6888303

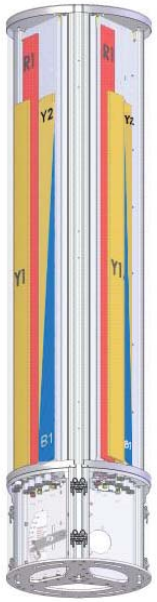
6888303A 6888303G

4Xpol | 65° Az | 15.8 / 17.7 / 17.3 / 17.5 dBi | 2-10° / 0-10° / 0-10° / 0-10° | 2325 x 573 mm

TRIO Series

- Quad band tri-sector antenna, dual polarisation, 8 connectors per sector
- Independent tilt on each band 2-10° / 0-10° / 0-10° / 0-10°
- MET and RET versions, AISG1.1 or 3GPP/AISG2.0
- Single RET module to control all tilt angles, fully inserted inside the antenna (field replaceable)

ORDERING OPTIONS	THREE SECTORS	TWO SECTORS	ONE SECTOR
The **6888303** is a Tri-Sector system that contains three Quad Band antennas installed at 120° in a cylindrical shroud with ±15° azimuth panning capability independent on each sector. A service area at the bottom can be opened for access to connectors and the manual adjustment of the electrical downtilt and azimuth panning. Variants can be delivered with only one or two sectors fitted. See below for ordering details.			
Manual Electrical Tilt Antenna	**6888303**	**6888302**	**6888301**
Remote Electrical Tilt Antenna AISG1.1	**6888303A**	**6888302A**	**6888301A**
Remote Electrical Tilt Antenna 3GPP/AISG2.0 with an MDCU RET Actuator	**6888303G**	**6888302G**	**6888301G**



ACCESS PORT DESCRIPTION (CONNECTORS)				
The antenna has 8 colour-coded connectors located at the bottom face of each sector.				
Frequency Designation	R1	B1	Y1	Y2
Frequency Range	698-960 MHz	1695-2180 MHz	1695-2690 MHz	2490-2690 MHz
Polarisation	Xpol	Xpol	Xpol	Xpol
Horizontal Beamwidth	65°	65°	65°	65°
Electrical Downtilt Range	2-10°	0-10°	0-10°	0-10°
Connector Type	(2x) 7/16-DIN Female Long Neck	(2x) 7/16-DIN Female Ultra Long Neck	(2x) 7/16-DIN Female Ultra Long Neck	(2x) 7/16-DIN Female Long Neck

ELECTRICAL CHARACTERISTICS	R1			
Frequency Bands	698-960 MHz			
	698-806 MHz	790-862 MHz	824-894 MHz	880-960 MHz
Gain	14.7 dBi ± 0.3 dB	15.5 dBi ± 0.3 dB	15.8 dBi ± 0.4 dB	15.8 dBi ± 0.4 dB
Input Impedance	50Ω			
VSWR	< 1.5			
Polarisation	±45°			
Horizontal Beamwidth (-3 dB)	71.5° ± 2.0°	67.6° ± 2.4°	67.2° ± 1.3°	67.5° ± 2.0°
Vertical Beamwidth (-3 dB)	12.0° ± 0.5°	10.5° ± 0.6°	9.9° ± 0.9°	9.5° ± 0.6°
Electrical Downtilt Range	2-10°			
Inter/Intra Band Isolation	> 25 dB			
Upper Sidelobe Rejection (20° sector above main beam)	> 15.9 dB	> 18.0 dB	> 17.9 dB	> 16.8 dB
Front-to-Back Ratio @ 180° ±30°	> 24.2 dB	> 26.5 dB	> 25.1 dB	> 24.2 dB
Cross Polar Ratio - Main Direction	> 16.1 dB	> 17.1 dB	> 16.0 dB	> 15.9 dB
Maximum Power (Per Port)	250 W			
Intermodulation 3rd Order for 2 x 20W Carriers	< -110 dBm			

Values based on NGMN-P-BASTA version 9.6 requirements.

Several patents pending regarding this product. Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

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ELECTRICAL CHARACTERISTICS	B1		
Frequency Bands	1695-2180 MHz		
	1695-1880 MHz	1850-1990 MHz	1920-2180 MHz
Gain	17.2 dBi ± 0.2 dB	17.2 dBi ± 0.2 dB	17.3 dBi ± 0.2 dB
Input Impedance	50Ω		
VSWR	< 1.5		
Polarisation	±45°		
Horizontal Beamwidth (-3 dB)	63.5° ± 3.9°	62.9° ± 3.5°	60.9° ± 4.2°
Vertical Beamwidth (-3 dB)	6.0° ± 0.2°	5.6° ± 0.4°	5.1° ± 0.5°
Electrical Downtilt Range	0-10°		
Inter/Intra Band Isolation	> 25 dB		
Upper Sidelobe Rejection (20° sector above main beam)	> 18.0 dB	> 17.4 dB	> 17.6 dB
Front-to-Back Ratio @ 180° ±30°	> 26.9 dB	> 25.1 dB	> 25.2 dB
Cross Polar Ratio - Main Direction	> 21.0 dB	> 22.5 dB	> 23.4 dB
Maximum Power (Per Port)	200 W		
Intermodulation 3rd Order for 2 x 20W Carriers	< -110 dBm		

Values based on NGMN-P-BASTA version 9.6 requirements.

ELECTRICAL CHARACTERISTICS	Y1				
Frequency Bands	1695-2690 MHz				
	1695-1880 MHz	1850-1990 MHz	1920-2180 MHz	2300-2500 MHz	2490-2690 MHz
Gain	17.2 dBi ± 0.2 dB	17.3 dBi ± 0.3 dB	17.5 dBi ± 0.2 dB	17.7 dBi ± 0.2 dB	17.7 dBi ± 0.3 dB
Input Impedance	50Ω				
VSWR	< 1.5				
Polarisation	±45°				
Horizontal Beamwidth (-3 dB)	65.6° ± 4.5°	64.5° ± 4.9°	62.1° ± 4.4°	62.6° ± 4.5°	65.9° ± 4.0°
Vertical Beamwidth (-3 dB)	6.1° ± 0.3°	5.7° ± 0.3°	5.3° ± 0.4°	4.6° ± 0.3°	4.2° ± 0.2°
Electrical Downtilt Range	0-10°				
Inter/Intra Band Isolation	> 25 dB				
Upper Sidelobe Rejection (20° sector above main beam)	> 18.4 dB	> 18.3 dB	> 17.8 dB	> 16.0 dB	> 15.9 dB
Front-to-Back Ratio @ 180° ±30°	> 23.4 dB	> 23.6 dB	> 24.9 dB	> 25.6 dB	> 25.5 dB
Cross Polar Ratio - Main Direction	> 14.9 dB	> 15.0 dB	> 15.7 dB	>14.8 dB	> 15.3 dB
Maximum Power (Per Port)	200 W				
Intermodulation 3rd Order for 2 x 20W Carriers	< -110 dBm				

Values based on NGMN-P-BASTA version 9.6 requirements.

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ELECTRICAL CHARACTERISTICS	Y2
Frequency Bands	2490-2690 MHz
Gain	17.5 dBi ± 0.3 dB
Input Impedance	50Ω
VSWR	< 1.5
Polarisation	±45°
Horizontal Beamwidth (-3 dB)	61.3° ± 3.7°
Vertical Beamwidth (-3 dB)	4.1° ± 0.2°
Electrical Downtilt Range	0-10°
Inter/Intra Band Isolation	> 28 dB
Upper Sidelobe Rejection (20° sector above main beam)	> 16.2 dB
Front-to-Back Ratio @ 180° ±30°	> 28.1 dB
Cross Polar Ratio - Main Direction	> 18.2 dB
Maximum Power (Per Port)	200 W
Intermodulation 3rd Order for 2 x 20W Carriers	< -110 dBm

Values based on NGMN-P-BASTA version 9.6 requirements.

ELECTRICAL DOWNTILT CONTROL	
Electrical downtilt for each band can be controlled separately. Tilt indicator(s) are covered by removable transparent cap(s).	
Manual Electrical Tilt (MET) Control	A coloured knob at the end of the tilt indicator allows change of the tilt without need of a tool. The knob colour is identical to the corresponding connector ring colour. To access the knob, remove the cap by turning it counter-clockwise. It is re-installed by opposite rotation. Do not remove the transparent cap(s) from the antenna.
Remote Electrical Tilt (RET) Control	The remote control of the electrical tilt is managed by a Multi-Device Control Unit (MDCU) inserted in the bottom of the antenna. A single actuator individually controls the tilt of each band (no need for daisy chain cables between the bands). This module does not add any additional length to the antenna. For RET control, the transparent caps must be in place and locked. The tilt angle indicators always remain visible and the antenna still has manual tilt control (manual override).
RET-Ready antennas are delivered with the RET Actuator (MDCU) already installed and pre-commissioned with all antenna parameters. Every RET device is factory configured and calibrated so the antenna is ready to be used once delivered to the site which means that there is no need for further installation of RET devices or for programming their configuration or for running a calibration process.	
RET-Ready Actuator (one per antenna)	**Multi-Device Control Unit (MCDU).** The MDCU is an electronic module that allows the remote control of the electrical downtilt (RET) in Amphenol antennas with factory embedded motors. Refer to ordering options. Part Number MDCU-A0000 for AISG1.1 Protocol Three MDCU-A0000 unit included in 6888303A Part Number MDCU-G0000 for 3GPP/AISG2.0 Protocol Three MDCU-G0000 unit included in 6888303G

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ENVIRONMENTAL CHARACTERISTICS	
Operating Temperature Range	-40° C to +60° C
Environmental	ETS 300 019
RoHS Compliant	Yes

MECHANICAL CHARACTERISTICS	
Dimensions (see drawing)	Height: 2325 mm (includes 394 mm Service Area) Diameter: 573 mm
Relative Direction of Internal Antennas (Sector Axis)	0° (±15°) 120° (±15°) 240° (±15°)
Weight	Three Sectors: 159 kg Two Sectors: 134 kg One Sector: 109 kg
Shroud	Outdoor plastic, Grey RAL7035
Wind Speed	Operational: 160 km/hr Survival: 200 km/h
Wind Load at 160 km/h	790 N

PACKAGING

Carton Box
2.55 x 0.76 x 0.82 m
1.59 m^3
310 kg

TRIO EXTENSION

A TRIO Extension is a short mounting (0.85 m) mast which has the same diameter (573 mm), same outside material, and same colour as the antenna. The two major advantages of the extensions are getting the antenna higher, and housing our TMA.

Dimensions (Height x Diameter)		850 x 573 mm
Weight		66 kg
Shroud		Outdoor plastic, Grey RAL7035
Flange		Galvanised Steel
Wind Speed	Operational	160 km/h
	Survival	200 km/h

Refer to the separate documentation on TRIO extensions for more details.

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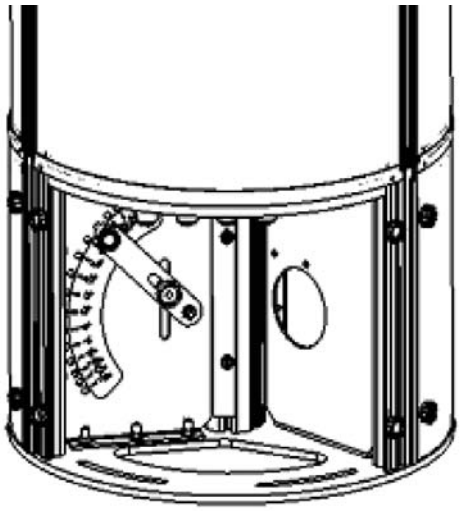
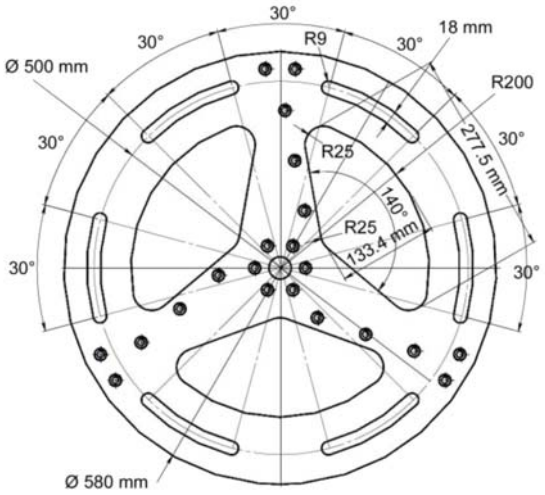
Bottom View of Antenna



Mounting Flange Interface



Six curved slots 18 mm wide on a 500 mm diameter circle

Dimensions (in mm)