Dual Polarised
Compact Loop Yagi Antenna

The Loop Yagi Antenna provides a typical gain of aprox 12dbi, is very light weight, small, yet effective and aesthetically pleasing. It can be utilised individually, or as a Dual, or Quad-Array depending on the range required.

The Loop Yagi is compatible with all MiMOMax radios. A MiMO antenna (or antennas) provides both vertically and horizontally polarized signals at each end of the link, to produce a high performance, pattern diverse MiMO link, of over 60km (high site) with some near-line-of-sight capability, and non-line-of-sight over shorter distances. The addition of a second optional MiMO antenna and receiver operating in a 2x4 configuration, can provide further spatial diversity and link robustness.

Antenna Specifications

Compact Loop Yagi		
Frequency Ranges	420-435MHz, 435-455MHz,450-470MHz	
Polarisation	Horizontal and vertical with separate feeds	
Antenna Gain	Typ	11dBi
	Min	10dBi
Beam width, -3dB (parallel to polarisation plane)	48º nominal	
(perpendicular to polarisation plane)	52º nominal	
Front-to-back ratio	>15dB	
Frequency bandwidth (15dB return loss)	20 MHz	
Connector arrangement	2 x Male Type N connectors on 1.5m tails of RG213 coaxial cable.	
Mounting (Pole)	Twin vertically spaced clamps for attachment to 25 - 55 mm mounting pipe.	
Number required per link end	1 for 2 receiver MiMO, 2 for 4 receiver MiMO	
Dimensions W x H x L (direction of propagation)	250 x 250 x 850 mm	
Weight	2.5 kg including coax tails and mounting brackets	

Dual & Quad- Array Compact Loop Yagi

The Dual-Array is constructed by mounting two Dual Polarised Loop Yagi Antenna vertically spaced on a common pole. The antennas are then connected via a supplied matching harness. This provides approximately an additional 3dB of signal gain over the single antenna.

The Quad-Array Dual-Polarised Loop Yagi consists of four, Dual Polarised Loop Yagi Antennas, mounted in a two-by-two array on a common frame. This arrangement provides an additional 6dB of signal gain.

As these Arrays will, usually be implemented at both ends of a link; a total improvement in path gain of approximately 6dB for the Dual-Array and 12dB for the Quad-Array can be expected. This can result in a substantial increase in range, of up to 2-3 times, depending on the path characteristics.

Antenna Specifications

Dual-Array Compact Loop Yagi Antenna		
Frequency Ranges	420-435MHz, 435-455MHz,450-470MHz	
Polarisation	Horizontal and Vertical with separate feeds	
Antenna Gain	Typ	14dBi
	Min	13dBi
Beam width, -3dB (horizontal) (vertical)	50° (nominal)	
	24° (nominal)	
Front-to-back ratio	>20dB	
Frequency bandwidth (15dB return loss)	20MHz	
Connector arrangement	2 x Female Type n connector on 1.5m tail of RG213 coaxial cable. (+Optional 1.5m tails of RG213 terminated in 2 x Male type n connectors)	
Mounting (Pole)	Twin vertically spaced clamps for attachment to 25 to 55 mm mounting pipe.	
Dimensions W x H x L (direction of propagation)	250 x 950 x 850mm	
Weight	6kg including coax tails and mountin brackets	
Quad-Array Compact Loop Yagi Antenna		
Frequency Ranges	420-435MHz, 435-455MHz,450-470MHz	
Polarisation	Horizontal and Vertical with separate feeds	
Antenna Gain	Typ	17dBi
	Min	16dBi
Beam width, -3dB (parallel to polarisation plane) (perpendicular to polarisation plane)	24 degrees (nominal)	
	24 degrees (nominal)	
Front-to-back ratio	>20 dB	
Frequency bandwidth (15dB return loss)	20 MHz	
Connector arrangement	2 x Female type n connectors on combining Harness (+Optional 1.5m tails of RG213 terminated in 2 x Male type n connectors)	
Mounting	4 vertically spaced clamps for attachment to 25 to 55 mm mounting pipe. >= 50mm pipe recommended	
Number required per link end	1 for 2 receiver MiMO, 2 for 4 Receiver MiMO	
Dimensions W x H x L (direction of propagation)	910 x 910 x 860 mm	
Weight	13kg including coax tails and mounting brackets	