698-960 | 698-960 | 1695-2180 | 1695-2180 | 2490-2690 | 2490-2690 MHz

5978600P

5978600PA 5978600PG 5978600PDG

6Xpol | 70° Az | 16.3 / 16.3 / 17.4 / 17.4 / 17.4 / 17.4 dBi | 0-10° / 0-10° / 0-10° / 0-10° / 0-10° / 0-10° | 1915 x 432 x 175 mm

- Hexa band antenna, dual polarisation, 12 connectors
- Independent tilt on each band 0-10° / 0-10° / 0-10° / 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	MODEL NUMBER
Manual Electrical Tilt Antenna	**5978600P**
Remote Electrical Tilt Antenna AISG1.1	**5978600PA**
Remote Electrical Tilt Antenna 3GPP/AISG2.0 with an MDCU RET Actuator	**5978600PG**
Remote Electrical Tilt Antenna 3GPP/AISG2.0 with an MDDU RET Actuator	**5978600PDG**

ACCESS PORT DESCRIPTION (CONNECTORS)

The antenna has 12 colour-coded connectors located at the bottom face.

Frequency Designation	R1	R2	B1	B2	Y1	Y2
Frequency Range (MHz)	698-960	698-960	1695-2180	1695-2180	2490-2690	2490-2690
Polarisation	Xpol	Xpol	Xpol	Xpol	Xpol	Xpol
Horizontal Beamwidth	70°	70°	68°	68°	68°	68°
Electrical Downtilt Range	0-10°	0-10°	0-10°	0-10°	0-10°	0-10°
Connector Type	(2x) 4.3/10 Female	(2x) 4.3/10 Female	(2x) 4.3/10 Female	(2x) 4.3/10 Female	(2x) 4.3/10 Female	(2x) 4.3/10 Female

ELECTRICAL CHARACTERISTICS	R1		
Frequency Bands	698-960 MHz		
	698-806 MHz	790-862 MHz	880-960 MHz
Gain	15.2 dBi	15.7 dBi	16.3 dBi
Input Impedance	50Ω		
VSWR	< 1.5		
Polarisation	±45°		
Horizontal Beamwidth (-3 dB)	75°	72°	70°
Vertical Beamwidth (-3 dB)	12°	10°	9.4°
Electrical Downtilt Range	0-10°		
Inter/Intra Band Isolation	> 25 dB		
Upper Sidelobe Rejection (20° sector above main beam)	> 18 dB	> 18 dB	> 18 dB
Front-to-Back Ratio @ 180° ±30°	> 21.0 dB	> 21.3 dB	> 23.6 dB
Cross Polar Ratio - Main Direction	> 16.1 dB	> 17.0 dB	> 16.6 dB
Maximum Power (Per Port)	250 W		
Intermodulation 3rd Order for 2 x 20W Carriers	< -153 dBc		

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.

698-960 | 698-960 | 1695-2180 | 1695-2180 | 2490-2690 | 2490-2690 MHz

5978600P

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6Xpol | 70° Az | 16.3 / 16.3 / 17.4 / 17.4 / 17.4 / 17.4 dBi | 0-10° / 0-10° / 0-10° / 0-10° / 0-10° / 0-10° | 1915 x 432 x 175 mm

ELECTRICAL CHARACTERISTICS	R2		
Frequency Bands	698-960 MHz		
	698-806 MHz	790-862 MHz	880-960 MHz
Gain	15.2 dBi	15.7 dBi	16.3 dBi
Input Impedance	50Ω		
VSWR	< 1.5		
Polarisation	±45°		
Horizontal Beamwidth (-3 dB)	75°	72°	70°
Vertical Beamwidth (-3 dB)	12°	10°	9.4°
Electrical Downtilt Range	0-10°		
Inter/Intra Band Isolation	> 25 dB		
Upper Sidelobe Rejection (20° sector above main beam)	> 18 dB	> 18 dB	> 18 dB
Front-to-Back Ratio @ 180° ±30°	> 21.0 dB	> 21.3 dB	>23.6 dB
Cross Polar Ratio - Main Direction	> 16.1 dB	> 17.0 dB	> 16.6 dB
Maximum Power (Per Port)	250 W		
Intermodulation 3rd Order for 2 x 20W Carriers	< -153 dBc		

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

ELECTRICAL CHARACTERISTICS	B1	
Frequency Bands	1695-2180 MHz	
	1695-1880 MHz	1920-2180 MHz
Gain	17.2 dBi	17.4 dBi
Input Impedance	50Ω	
VSWR	< 1.5	
Polarisation	±45°	
Horizontal Beamwidth (-3 dB)	68°	68°
Vertical Beamwidth (-3 dB)	7.0°	6.4°
Electrical Downtilt Range	0-10°	
Inter/Intra Band Isolation	> 25 dB	
Upper Sidelobe Rejection (20° sector above main beam)	> 18 dB	> 18 dB
Front-to-Back Ratio @ 180° ±30°	> 25 dB	> 25 dB
Cross Polar Ratio - Main Direction	> 14.6 dB	> 15.1 dB
Maximum Power (Per Port)	200 W	
Intermodulation 3rd Order for 2 x 20W Carriers	< - 153 dBc	

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

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6Xpol | 70° Az | 16.3 / 16.3 / 17.4 / 17.4 / 17.4 / 17.4 dBi | 0-10° / 0-10° / 0-10° / 0-10° / 0-10° / 0-10° | 1915 x 432 x 175 mm

ELECTRICAL CHARACTERISTICS	B2	
Frequency Bands	1695-2180 MHz	
	1695-1880 MHz	1920-2180 MHz
Gain	17.2 dBi	17.4 dBi
Input Impedance	50Ω	
VSWR	< 1.5	
Polarisation	±45°	
Horizontal Beamwidth (-3 dB)	68°	68°
Vertical Beamwidth (-3 dB)	7.0°	6.4°
Electrical Downtilt Range	0-10°	
Inter/Intra Band Isolation	> 25 dB	
Upper Sidelobe Rejection (20° sector above main beam)	> 18 dB	> 18 dB
Front-to-Back Ratio @ 180° ±30°	> 25 dB	> 25 dB
Cross Polar Ratio - Main Direction	> 14.6 dB	> 15.1 dB
Maximum Power (Per Port)	200 W	
Intermodulation 3rd Order for 2 x 20W Carriers	< - 153 dBc	

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

ELECTRICAL CHARACTERISTICS	Y1
Frequency Bands	2490-2690 MHz
Gain	17.4 dBi
Input Impedance	50Ω
VSWR	< 1.5
Polarisation	±45°
Horizontal Beamwidth (-3 dB)	68°
Vertical Beamwidth (-3 dB)	4.7°
Electrical Downtilt Range	0-10°
Inter/Intra Band Isolation	> 25 dB
Upper Sidelobe Rejection (20° sector above main beam)	> 18 dB
Front-to-Back Ratio @ 180° ±30°	> 25 dB
Cross Polar Ratio - Main Direction	> 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.

698-960 | 698-960 | 1695-2180 | 1695-2180 | 2490-2690 | 2490-2690 MHz

5978600P

5978600PA 5978600PG 5978600PDG

6Xpol | 70° Az | 16.3 / 16.3 / 17.4 / 17.4 / 17.4 / 17.4 dBi | 0-10° / 0-10° / 0-10° / 0-10° / 0-10° / 0-10° | 1915 x 432 x 175 mm

ELECTRICAL CHARACTERISTICS	Y2
Frequency Bands	2490-2690 MHz
Gain	17.4 dBi
Input Impedance	50Ω
VSWR	< 1.5
Polarisation	±45°
Horizontal Beamwidth (-3 dB)	68°
Vertical Beamwidth (-3 dB)	4.7°
Electrical Downtilt Range	0-10°
Inter/Intra Band Isolation	> 25 dB
Upper Sidelobe Rejection (20° sector above main beam)	> 18 dB
Front-to-Back Ratio @ 180° ±30°	> 25 dB
Cross Polar Ratio - Main Direction	> 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.

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) or a Multi-Device Dual Unit (MDDU) 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 or MDDU) 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.
	Multi-Device Dual Unit (MDDU)	The MDDU allows two separate RET Controllers to independently drive the RETs in antennas with factory embedded motors (for antenna sharing or two technologies). Refer to ordering options.

698-960 | 698-960 | 1695-2180 | 1695-2180 | 2490-2690 | 2490-2690 MHz

5978600P

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6Xpol | 70° Az | 16.3 / 16.3 / 17.4 / 17.4 / 17.4 / 17.4 dBi | 0-10° / 0-10° / 0-10° / 0-10° / 0-10° / 0-10° | 1915 x 432 x 175 mm

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

MECHANICAL CHARACTERISTICS	
Dimensions (see drawing)	Height: 1915 mm Width: 432 mm Depth: 175 mm
Weight	40 kg (excluding mounting accessory)
Shroud	Outdoor fibreglass, Grey RAL7035
Wind Speed	Operational: 160 km/hr Survival: 200 km/h
Wind Load at 150 km/h	Frontal: 635 N Lateral: 395 N Rear: 656 N

MOUNTING KIT OPTIONS	PART NUMBER	WEIGHT
All mounting bracket kits are ordered separately unless otherwise indicated.		
Brackets for pole Ø48 to Ø115 mm (delivered as standard)	0900181/00	3.4 kg
Brackets for pole Ø70 to Ø150 mm (optional)	0900182/00	3.9 kg
Kit to add mechanical tilt (0°-10°) to above brackets (optional)	0900397/00	3.0 kg
Wall mounting brackets are available upon request.		

PACKAGING
Carton Box TBD x TBD x TBD m TBD m^3 TBD kg *Includes 0900181/00 Kit*