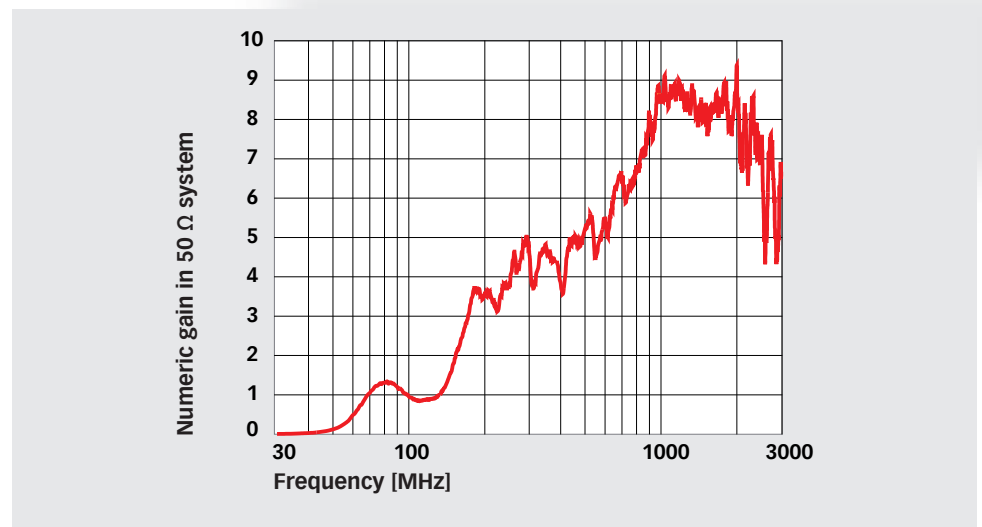


# CBL 6143A COMPACT X-WING® BILOG® ANTENNA 30 MHz to 3 GHz



CBL 6143A horizontal onto tripod  
BTP 6020A

## Typical gain ratio



## Delivery information

Part number	Description
342-120	CBL 6143A Compact X-Wing BiLog antenna 30 MHz - 3 GHz
97-244570	Ant Cert-TC Traceable calibration (ISO17025), order only with the antenna, free space calibration (horizontal), other calibrations on request
248504	BTP 6020A-0880 EMC Tripod with tube 880 mm and mounting head for antennas with 22 mm tube
248505	BTP 6020A-0680 EMC Tripod with tube 680 mm and mounting head for antennas with 22 mm tube
248523	BTP 6020A-1370 EMC Tripod with tube 1370 mm and mounting head for antennas with 22 mm tube
346-199	MTC 9011 Metal transit case for CBL 6111, 6112, 6141 or 6143

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