

## Compact Tri-sector Dual-band (BB/BB)D450 antenna for BTS

### Features

#### Frequency bands

- 1710-2170 MHz
- 1710-2170 MHz.

#### Multisector configuration

Monosector, bisector 120°, bisector 180° and trisector configuration available.

#### Variable Electrical Tilt, RET

- Wide Electrical Tilt range (4-14°).
- Ready for RET configuration.

#### Double azimuth

Global azimuth (+/-50°) and independent azimuth for each sector (+/-15°).

#### Accessibility

The lower compartment allows easy access to connectors and antenna adjusting (azimuth and tilt).

#### Minimum size

Minimum weight and size in the market, thanks to fractal technology. It reduces stress due to wind and structural requirements .

#### MAST + ANTENNA SOLUTION

##### Minimum visual impact

Its small size, together with the mast and add-ons integrated into city scapes, reduces visual impact to the minimum, making it easier to find installation sites.

##### Increased safety

The safety systems included reduce the risk of accidents and the need to work at height. Availability of access for installers only.

##### Cost savings

Folding Mast: Reduces installation time and costs, without expensive work at height. Modular Mast and Base Plate: no crane or civil work costs, resulting in high productivity. It makes it possible to work under adverse weather conditions. Cables channelled inside the mast.



### Description

The TELNET **Compact Tri-sector Dual-band (BB/BB) antenna** is part of the **ENVIA** family, a new generation of antennas for mobile telephone base stations, with radiating components based on fractal geometry. This technology significantly reduces the overall size of the antenna, allowing it to be incorporated under a single cylindrical radome, equivalent to 6 single-band panels in a traditional antenna.

This innovative line of TELNET Compact Antennas has significantly reduced visual impact. It can be assimilated almost imperceptibly into the urban environment by mimicking building elements. In addition, the small height and weight of this family of antennas simplifies installation and maintenance tasks.

#### MAST + ANTENNA SOLUTION

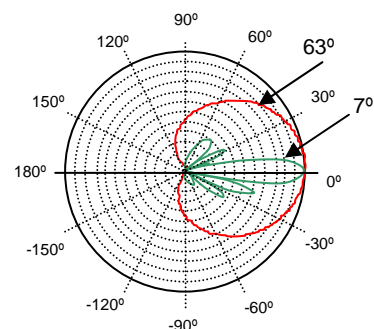
Each Compact Antenna can be supplied in monosector, bisector or trisector configurations. In addition, each antenna can be supplied in different colours and covers. This family of antennas is ready for RET (Remote Electrical Tilt) technology.

TELNET Compact Antennas are supplied with a modular mast. The masts can reach heights of up to 6 metres and have available a module to house the TMA inside. They are available in different colours and finishes, and three safety options to make installation safer.

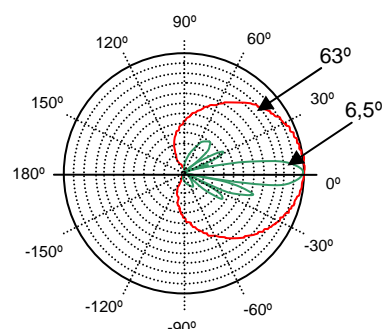
Finally, the whole antenna and mast unit is supported by an anchoring mechanism. There are three types available, depending on the needs of each location: floating bedplate, ground pillar mounted and wall mounted.

## Family TNA540 - Technical Features

Radio-Electrical	Broadband			Broadband		
<b>Frequency Range</b>	1710 - 2170 MHz			1710 - 2170 MHz		
	DCS // UMTS			DCS // UMTS		
<b>Polarization</b>	Xpol, +/- 45°			Xpol, +/- 45°		
<b>Gain Max</b>	17,3 dBi			17,3 dBi		
<b>Gain +/- Avg. Dev</b>	16,64 ± 0,2 dBi // 16,64 ± 0,3 dBi			16,64 ± 0,2 dBi // 16,64 ± 0,3 dBi		
<b>Horizontal Beam width</b>	63° // 61°			63° // 61°		
<b>Vertical Beam width</b>	7° // 6,5°			7° // 6,5°		
<b>Cross Polar Discrimination</b>						
<b>Boresight</b>	>25dB			>25dB		
<b>Sector ±60°</b>	>10dB			>10dB		
<b>F/B Ratio Copolar (180°+/-30° cone)</b>	27 dB			27 dB		
<b>Side lobe suppression for first side lobe above horizon</b>	15	17	15 dB	15	17	15 dB
	4°	10°	14°	4°	10°	14°
<b>Electrical tilt continuously adjustable</b>	4° - 14° (sector and band independent)			4° - 14° (sector and band independent)		
<b>VSWR</b>	< 1.5:1			< 1.5:1		
<b>Interport Isolation</b>	> 30 dB			> 30 dB		
<b>Nullfill</b>	25 dB			25 dB		
<b>Impedance</b>	50 Ohms			50 Ohms		
<b>Max. Power per input</b>	300W			300W		
<b>Inter modulation Products ( 2*20W)</b>	150dBc			150dBc		
<b>Azimuth</b>	+/-50° : Full Antenna Azimuth (as a block) +/-15°: Independent Azimuth per sector					
<b>Prepared for RET</b>	OK			OK		



DCS pattern per sector



UMTS pattern per sector

Mechanical	
<b>Input</b>	12 x 7/16 female
<b>Connectors position</b>	Bottom, 3 x 4 (7/16)
<b>Dimensions</b>	Diameter: 450 mm Length: 1400mm + 300 mm
<b>Weight</b>	50 Kg.
<b>Max. speed wind</b>	200 Km/h

Material	
<b>Radome</b>	Fiber glass + polyester
<b>End Caps</b>	Stainless Steel
<b>Screws and Nuts</b>	Stainless Steel

Enviromental and mechanical tests	
IEC 60068-2-2: Dry Heat	IEC 60068-2-64: Random Vibration
IEC 60068-2-56: Damp Heat Steady State	IEC 60068-2-6: Sine Vibration
IEC 60068-2-30: Damp Heat Cyclic	IEC 60068-2-27: Shock Test
IEC 60068-2-14: Change of Temperature	IEC 60068-2-32: Free Fall Test
IEC 60068-2-1: Cold	IEC 60068-2-29: Bump Test
IEC 60068-2-18: Water (Handheld shower)	IEC 60068-2-52: Salt mist Cyclic
IEC 60068-2-11: Salt mist	

Telnet antennas have passed environmental tests recommended in ETS 300 019-2-4, and extensive test recommended by the main operators over the world.

### Contact Information

#### Headquarters

Polígono Industrial Centrovía  
c/ Buenos Aires, 18  
50196 La Muela, Zaragoza  
Spain

Tel.: (+34) 976 14 18 00  
Fax: (+34) 976 14 18 10  
comercial@telnet-ri.es

#### Commercial office in Madrid

Avda. Menéndez Pelayo, 85 - 1º A  
28007 Madrid  
Spain

Tel.: (+34) 91 434 39 92  
Fax: (+34) 91 434 40 84

#### Commercial office in Lisbon

Avenida da Liberdade, 110  
1269- 046 Lisbon  
Portugal