

# 11 elements Yagi antenna

## 144 to 146 MHz

## Part Nr. 20811



### Electrical data

#### Radiation at 144.5 MHz

Effective electrical length .....	: 2.2 $\lambda$
Isotropic gain .....	: 14.2 dBi
Aperture angle @ -3 dB	
- E-plane .....	: 2 x 18.5°
- H-plane .....	: 2 x 20.0°
First side lobe set	
- E-plane .....	: - 18.2 dB @ 48°
- H-plane .....	: - 12.5 dB @ 49°
Rear protection .....	: - 27.4 dB
Average stray radiation	
- E-plane .....	: - 32 dB
- H-plane .....	: - 25 dB

### Bandwidth

Gain @ -1 dB .....	: 141 to 147.5 MHz
Nominal impedance .....	: 50 $\Omega$
Impedance match bandwidth @ SWR <1.3/1.....	: 143.4 to 146.2 MHz
Acceptable RF power (continous duty) .....	: 1000 W

### Array of 2 or 4 antennas

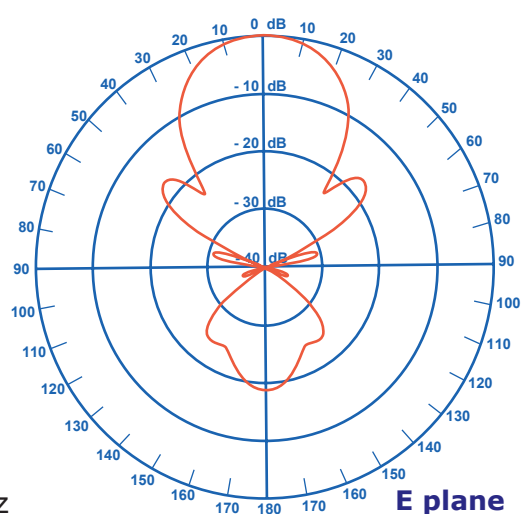
(optimized stacking distance. from center to center of elements. for minimal side lobe radiation)

- E plane - Electrical distance .....	: 1.7 $\lambda$
- Pratical distance .....	: 3.53 m
- H plane - Electrical distance .....	: 1.6 $\lambda$
- Pratical distance .....	: 3.32 m

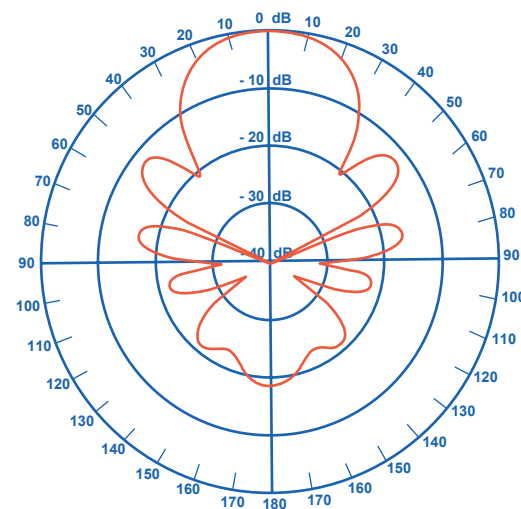
### Mechanical data

Connector .....	: N
Overall length .....	: 4.56 m
Mass .....	: 3.5 kg
Effective wind load	
- Horizontal polarization .....	: 0.18 m <sup>2</sup>
- Vertical polarization .....	: 0.17 m <sup>2</sup>
Approximate wind load (25 m/s - 55 mph)	
- Horizontal polarization .....	: 6.9 daN
- Vertical polarization .....	: 6.7 daN
Approximate wind load (45 m/s - 100 mph)	
- Horizontal polarization .....	: 22.4 daN
- Vertical polarization .....	: 21.6 daN

### Radiation patterns



**E plane**



**H plane**

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