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.

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 VSWR

Typical drive power for 10 V/m at 3 m, **CW power**, *power with 80% modulation*
**CBL 6143A**
COMPACT X-WING® BILOG® ANTENNA
30 MHz to 3 GHz

**Typical antenna factor**

![Graph showing typical antenna factor with frequency in MHz on the x-axis and AF in dB/m on the y-axis.]

**Typical gain**

![Graph showing typical gain with frequency in MHz on the x-axis and gain in dB on the y-axis.]

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

**COMPACT X-WING® BILOG® ANTENNA**

30 MHz to 3 GHz

---

**Delivery information**

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

---

**Typical gain ratio**

![CBL 6143A horizontal onto tripod BTP 6020A](image)

![Typical gain ratio graph](image)