CEECOM MOXON ANTENNA - 6dBi GAIN

MOXON ANTENNA

Available for 6m, 4m & 2m Bands

CEECOM Amateur Radio Antennas

www.ceecom.co.uk

ESTIMATED RADIATED POWER 6 dBi GAIN

INPUT >	ERP
1 WATT =	2.4 WATT
10 WATT =	24 WATT
100 WATT =	240 WATT

The Moxon antenna was first introduced by Les Moxon (G6XN) and is a truly superb antenna.

The ends of the two elements are bent backward (radiator) or forward (reflector) acting as a capacitive load achieving greater bandwidth and lower losses

This antenna is a simple and mechanically robust two element design giving modest directivity with a null towards the rear. The antenna achieves a high front to back ratio typically with a wide beamwidth.

ELECTRICAL / MECHANICAL SPEC

DIMENSIONS:
6M Band 50 MHz: 222cm x 80cm
4M Band 70 MHz: 160cm x 57cm
2M Band 144 MHz: 80cm x 28cm

WEIGHT
2M Band 144 MHz: 950 G
4M Band 70 MHz: 1.4 KG
6M Band 50 MHz: 1.8 KG

VSWR: <1.5:1

POLARISATION: Horizontal

FEED POINT: 50ohm SO239 or N type

POWER: 400W (SO239) / 800W (N)

GAIN: 6dBi Freespace +/- 0.3DbI

BEAMWIDTH: V-Plane 133 deg, H-Plane 78 deg in Freespace

FRONT TO BACK: 42 dB

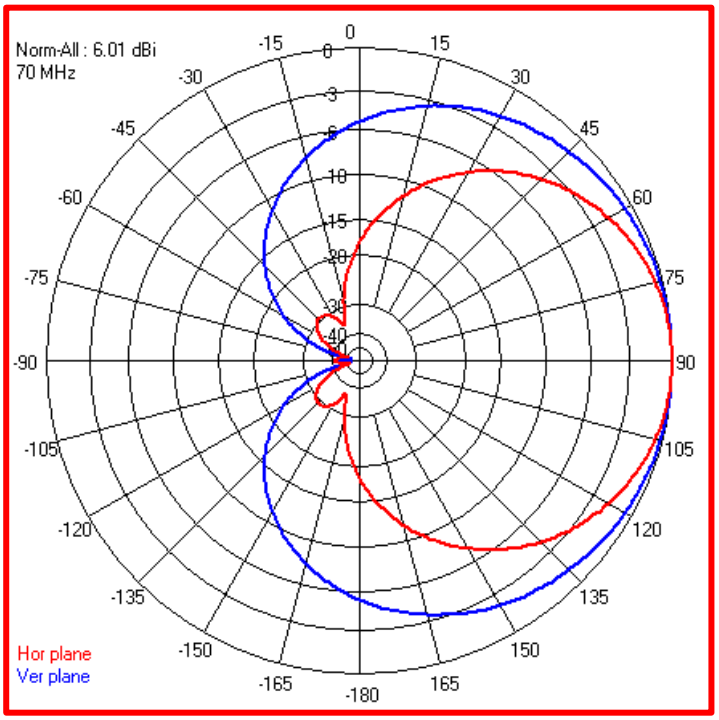

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Fig 1. (70MHZ) FREESPACE plot - Antenna in horizontal position in FREESPACE

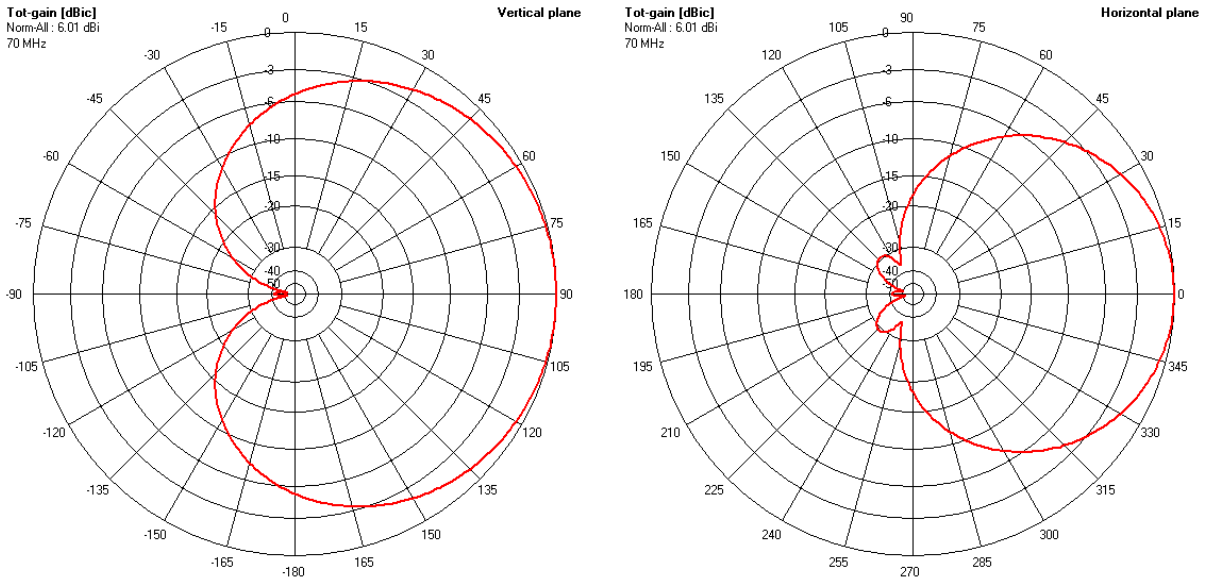
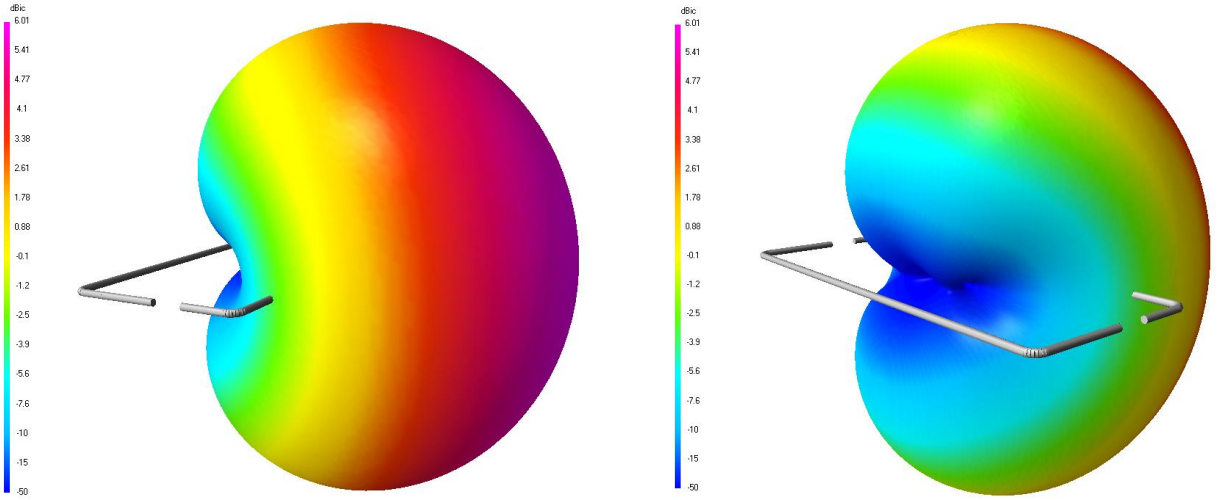
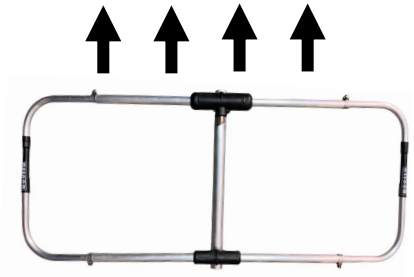


Fig 2. (70MHZ) FREESPACE 3D Plot - Antenna in horizontal position in FREESPACE



4M 70MHz Moxon shown for reference
Suggested model using NEC software



Direction of Radiated power from Antenna

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Fig 3. Above ground plot - Antenna in horizontal position 6 metres above ground.

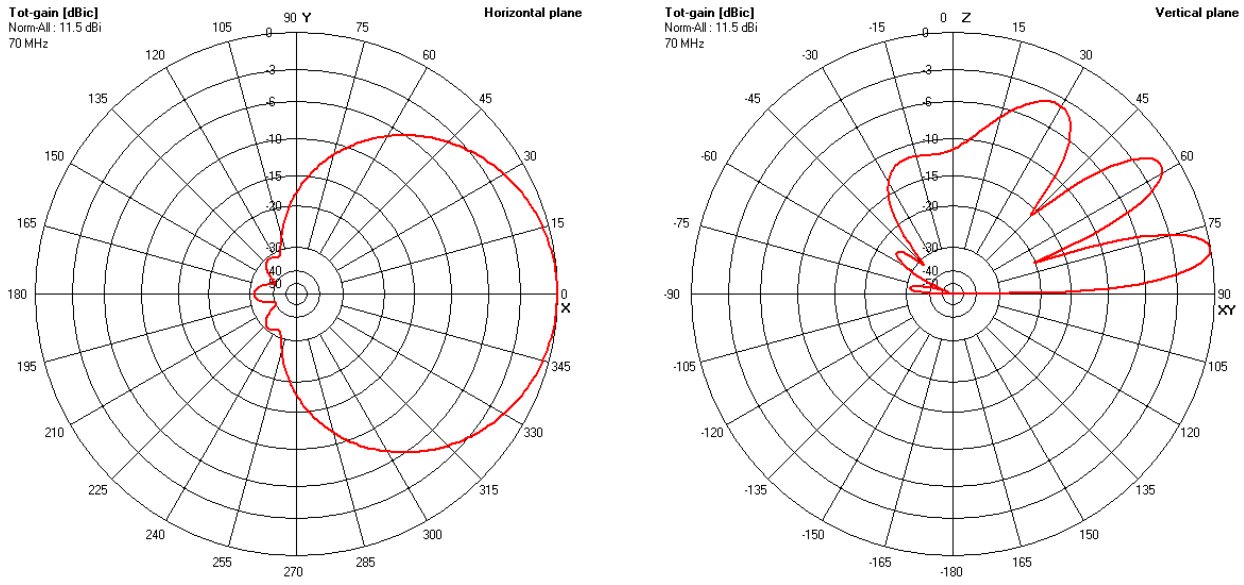
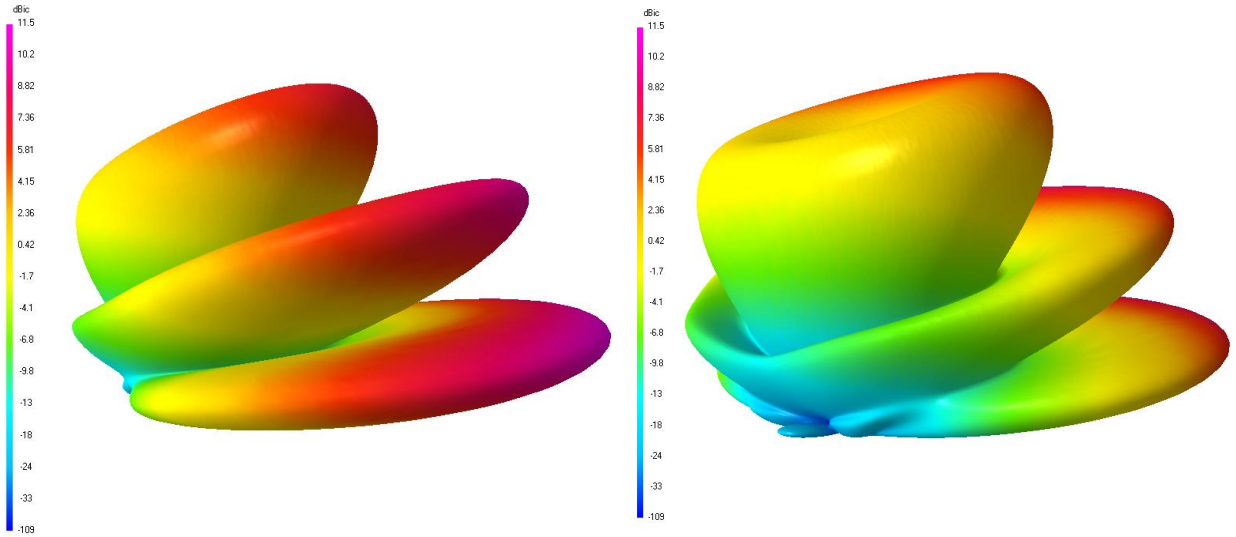
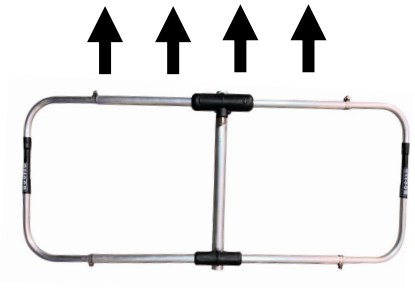


Fig 4. Above ground 3D plot - Antenna in horizontal position 6 metres above ground.



4M 70MHz Moxon shown for reference
Suggested model using NEC software



Direction of Radiated power from Antenna

CEECOM MOXON ANTENNA - 6dBi GAIN

Lets talk GAIN

Lots of manufactures falsely advertise gain figures making it very difficult to understand the true performance of an antenna. Gain figures advertised by Ceecom are based only on freespace calculations making comparison to other antennas easy. Some manufactures advertise figures based on 'above ground' at different heights and other such factors that can inflate the gain. You may also notice some figures are advertised as dBi or dBd or just dB leaving you wondering. We have compiled a table showing comparison figures of this antenna using different scenarios. In the commercial radio industry 'freespace gain' is typically quoted to allow comparison to other antennas.

2M 144-146 MHZ Moxon Antenna.	**Gain dBd**	**Gain dBi**
Horizontally positioned in FREESPACE	3.55	5.7
Horizontally mounted onto a 2" mast/pole 6 metres above ground.	9.35	11.5

4M 70-70.5 MHZ Moxon Antenna.	**Gain dBd**	**Gain dBi**
Horizontally positioned in FREESPACE. *(FIG 1)*	3.85	6.0
Horizontally mounted onto a 2" mast/pole 6 metres above ground. *(FIG 4)*	9.35	11.5

6M 50-52 MHZ Moxon Antenna.	**Gain dBd**	**Gain dBi**
Horizontally positioned in FREESPACE.	3.83	5.98
Horizontally mounted onto a 2" mast/pole 6 metres above ground.	9.25	11.4

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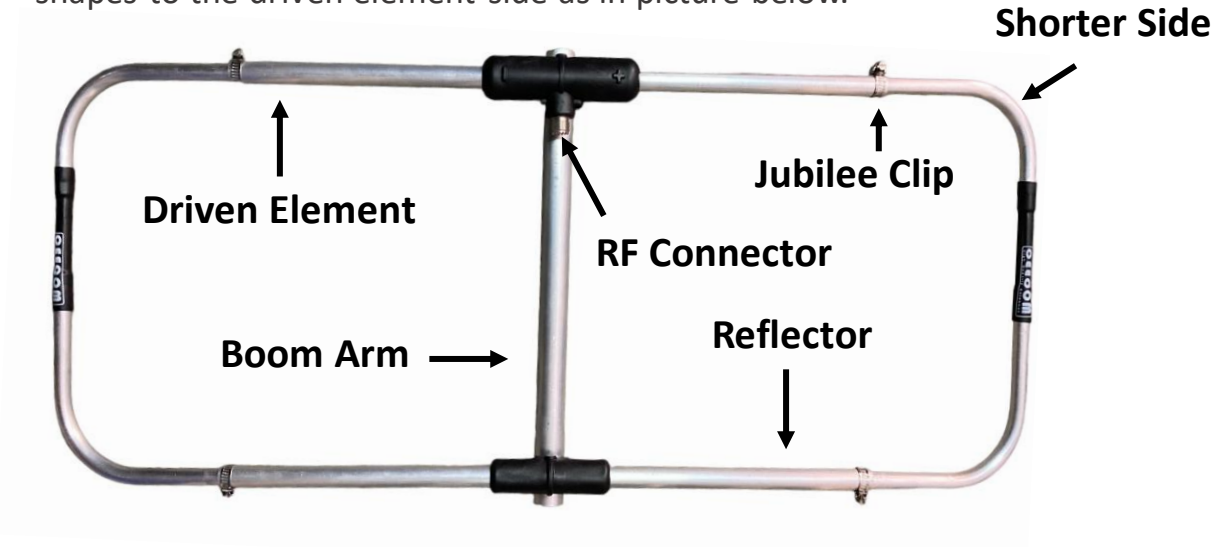
Setup Instructions

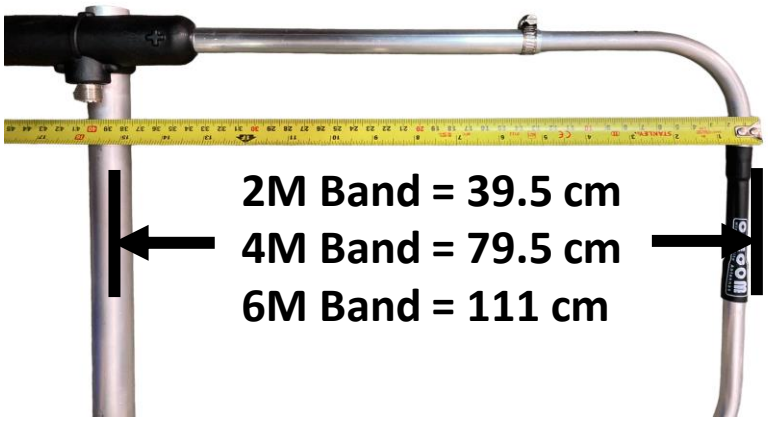
Mount the Driven Element to the boom arm with the RF connector facing towards the inside of the antenna, use the supplied washer and locking nut and tighten. The driven Element can be mounted at either end of the boom arm.

Next, mount the reflector to opposite end of boom arm using supplied washer and lock nut. The Reflector can be mounted either way around.

Mount the two 'U' shaped ends by sliding them inside the Driven Element and Reflector. IMPORTANT: Be sure to mount the shorter side of the 'U' shapes to the driven element side as in picture below.



Measure from outside edge of U shapes to centre of boom arm making sure the antenna is symmetrical then tighten hose/jubilee clips.



2M Band Example

Depending on surrounding objects and proximity to ground you may need to tweak these measurements. If you find you have lowest SWR at top of the band then you need to lengthen slightly to lower the resonant frequency. If you find you have lowest SWR at bottom of band then you need to shorten slightly. Once set up, use the supplied clamp and mount to your mast/pole. Mount Antenna in horizontal position bringing the pole up through the centre of the antenna and tighten clamp in place.

And That's it ! Have fun, 73 ☺