



# DATASHEET

## AW3946-E-F

**Common Name-** 8 Port, 67", 33° Azimuth, Dual Sector mechanically offset by 60°

3400 - 3800 MHz	8	eRET	20.2	33°
Frequency	Ports	Tilt	Gain	Beamwidth

### PRODUCT INFORMATION

This product was developed to offer a narrow Azimuth Beam with two 4-port sectors. This antenna is Internally cascaded which means the two RCU's are controlled by a single AISG 2.0 M/F Interface. The antenna has reduced Azimuth Sidelobes (<25dB) which enables frequency reuse two with six sectors. Each AW3946 houses two four-port sectors with 33° Azimuth beamwidth. The two sectors are orientated mechanically so that there is a 60° angle between the Azimuth Beam directions.

### APPLICATION

Integrated remote electrical tilt allows instant optimization to improve coverage and throughput. The horizontally spaced array allows optimum MIMO performance with dual 4x4 operation or receive diversity RF functions. Superior SNIR enables higher modulation schemes for maximum throughput. The AW3946 has been developed for a six sector site application. Each AW3946 houses two 33° sectors with 60° Azimuth separation. When combined with two other AW3946 units positioned at 120° Azimuth separation, this results in 360° Azimuth coverage with sectors positioned at every 60°.

### STANDARD & CERTIFICATIONS

Certification	BS EN ISO 9001:2015
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### FEATURES

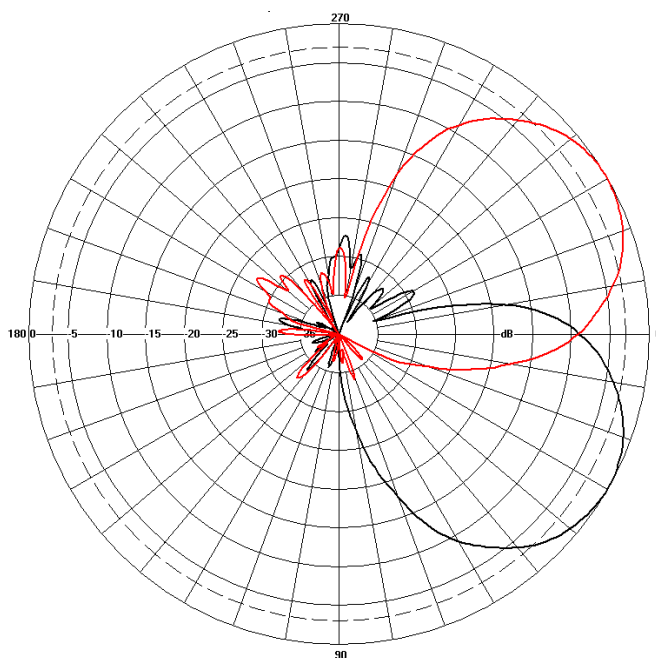
- Two 4x4 MIMO - 60° separated.
- Azimuth Sidelobes suppression is <25dB - reducing cochannel interference from adjacent sectors.
- Narrow Azimuth beam to increase site capacity.
- Enhanced tilt range of 0 to 10 degrees.

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

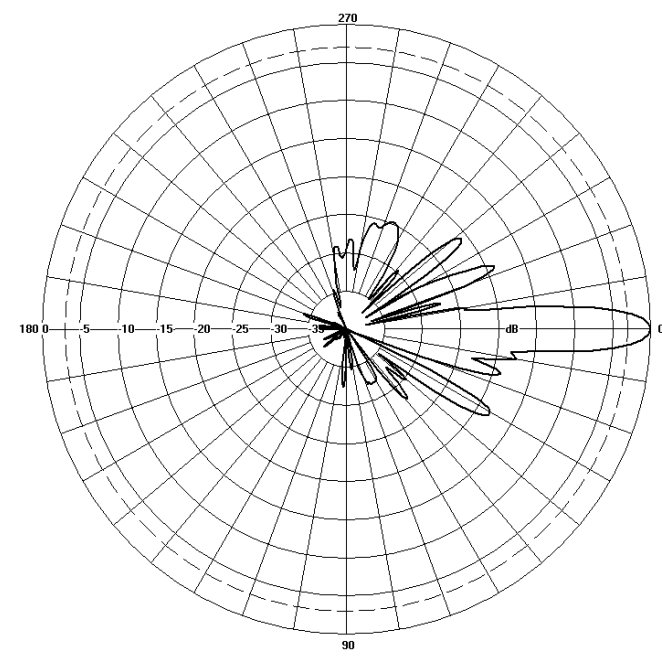
## TECHNICAL SPECIFICATION

Electrical Specifications			
Frequency Range		MHz	3400 - 3800
Polarisation		Degree	+/- 45° Slant Linear
Gain	Basta	dBi	19.7±0.5
	Max	dBi	20.2
Azimuth Beamwidth		Degree	33° (+/- 3°)
Azimuth Beam Squint		Degree<	3°
Elevation Beamwidth		Degree	6.5 (+/- 0.5°)
Electrical Downtilt		Degree	T0° - T10°
Electrical Downtilt Deviation		Degree<	1°
Impedance		Ohms	50
VSWR		<	1.5
Return Loss		dB>	14
Isolation		dB>	25
Front to Back Ratio: Total Power +/-30°		dB>	30
Upper Sidelobe Suppression, Peak to 20°		dB>	18
Cross-Polar Discrimination (0°)		dB>	16
Maximum Effective Power Per Port		W	100
Azimuth Sidelobes, Peak to 80°		dB>	25

## Representative Pattern Files



Azimuth



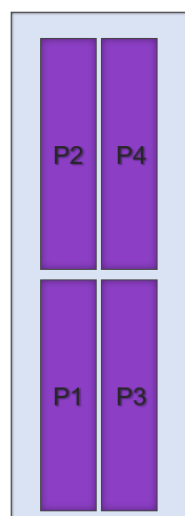
Elevation

For radiation pattern files, please login at [www.alphawireless.com](http://www.alphawireless.com)

## TECHNICAL SPECIFICATION

Mechanical Specifications		
Dimensions	mm (in)	1700 (67.0) x 322 (12.7) x 115 (4.5) - (LxWxD)
Packing Size (LxWxD)	mm (in)	1800 (71) x 380 (15) x 220 (8.7)
Net Weight (antenna)	kg (lb)	16.5 (36.3)
Net Weight (mount)	kg (lb)	3.1 (6.8)
Shipping Weight	kg (lb)	19.6 (43.1)
Connector Type (Female)	-	4.3-10
Connector Quantity	-	8 (4 left and 4 right)
Connector Position	-	Bottom
Windload Frontal (at Rated Wind Speed: 150km/h)	N (lbf)	594 (134)
Windload Lateral (at Rated Wind Speed: 150km/h)	N (lbf)	406 (92)
Survival Wind Speed	km/h (mph)	200 (125)
Radome Material	-	ASA Capped ABS
Radome Colour	RAL	7035 (light grey)
Product Compliance Environmental	-	RoHS
Lightning Protection	-	DC Grounded
Cold Temperature Survival	°C (°F)	-40 (-40)
Hot Temperature Survival	°C (°F)	70 (158)

## Array Layout and RET Information



Note: Coloured box sizes do not represent antenna sizes.

Array	Frequency MHz	Ports	RET ID
P1	3400 - 3800	1 - 2	1
P2	3400 - 3800	3 - 4	1
P3	3400 - 3800	5 - 6	2
P4	3400 - 3800	7 - 8	2

<b>Configuration</b>	
3400-3800 MHz	One RET for both arrays : P1, P2
3400-3800 MHz	One RET for both arrays : P3, P4
<b>Total Quantity</b>	Two RET Motor Controller
<b>Location and Interface</b>	
RET Controller Location	Inside antenna radome housing
RET Interface	Pair of AISG 8 Pin DIN connectors, one male, one female
RET Interface Quantity	One pair of AISG 8 Pin DIN connectors
RET Interface Location	On connector plate located at bottom of antenna
<b>Electrical</b>	
Input Voltage	10 - 30V
Power Idle Mode	< 1W
Power Active Mode	< 10W
Protocol	3GPP / AISG 2.0

## Mechanical Illustration

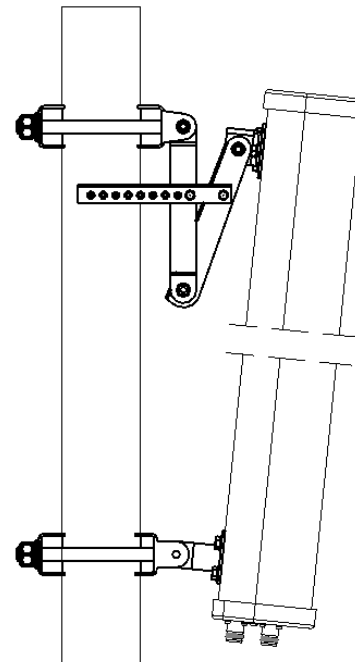
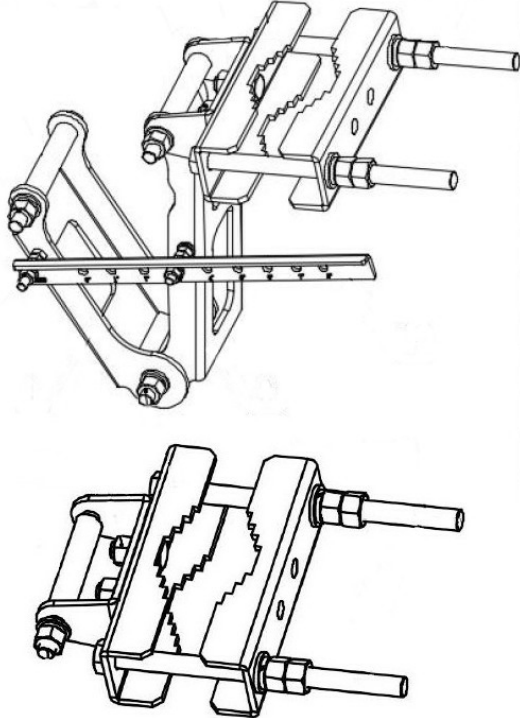
All measurements are in mm (in)



## TECHNICAL SPECIFICATION

### Mounting Bracket Kit

CL-V-164 Adjustable Mount Kit (Mount Kit included with antenna)



Mounting Kit Tilt Range	Mounting Kit Material	Mounting Kit Pole Diameter
0° to 10°	Galvanised Steel	50mm-115mm (2" to 4.5")

### Ordering Info

#### Order Code - Antenna

AW3946-E-F

#### Description

Enclosed Remote Electrical Tilt (eRET) with 4.3-10 Connectors

#### Order Code - Accessories

AW1012-2-FM-FM

#### Description

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")

AW0326-25-PM-PF

AISG Jumper Cable Lengths 25 metres (82')

AW0326-50-PM-PF

AISG Jumper Cable Lengths 50 metres (164')

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