



AWT4-3997

Common Name Modular Tri-Sector T4 Series - 72 Port (24P/48P) with external AAU Mount.

698-960MHz	24	eRET	14.4	65°
1710-2690MHz	48	eRET	17.8	65°
Frequency	Ports	Tilt	Gain	Beamwidth

PRODUCT INFORMATION

Part	Part Name	Description
1	Base Stack (-B1)	This is the base antenna stack supplied with the AWT4-3997. It includes the interfaces of the solution to the RAN (via RF cables and AISG cables).
2	The first Extension Stack. (-X2)	The first Extension Stack is mounted on top of the Base Stack for additional capacity.
3	The second Extension Stack (-X3)	The second Extension Stack is mounted on top of the first extension Stack for additional capacity.
4	The third Extension Stack (-X4)	The third Extension Stack is mounted on top of the second Stack for additional capacity.

The AWT4-3997 consists of four antenna stacks. This is described in the table below.

Stack Type	Frequency Bands	Ports per Stack
Base Stack (-B1)	698 – 960 MHz	6
	1710 – 2690 MHz	12
First Extension Stack (-X2)	698 – 960 MHz	6
	1710 – 2690 MHz	12
Second Extension Stack (-X3)	698 – 960 MHz	6
	1710 – 2690 MHz	12
Third Extension Stack (-X4)	698 – 960 MHz	6
	1710 – 2690 MHz	12

Each stack is made up of three panels that are positioned at 0°, 120° and 240° in the Azimuth plane. These individual panels are replaceable in the field for upgrade or maintenance purposes.

Important: The Alpha Wireless AWT4 supports four (4) stacks. For lower capacity, AWT2 supports two stacks (the second is optional).

APPLICATION

Canisters support multiple antennas into one attractive package. These canisters deliver an elegant macro solution for pole-top, rooftop and streetworks applications. Alpha Wireless produces one of the smallest diameter canisters in the marketplace. This canister is capable of having external Active Antenna Units mounted onto the canister top plate.

STANDARD & CERTIFICATIONS

Certification BS EN ISO 9001:2015



FEATURES

- High port count and quad stacked arrays suitable for Multi-Operator / Site Sharing / Neutral Host applications.
- Three sector canister with sectors orientated at 0°, 120° and 240° in the Azimuth Plane
- 698-960MHz x 6 Ports per sector
- 1710-2690MHz x 12 Ports per sector
- 698-960MHz tilt range T2° - T12°.
- 1710-2690MHz tilt range T2° - T12°.
- Low PIM performance to reduce interference.
- Flange mount design.
- Structure and Top Plate design to accommodate external Active Antenna Units.

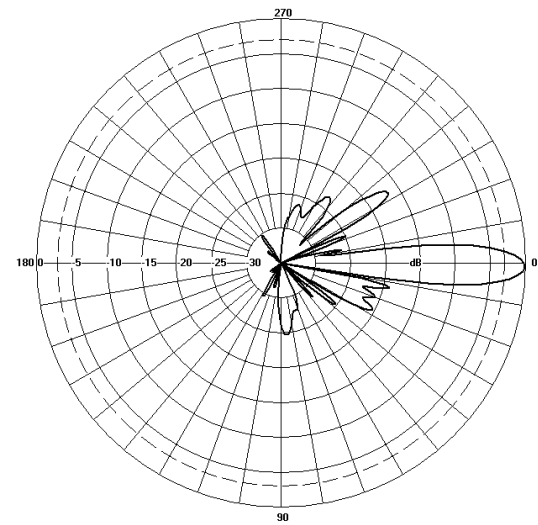
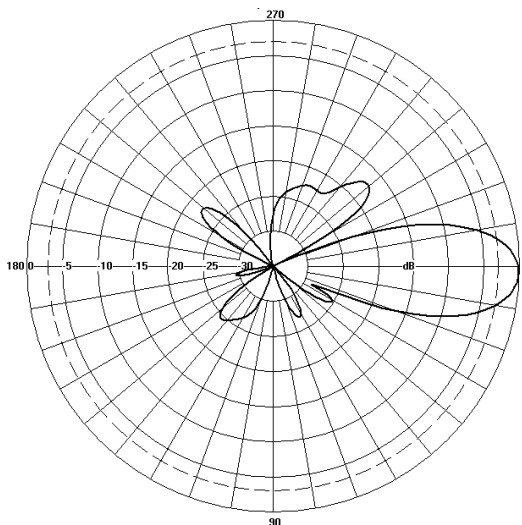
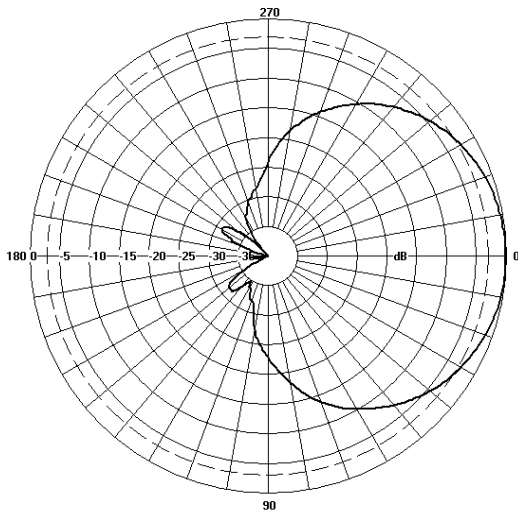


The parameters in this specification follow the definitions and recommendations per NGMN P-Basta, Release 9.6.

TECHNICAL SPECIFICATION

Electrical Specifications		Low Band			Mid Band			
Frequency Range	MHz	698-790	790-890	890-960	1695-1920	1920-2170	2300-2690	
Polarisation	Degree	±45° Slant Linear						
Gain	Basta	dBi	13.5±0.5	13.8±0.5	13.9±0.5	16.8±0.5	17.1±0.5	17.3±0.5
	Max	dBi	14.0	14.3	14.4	17.3	17.6	17.8
Azimuth Beamwidth	Degree	78°	76°	73°	61°	62°	62°	
Azimuth Beam Squint	Degree<	3°			3°			
Elevation Beamwidth	Degree	18.1°	16.4°	14.6°	7.5°	6.7°	5.7°	
Electrical Downtilt	Degree	T2° - T12°			T2° - T12°			
Electrical Downtilt Deviation	Degree<	1°	1°	1°	1°	1°	1°	
Impedance	Ohms	50						
VSWR	<	1.5						
Return Loss	dB>	14						
Isolation	dB>	25	25	25	25	25	25	
Passive Intermodulation	dBc<	-150	-150	-150	-150	-150	-150	
Upper Sidelobe Suppression, Peak to 20°	dB>	16	16	16	16	16	16	
Cross-Polar Discrimination	dB>	15	15	15	15	15	15	
Max Power Per Port	W	300			250			

Representative Pattern Files



Azimuth

Elevation

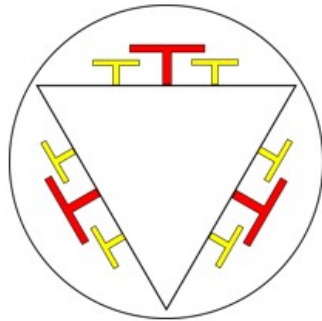
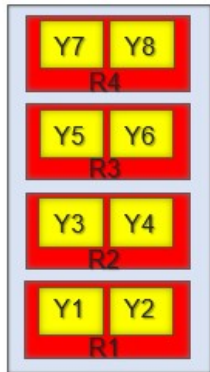
For radiation pattern files, please login at www.alphawireless.com

TECHNICAL SPECIFICATION

Mechanical Specifications

Total Tri-Sector Dimensions	mm (in)	7850 (309) x 485 (19.1) - (L x Ø)
Size Base Stack (-B1) and Interface (LxWxD)	mm (in)	2250 (88.6) x 485 (19.1) - (L x Ø)
Size of First Extension Stack (-X2) (LxWxD)	mm (in)	1850 (72.8) x 485 (19.1) - (L x Ø)
Size of Second Extension Stack (-X3) (LxWxD)	mm (in)	1850 (72.8) x 485 (19.1) - (L x Ø)
Size of Third Extension Stack (-X4) (LxWxD)	mm (in)	1850 (72.8) x 485 (19.1) - (L x Ø)
Weight of Base Interface and Base Stack	kg (lb)	210 (463)
Weight of Extension Stack (x3)	kg (lb)	160 (353)
Connector Type (Female)	-	4.3-10
Connector Position	-	Bottom
Connector Quantity	-	72 (24P Low band, 48P Mid band)
Windload Frontal (at Rated Wind Speed: 150km/h)	N (lbf)	3785 (851)
Windload Lateral (at Rated Wind Speed: 150km/h)	N (lbf)	3785 (851)
Survival Wind Speed	km/h (mph)	200 (125)
Radome Material	-	UV Stabilised PVC
Radome Colour	RAL	7035 (light grey)
Product Compliance Environmental	-	RoHS
Lightning Protection	-	DC Grounded
Cold Temperature Survival	Celsius (Fahrenheit)	-40 (-40)
Hot Temperature Survival	Celsius (Fahrenheit)	70 (158)

Array Layout and RET Information

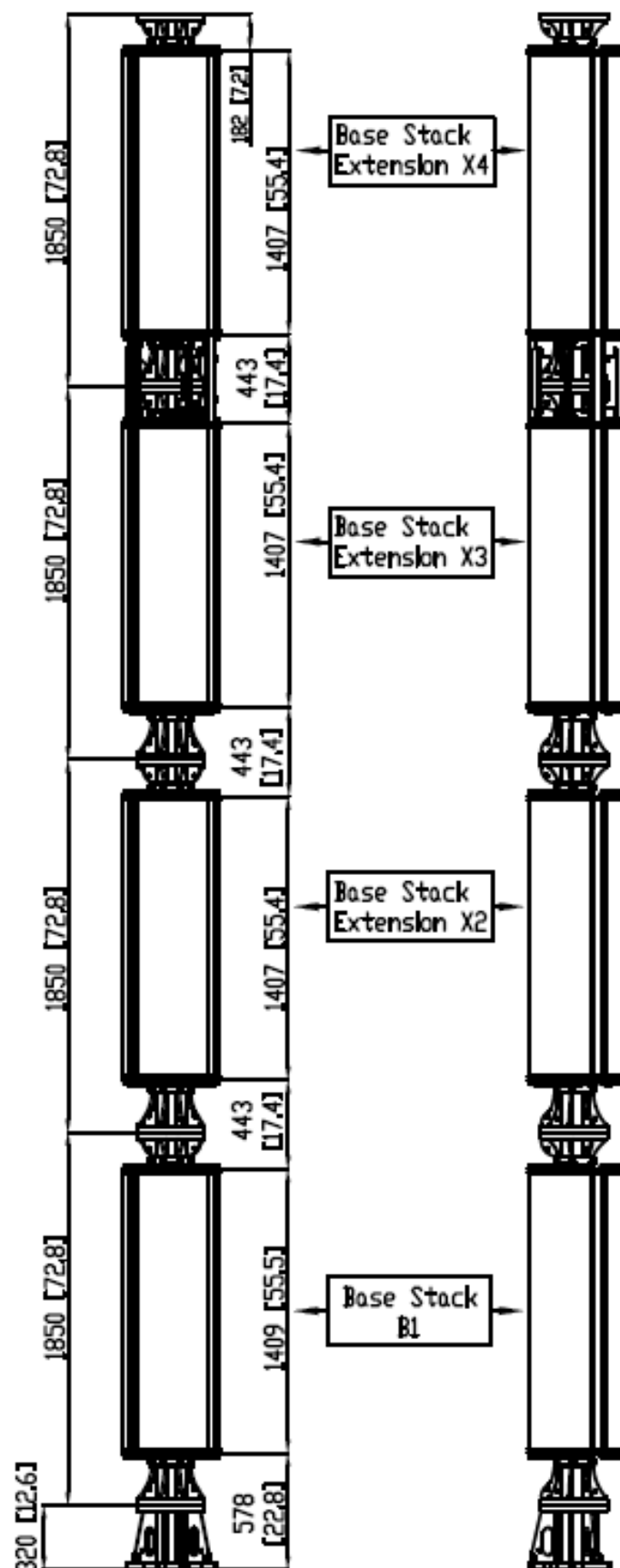


Array layout depicts the four modular antenna stacks. There are two sectors per stack.

Array	Frequency MHz	Ports	RET
R1	698 - 960	1 - 2	1
R2		3 - 4	2
R3		5 - 6	3
R4		7 - 8	4
Y1	1710 - 2690	9 - 10	5
Y2		11 - 12	6
Y3		13 - 14	7
Y4		15 - 16	8
Y5		17 - 18	9
Y6		19 - 20	10
Y7		21 - 22	11
Y8		23 - 24	12

Configuration	
698 - 960 MHz	One RET per array: R1, R2, R3, R4 x 3 Sectors
1710 - 2690 MHz	One RET per array: Y1 to Y8 x 3 Sectors
Total Quantity	Thirty-Six RET Motor Controllers
Location and Interface	
RET Controller Location	Inside antenna radome housing
RET Interface	Pair of AISG 8 Pin DIN connectors, one male, one female
RET Interface Quantity	Three pairs of AISG 8 Pin DIN connectors, one per sector
RET Interface Location	On connector plate located at bottom of antenna
Electrical	
Input Voltage	10 - 30V
Power Idle Mode	< 1W
Power Active Mode	< 10W
Protocol	3GPP / AISG 2.0

TECHNICAL SPECIFICATION



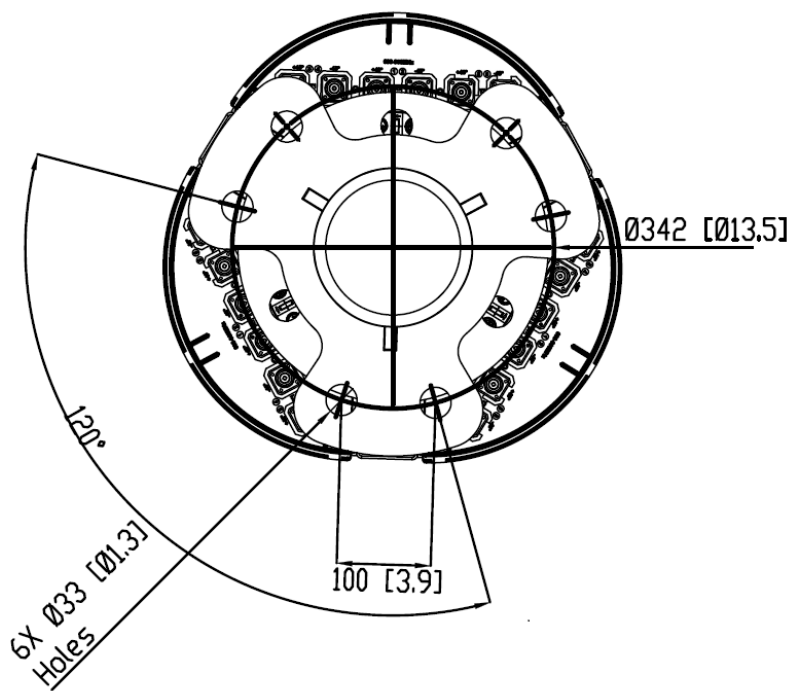
Description of Parts

AWT4-3997	
Base Stack	The top of the Base Stack has a mounting flange onto which an optional Extension Stack may be mounted.
Extension Stack	The Extension Stacks is supplied with the AWT4-3997 as it is a single stack design.
RF Jumpers Base Stack	Feeders from the Radio Cabinet feed directly into the connectors located at the bottom of the Base Stack.
RF Jumpers Extension Stack	RF Jumpers are routed behind the Base Stack Radomes.

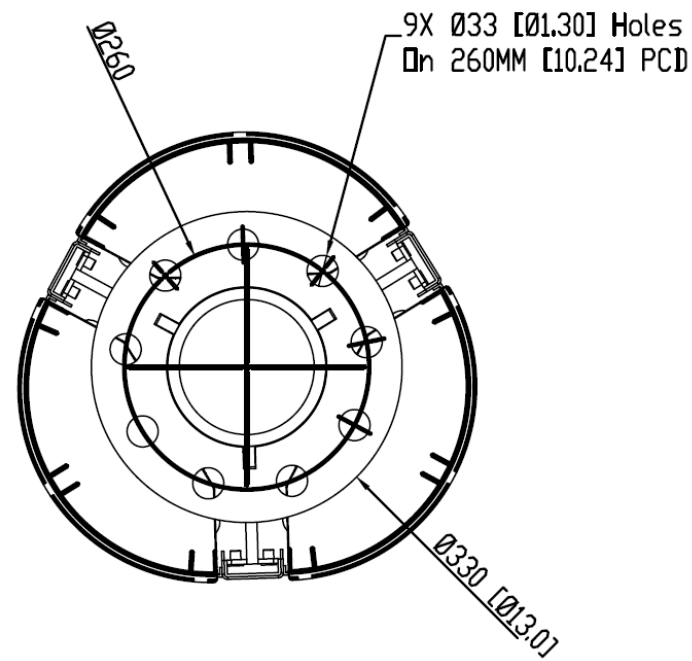
TECHNICAL SPECIFICATION

Mounting Bracket Kit

480mm T4 Flange Mount (Base and Extension Flanges)



Base Flange



Extension Flange

Mounting Kit Tilt Range	Mounting Kit Material	Mounting Kit Pole Diameter
0	Stainless Steel	152mm-254mm (6" to 10")

Ordering Info

Order Code - Antenna	Description
AWT4-3997	Modular Tri-Sector T4 Series - 72 Port - Enclosed Remote Electrical Tilt (eRET) with 4.3-10 Connectors.
Order Code - Accessories	Description
AW1012-2-FM-FM	RF Jumper Cable, connector types 4.3-10 (m) / 4.3-10 (m), length 2 metres (6'6")
AW1012-2-FM-NM	RF Jumper Cable, connector types 4.3-10 (m) / N-Type (m), length 2 metres (6'6")
AW1014-2-FM-TM	RF Jumper Cable, connector types 4.3-10 (m) / Nex10 (m), length 2 metres (6'6")
PADC 1000	Portable AISG Controller
SADC 2000	Site AISG Controller
AW0326-3-PM-PF	AISG Jumper Cable Lengths 3 metres (9' 10")
AW0326-10-PM-PF	AISG Jumper Cable Lengths 10 metres (32' 9")

Enquiries

Global Headquarters
Ashgrove Business Centre,
Ballybrittas, Portlaoise,
R32 DTOA, IRELAND
sales@alphawireless.com
+353 57 86 33847

North America
7301 W. 129th Street, Suite 150,
Overland Park,
KS 66213, USA
sales@alphawireless.com
+1 913 279 0008

Australia
3/76 Regentville Rd,
Jamisontown,
NSW 2750, AUSTRALIA
sales@alphawireless.com
+ 61 2 4504 8212

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