DATASHEET

AWT2-3836

Common Name 45 Port (2P/4P/8P+1P x 3) 3.6M Multiband Modular Tri-Sector with 3.5GHz Beamforming.

Frequency	Ports	Tilt	Gain	Beamwidth
698-960MHz	6	eRET	15.0	69°
1695-2690MHz	12	eRET	17.8	62°
3300-4200MHz	24 +3	eRET	16.5	90°

PRODUCT INFORMATION

Stack	Part Name	Description
1	Base Stack	The Base Stack contains the 3300-4200 Beamforming Sectors. There is a Mount Plate located on the bottom of the Base Stack to attach to the Monopole.
2	Extension Stack	The Extension stack contains the Low Band and Mid Band sectors.

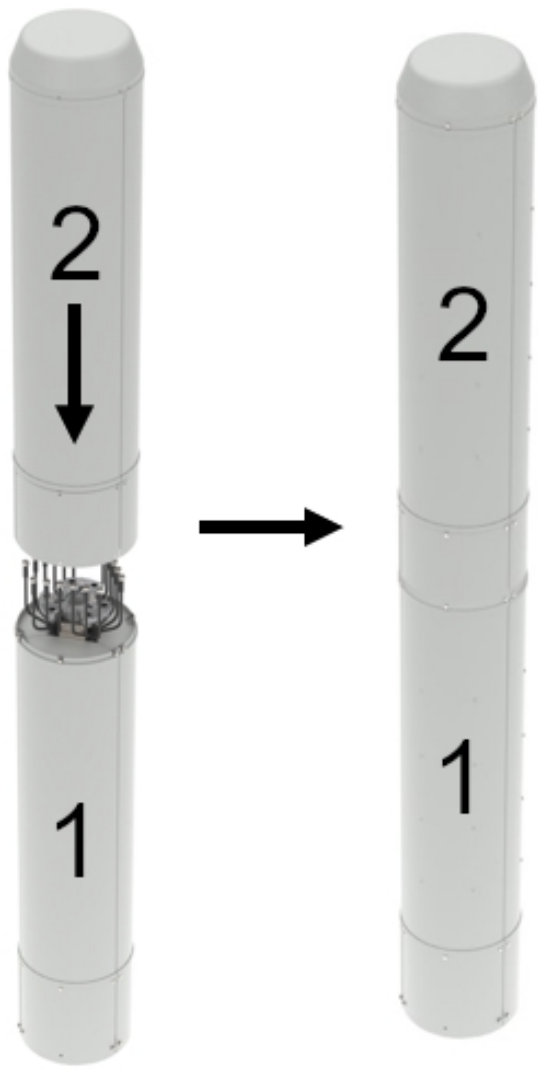
The Modular Tri-Sector T2 Series is a flexible antenna platform designed for Streetwork deployments. The AWT2 Platform is made up using discrete parts. The AWT2-3836 consists of two modular antenna stacks which are detailed in the table below:

Stack Type	Frequency Bands	Ports per Stack
Base Stack	3300-4200MHz	24 +3
Extension Stack	698-960MHz 1695-2690MHz	6 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.

Note #1: The Alpha Wireless AWT2 series can only support a single Base Stack and a single Extension Stack. The Alpha Wireless AWT4 series can support a single Base Stack and up to three Extension Stacks.

Note #2: Both the AWT2 and AWT4 have a mounting plate to enable mounting number of Active Antenna units on top, weight permitting.



APPLICATION

Sector antennas 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.

STANDARD & CERTIFICATIONS

Certification	BS EN ISO 9001:2015

RoHS COMPLIANT

CE

FEATURES

- The AWT2 Series supports up to two modular stacks.
- Field upgradable sectors without decommissioning the other sectors.
- Three sector canister with sectors orientated at 0°, 120° and 240° in the Azimuth Plane
- 698-960MHz x 2 Ports per sector
- 1695-2690MHz x 4 Ports per sector
- 3300-4200MHz x 8 Ports per sector with Beamforming capability
- Beamforming sectors have half lambda spacing between Radiator Columns.
- 698-960MHz tilt range T2° - T12°.
- 1695-2690MHz tilt range T2° - T12°.
- 3300-42000MHz tilt range T0° - T10°.
- Low PIM performance to reduce interference.

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

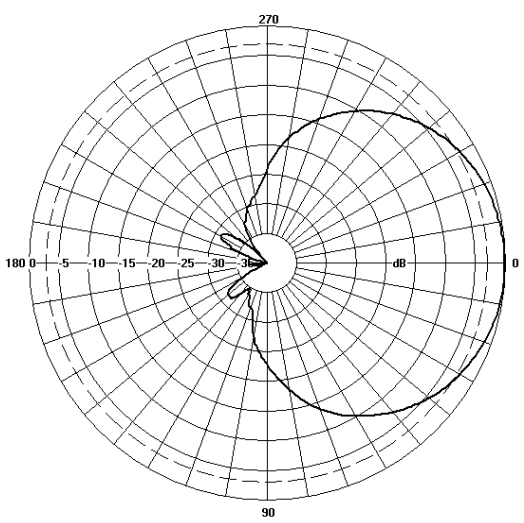
ALPHA WIRELESS

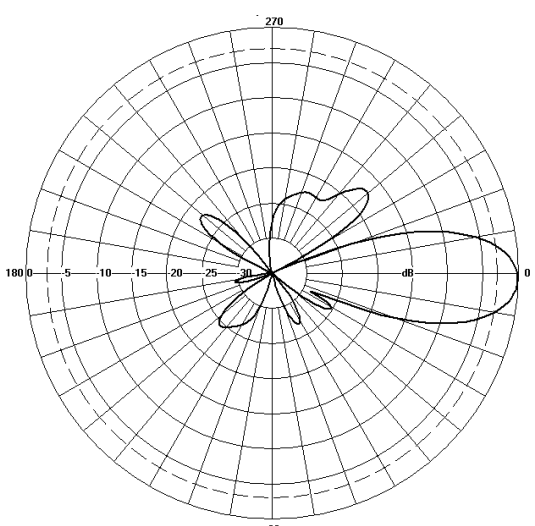
AWT2-3836

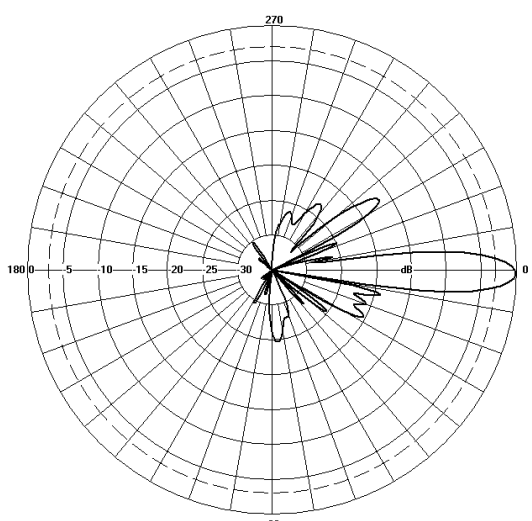
TECHNICAL SPECIFICATION

Electrical Specifications			Low Band			Mid Band		
Frequency Range		MHz	698-790	790-890	890-960	1710-1920	1920-2170	2300-2690
Polarisation		Degree	+/- 45° Slant Linear					
Gain	Basta	dBi	13.8 ±0.5	14.5±0.5	14.5±0.5	16.8 ±0.5	17.1 ±0.5	17.3 ±0.5
	Max	dBi	14.3	15.0	15.0	17.3	17.6	17.8
Azimuth Beamwidth		Degree	72°	69°	67°	63°	62°	66°
Elevation Beamwidth		Degree	16.2°	14.6°	13.4°	7.2°	6.5°	5.5°
Electrical Downtilt		Degree	T2° - T12°			T2° - T12°		
Electrical Downtilt Deviation		Degree<	1.5°	1.5°	1.5°	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>	22	22	22	17	16	13
Cross-Polar Discrimination		dB>	15	15	15	15	15	15
Max Power Per Port		W	300			250		

Radiation Pattern Files







	Low Band	Mid Band
Azimuth	Elevation	

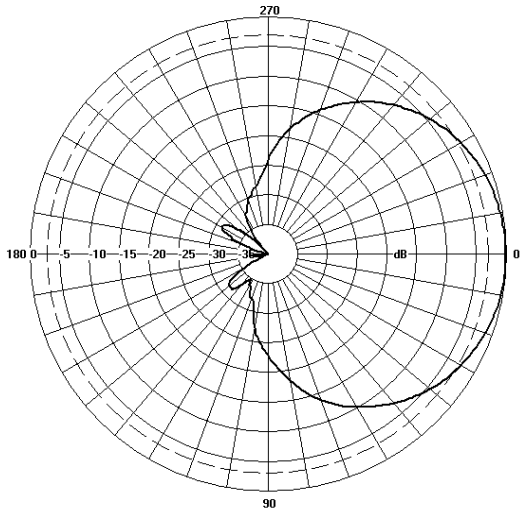
For radiation pattern files, please login at www.alphawireless.com

AWT2-3836

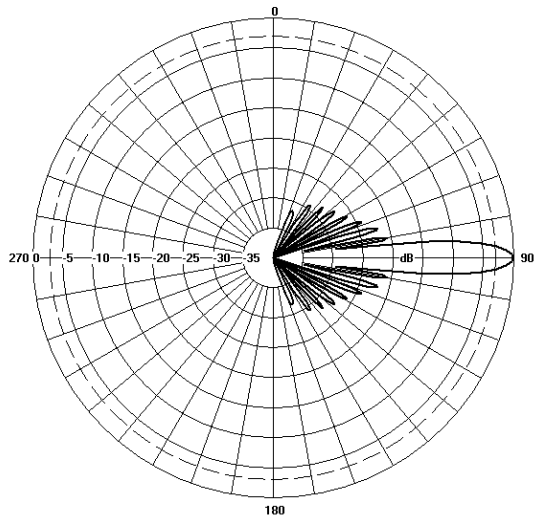
TECHNICAL SPECIFICATION

Electrical Specifications		3300-4200MHz Extension Stack
Frequency Range	MHz	3300-4200MHz
Polarisation	Degree	+/- 45° Slant Linear
Gain		
Single Column	dBi	15.5 +/- 1
Broadcast Beam	dBi	16.5 +/- 1
Service Beam	dB	20 ±1
Calibration Network		
Coupling Factor	dB	26 ±1
Max Amp Deviation	dB	0.9
Max Phase Deviation	dB <	7
Azimuth Beamwidth		
Single Column	3dB BW	90° ±15°
Azimuth Beamwidth	3dB BW	17.3
Service Beam	3dB BW	30° ±1.5°
Elevation Beamwidth	Degree	6.5° ±1
Electrical Downtilt	Degree	T0° - T10°
Electrical Downtilt Deviation	Degree <	1°
Impedance	Ohms	50
VSWR	<	1.5
Return Loss	dB >	14
Isolation	dB >	20
Upper Sidelobe Suppression, Peak to 20°	dB >	16
Cross-Polar Discrimination	dB >	14
Max Effective Power Per Port	W	150

Representative Pattern Files



Azimuth



Elevation

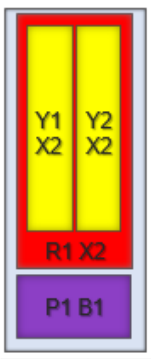
For radiation pattern files, please login at www.alphawireless.com

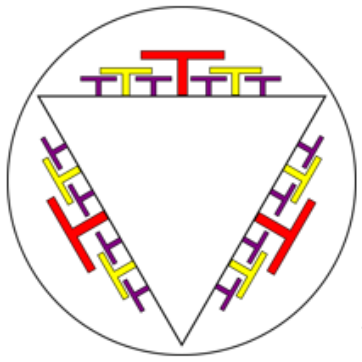
AWT2-3836

TECHNICAL SPECIFICATION

Mechanical Specifications		
Dimensions Base + Extension(s) (Length x Diameter)	mm (in)	3615 (142.3) x 406 (16) - (L x Ø)
Dimensions Base (Length x Diameter)	mm (in)	1911 (75.2)
Dimensions Extension (Length x Diameter)	mm (in)	1704 (67.0)
Weight of Base Stack	kg (lb)	96.5 (212.3)
Weight of Extension Stack	kg (lb)	74.5 (163.9)
Total Tri-Sector Weight	kg (lb)	171.0 (377.0)
Connector Type (Female)	-	4.3-10
Connector Position	-	Bottom
Connector Quantity	-	45(6P Low Band, 12P Mid Band, 24P+3 High Band)
Windload Frontal (at Rated Wind Speed: 150km/h)	N (lbf)	1194 (270)
Windload Lateral (at Rated Wind Speed: 150km/h)	N (lbf)	1194 (270)
Survival Wind Speed	km/h (mph)	241 (150)
Radome Material	-	UV Stabilised ASA capped ABS
Radome Colour	RAL	7035 (light grey)
Product Compliance Environmental	-	RoHS
Lightning Protection	-	DC Grounded
Cold Temperature Survival	°C (°F)	-40° C (-40° F)
Hot Temperature Survival	°C (°F)	70° C (158° F)
Shipping Information	-	-
Size of Crate Type 1 - Base Stack and Interface (LxWxD)	mm (in)	2100 (82.6) x 570 (22.4) x 628 (24.7)
Size of Crate Type 2 - Extension Stack (LxWxD)	mm (in)	2100 (82.6) x 570 (22.4) x 628 (24.7)
Shipping Weight of Crate Type 1 - Base Stack	kg (lb)	149 (327.8)
Shipping Weight of Crate Type 2 - Extension Stack	kg (lb)	127 (279.4)
Total Number of Crates (Types 1 and 2)	Quantity	2 Crates (1 x Crate Type 1, 1 x Crate Type 2)

Array Layout and RET Information





Note: Coloured box sizes do not represent antenna sizes.

Stack	Sector	Array	Frequency MHz	Ports	RET ID	AISG Serial Number Format
X2	S1	R1	698 – 960	1 – 2	1	ASxxxxxxxxxX2S1R1
X2	S1	Y1	1710 - 2690	3 – 4	2	ASxxxxxxxxxX2S1Y1
X2	S1	Y2	1710 – 2690	5 – 6	3	ASxxxxxxxxxX2S1Y2
B1	S1	P1	3300 – 4200	1 - 9	4	ASxxxxxxxxxB1S1P1
X2	S2	R1	698 – 960	1 – 2	5	ASxxxxxxxxxX2S2R1
X2	S2	Y1	1710 - 2690	3 – 4	6	ASxxxxxxxxxX2S2Y1
X2	S2	Y2	1710 – 2690	5 – 6	7	ASxxxxxxxxxX2S2Y2
B1	S2	P1	3300 – 4200	1 - 9	8	ASxxxxxxxxxB1S2P1
X2	S3	R1	698 – 960	1 – 2	9	ASxxxxxxxxxX2S3R1
X2	S3	Y1	1710 - 2690	3 – 4	10	ASxxxxxxxxxX2S3Y1
X2	S3	Y2	1710 – 2690	5 – 6	11	ASxxxxxxxxxX2S3Y2
B1	S3	P1	3300 – 4200	1 - 9	12	ASxxxxxxxxxB1S3P1

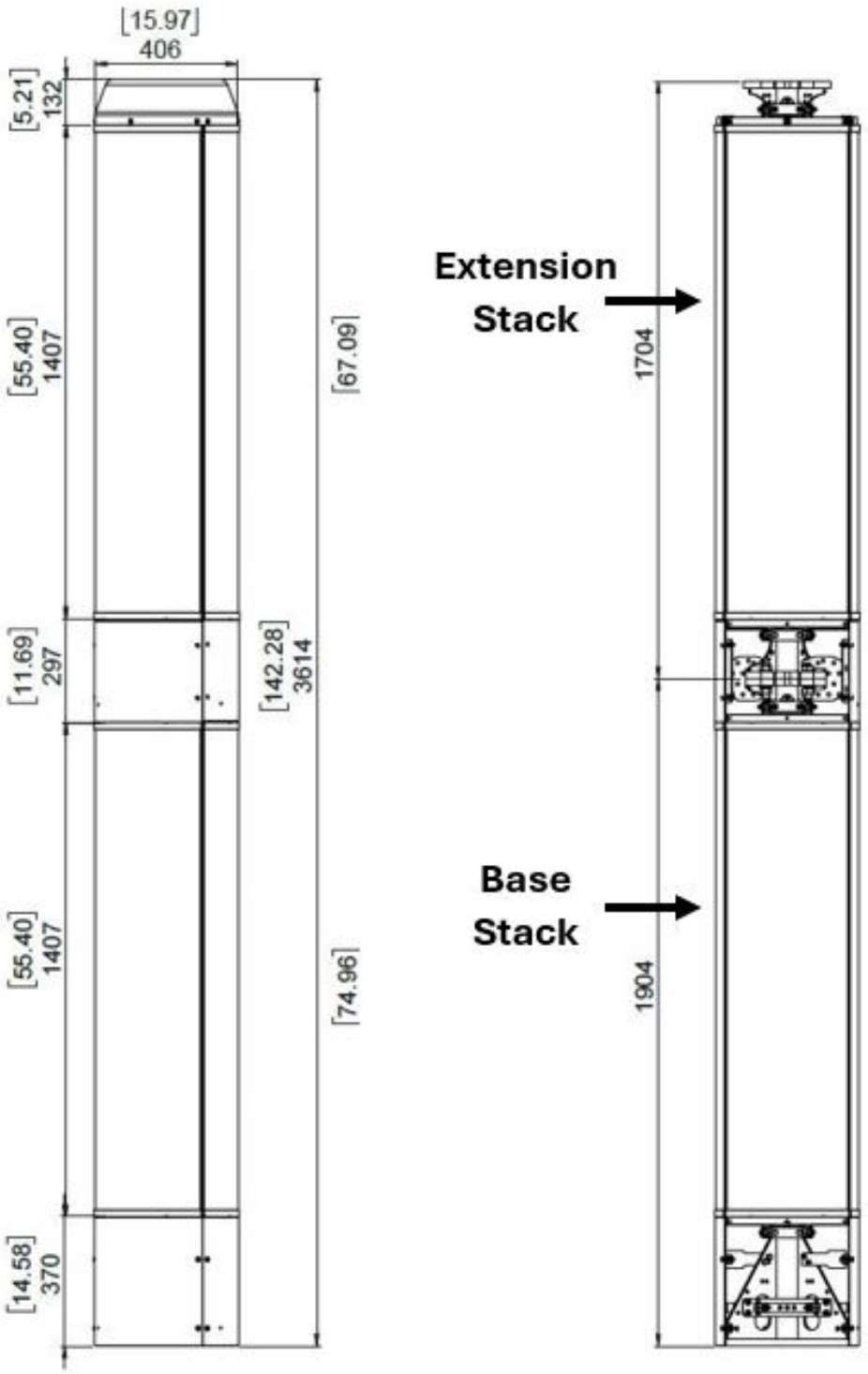
Configuration	
698-960 MHz	One RET per array: R1 x 3 Sectors
1710-2690 MHz	One RET per array: Y1, Y2 x 3 Sectors
3300-4200 MHz	One RET per array: P1 x 3 Sectors
Total Quantity	Twelve RET Motor Controllers
Location and Interface	
RET Controller Location	Inside antenna radome housing
RET Interface	Pair 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

ALPHA WIRELESS

AWT2-3836

TECHNICAL SPECIFICATION

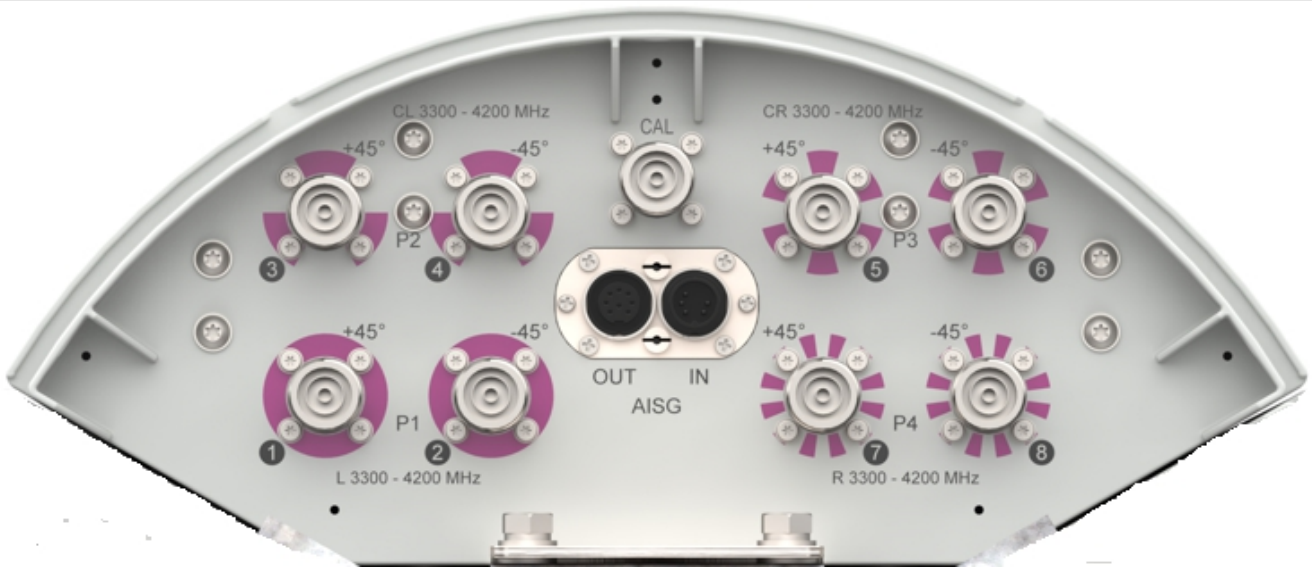
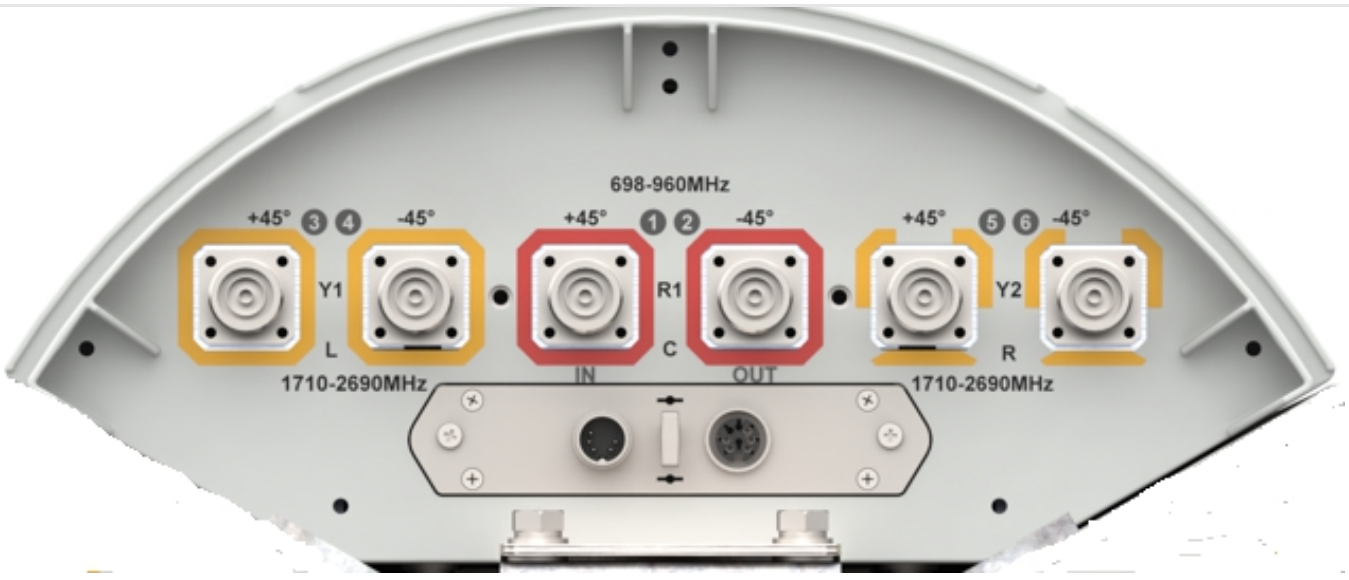
Mechanical Illustration



Description of Parts	
Base Stack	This contains the Antenna Sectors. Mounted onto the Base Stack Interface. The top of the Base Stack has a mounting flange onto which the Extension Stack is mounted.
Extension Stack	This contains the Antenna Sectors. Mounted onto the Base Stack . The bottom of the Base Stack has a mounting flange onto which the Extension Stack is mounted to the base stack.
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

Connector Plate Images

	Showing High Band (Beamforming) Connector Plate located at bottom of Base Stack.
	Showing Low Band / Mid Band Connector Plate located at bottom of Extension Stack.
	Each RET Motor is located at the bottom of each antenna sector as part of the Connector Plate. Each RET motor can be accessed individually and if necessary replaced individually by releasing two screws and sliding out the RET Motor Cartridge. A new RET Motor Cartridge can be slid back in as replacement.

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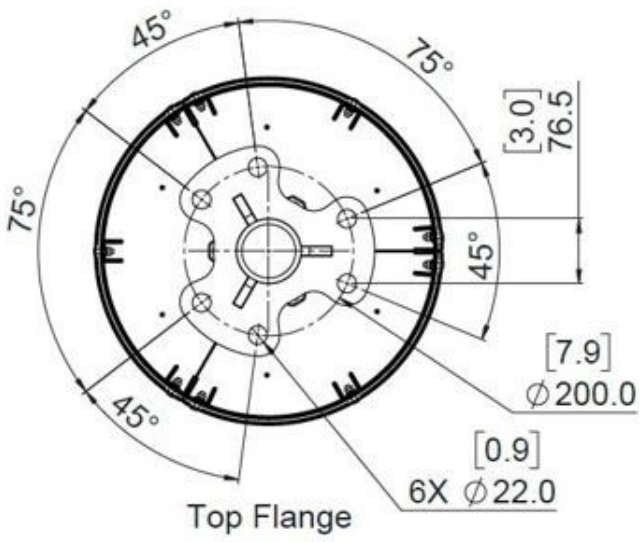
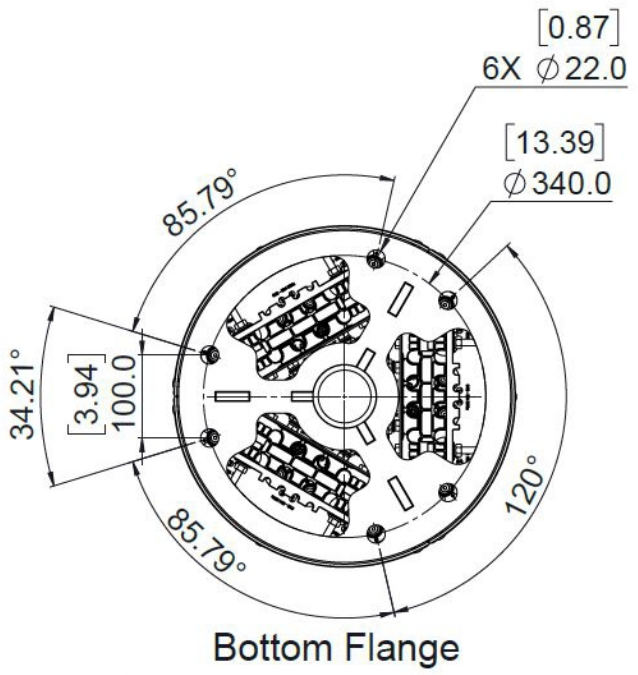
TECHNICAL SPECIFICATION

Mounting Flange





Mounting Kit Tilt Range	Mounting Kit Material	Mounting Kit Pole Diameter
0	Galvanized Steel	N/A

Ordering Info

Order Code - Antenna	Description
AWT2-3836	Enclosed Remote Electrical Tilt (eRET) with 4.3-10 Connectors.
Order Code - Accessories	**Description**
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
AW0326-3-PM-PF	AISG Jumper Cable Lengths 3 metres (9' 10")
AW0326-10-PM-PF	AISG Jumper Cable Lengths 10 metres (32' 9")

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