

# X-Wing® BiLog® Antenna 26MHz - 2GHz

CBL 6140A

- Up to 30% test time saved
- Ultra-broadband immunity antenna
- Less than 500W required at 26MHz
- Out performs comparable antennas by 6dB at 26MHz

## The 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 elements.

The CBL 6140A gives an incredible antenna factor of only 3dB at 26MHz together with a useable VSWR making the CBL 6140A the first wide band EMC antenna able to deliver 10V/m with 80% AM modulation using an amplifier power of less than 500W# at 26MHz.

## High Power Handling

The CBL 6140A has been optimised for immunity testing to IEC 61000-4-3, and uses a high impedance balun, giving a considerably improved VSWR at low frequencies. Although it is larger in size than the classic emission BiLog®, it is still smaller than any conventional alternative. The CBL 6140A can handle powers up to 600 Watts and is suitable for testing in most shielded rooms and anechoic chambers. The CBL 6140A covers the requirements for testing medical equipment to EN 60601-1-2 and FDA (in the US) for RF immunity.

## Options

### UKAS Calibration

Schaffner EMC Systems is UKAS accredited for antenna calibration and can offer a UKAS calibration as an additional costed option.

UKAS calibration provides reduced measurement uncertainties and additional data includes the voltage reflection coefficient for calculation of measurement uncertainties. Data is provided on disk as well as in graphic and tabulated format as hard copy.

**CTP 6095** fixed height tripod system complete with an axial rotating mount. This extremely stable tripod allows horizontal and vertical orientation with no height offset. **It is strongly recommended that this mount is used.**

**MT 9015** transit case - Consists of 1 case for main structure and 1 case for X-Wing® elements and braces. (These 2 cases make the CBL 6140A suitable for UPS shipping.)

**CHA 9452** spare folded elements - single set ('U'+ 'V')

## Axial Rotation

The CBL 6140A is supplied with a mount to fit most standard fixings, set at its mechanical balance point. An optional rotating mount, CHA 9440, can be supplied separately for mounting to box section tower booms.



Rotating Mount  
CHA 9440A  
(can be ordered  
separately)

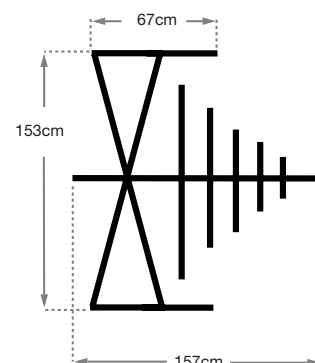
Although primarily designed as an immunity antenna, the CBL 6140A can be used for emission testing and is supplied with individual calibration data.

Although primarily designed for use at 26MHz - 2GHz the CBL 6140A remains useable down to 20MHz

# Chamber Dependent

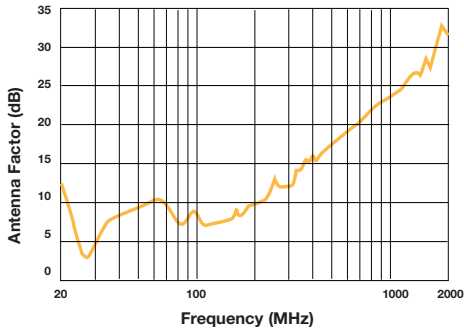


CBL 6140A mounted  
using the CTP 6095  
tripod system

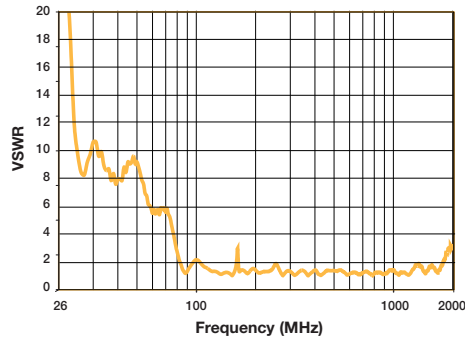


- Power transfer where it counts ‘at the low end’
- Useable VSWR at low frequencies
- Handles power up to 600 watts
- Excellent symmetry

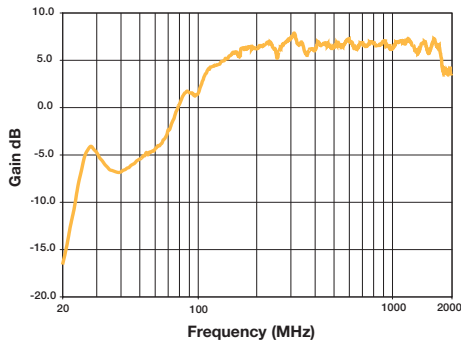
**Typical Antenna Factor**  
Measured at 3m



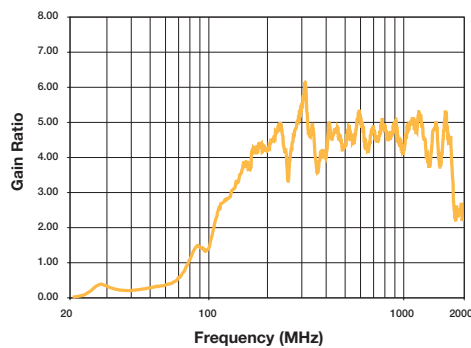
**Typical VSWR**



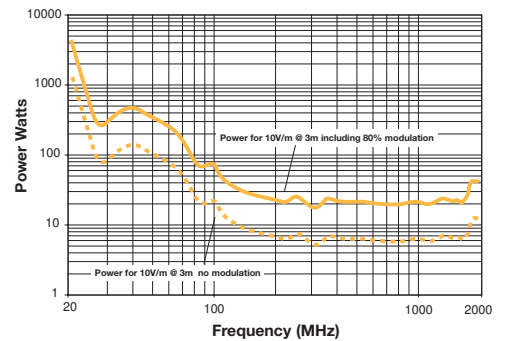
**Gain [dB]**



**Gain Ratio**



**Drive Power For 10V/m at 3m Spacing**  
Calculated from Antenna Factor



Note: To obtain power required for any field strength E, multiply above power by  $E^2$

**Technical Specifications**

**CBL 6140A**

Frequency range	26MHz - 2GHz	VSWR	Average 2:1
Impedance (nominal)	50Ω	Max transmit power	600W CW
Numeric gain	(see graph)	Size L x H x W cm	157 x 153 x 67
Connector	N type female	Weight	6.5kg