



AW3787-E-F

Common Name 39 Port(12P/27P) 2.8M L Band 3.5GHz Beamforming Tri-Sector

| | | | | |
|--------------|-------|------|------|-----------|
| 1452-2400MHz | 12 | eRET | 17.1 | 65° |
| 3400-3800MHz | 27 | eRET | 15.5 | 90° |
| Frequency | Ports | Tilt | Gain | Beamwidth |

PRODUCT INFORMATION

This antenna solution is being deployed on rooftops and macro pole applications globally. It is a multi-frequency solution that provides 4 ports per sector across 1452-2400MHz and 8 ports per sector across 3400-3800MHz. Each 3.5GHz sector is capable of Beamforming. The three sectors for each of the three bands fit in a 14.2 Inch diameter canister to deliver a compact and aesthetically pleasing solution.

APPLICATION

Canisters support multiple antennas into one attractive package. These canisters deliver an elegant macro solution for pole-top, rooftop and street works applications. Alpha Wireless produces one of the smallest diameter canisters in the marketplace. This canister is now 5G capable with the addition of 3.5GHz Beamforming sectors.

STANDARD & CERTIFICATIONS

| | |
|---------------|---------------------|
| Certification | BS EN ISO 9001:2015 |
|---------------|---------------------|



FEATURES

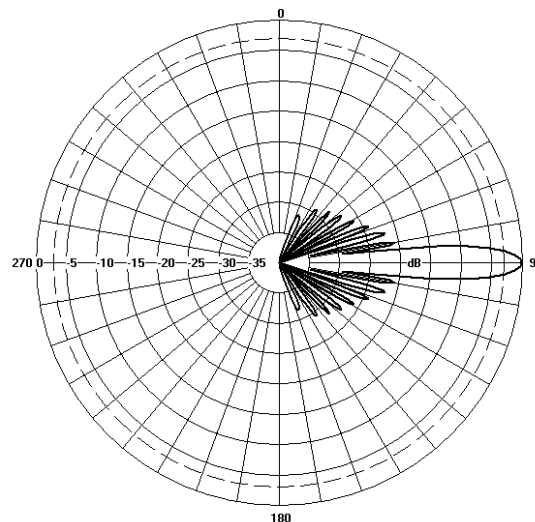
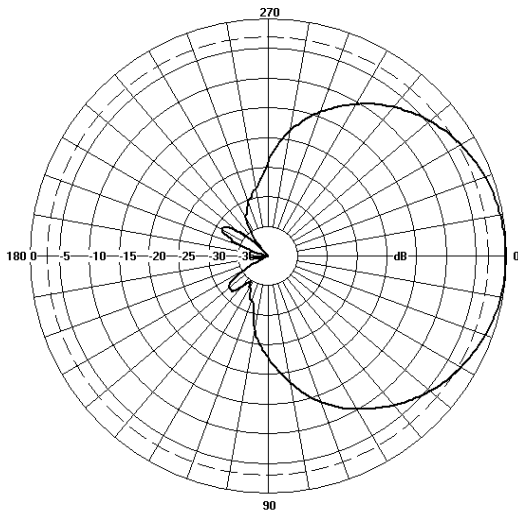
- Three sector canister with sectors orientated at 0°, 120° and 240° in the Azimuth Plane
- 1452-2400MHz x 4 Ports per sector
- 3400-3800MHz x 8 Ports per sector with Beamforming capability.
- Beamforming sectors have half lambda spacing between Radiator Columns.
- 90° Azimuth on 3400-3800MHz for optimal Beamforming patterns.
- 1452-2400MHz tilt range T2° - T10°.
- 3400-3800MHz tilt range T0° - T10°.
- Low PIM performance to reduce interference.
- Flange mount design.

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

TECHNICAL SPECIFICATION

| Electrical Specifications | | 2 Ports Mid Band LH Sector | | | 2 Ports Mid Band RH Sector | | | |
|---|---------|----------------------------|-----------|-----------|----------------------------|-----------|-----------|----------|
| Frequency Range | MHz | 1452-1492 | 1710-2170 | 2300-2400 | 1452-1492 | 1710-2170 | 2300-2400 | |
| Polarisation | Degree | +/- 45° Slant Linear | | | | | | |
| Gain | Basta | dB | 16.0±0.5 | 16.7±0.5 | 16.6±0.5 | 16.0±0.5 | 16.7±0.5 | 16.6±0.5 |
| | Max | dB | 16.5 | 17.2 | 17.1 | 16.5 | 17.2 | 17.1 |
| Azimuth Beamwidth | Degree | 75° | 68° | 68° | 75° | 68° | 68° | |
| Azimuth Beam Squint | Degree< | 3° | | | 3° | | | |
| Elevation Beamwidth | Degree | 7.0° | 6.3° | 6.2° | 7.0° | 6.3° | 6.2° | |
| Electrical Downtilt | Degree | T0° - T10° | | | T0° - T10° | | | |
| Electrical Downtilt Deviation | Degree< | 1° | 1° | 1° | 1° | 1° | 1° | |
| Impedance | Ohms | 50 | | | | | | |
| VSWR | < | 1.5 | | | | | | |
| Return Loss | dB> | 14 | | | | | | |
| Intraband Isolation (same band / same array) | dB> | 25 | 25 | 25 | 25 | 25 | 25 | |
| Network to Network Isolation (same band / different array) | dB> | 28 | 28 | 28 | 28 | 28 | 28 | |
| Interband Isolation (different band and array) | dB> | 30 | 30 | 30 | 30 | 30 | 30 | |
| 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 | 250 | | | 250 | | | |

Radiation Pattern Files



Azimuth

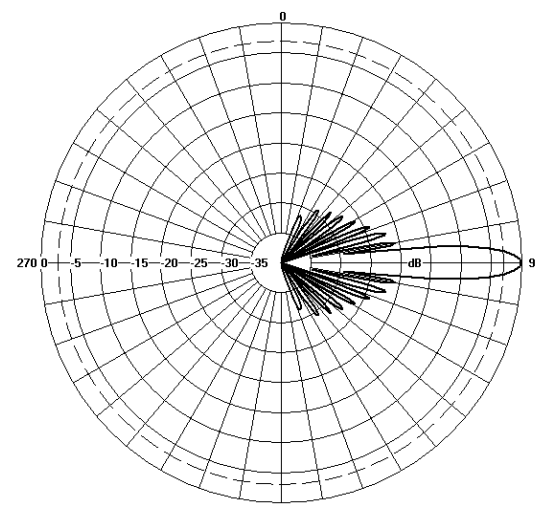
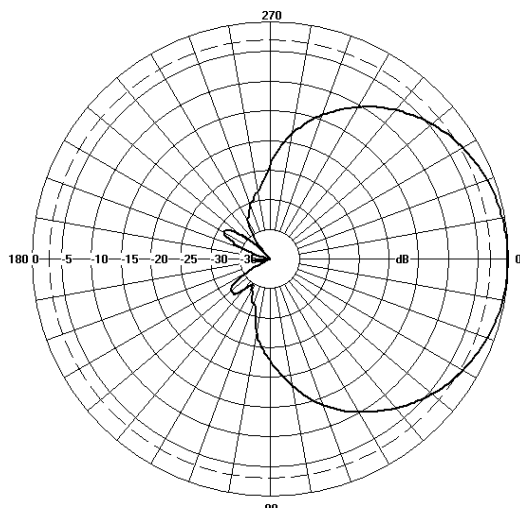
Elevation

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

TECHNICAL SPECIFICATION

| Electrical Specifications | | 8 Port 3400 - 3800MHz Beamforming per sector. |
|---|----------|---|
| Frequency Range | MHz | 3400 - 3800MHz |
| Polarisation | Degree | +/- 45° Slant Linear |
| Gain | dBi | |
| 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 | 0.7 |
| Max Phase Deviation | dB < | 5 |
| Azimuth Beamwidth | | |
| Single Column | 3dB BW | 90° +/- 15 |
| Azimuth Beamwidth | 3dB BW | 16.5 |
| Service Beam | 3dB BW | ±30° ±1.5° |
| Azimuth Beam Squint | Degree < | 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 > | 25 |
| 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

TECHNICAL SPECIFICATION

| Mechanical Specifications | | |
|---|----------------------|-------------------------------------|
| Dimensions | mm (in) | 2753 (108.3) x 360 (14.2) - (L x Ø) |
| Packing Size (LxWxD) | mm (in) | 2910 (114) x 500 (20) x 590 (23) |
| Net Weight (antenna) | kg (lb) | 90 (198) |
| Net Weight (mount) | kg (lb) | 139 (306) |
| Connector Type (Female) | - | 4.3-10 |
| Connector Position | - | Bottom |
| Connector Quantity | - | 39 (12P / 27P) |
| Windload Frontal (at Rated Wind Speed: 150km/h) | N (lbf) | 895 (202) |
| Windload Lateral (at Rated Wind Speed: 150km/h) | N (lbf) | 895 (202) |
| Survival Wind Speed | km/h (mph) | 200 (125) |
| Radome Material | - | UV Stabilised ABS capped ASA |
| Radome Colour | RAL | 7035 |
| Product Compliance Environmental | - | RoHS |
| Lightning Protection | - | DC Grounded |
| Cold Temperature Survival | Celsius (Fahrenheit) | -40 (-40) |
| Hot Temperature Survival | Celsius (Fahrenheit) | 70 (158) |

Remote Electrical Tilt (RET) Information

Enclosed Remote Electrical Tilt (eRET) Information

Configuration

| | |
|----------------|--|
| 3400 - 3800MHz | One RET Motor Controller per 2 Port Sector x 3 Sectors |
| 1452-2400MHz | One RET Motor Controller per 2 Port Sector x 3 Sectors |
| 1710-2690MHz | One RET Motor Controller per 2 Port Sector x 3 Sectors |
| 1452-2400MHz | One RET Motor Controller per 2 Port Sector x 3 Sectors |
| Total Quantity | Nine 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

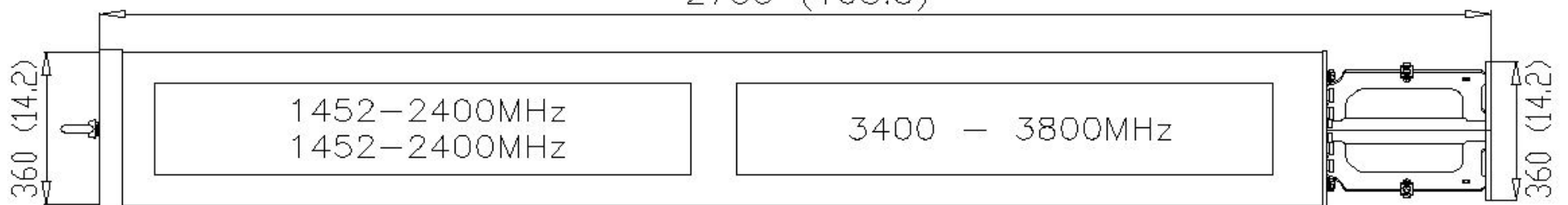
| | |
|--------------------------|-----------------|
| Input Voltage | 10 - 30V |
| Power Consumption active | <1W |
| Sample Text | <10W |
| Protocol | 3GPP / AISG 2.0 |

TECHNICAL SPECIFICATION

Mechanical Illustration



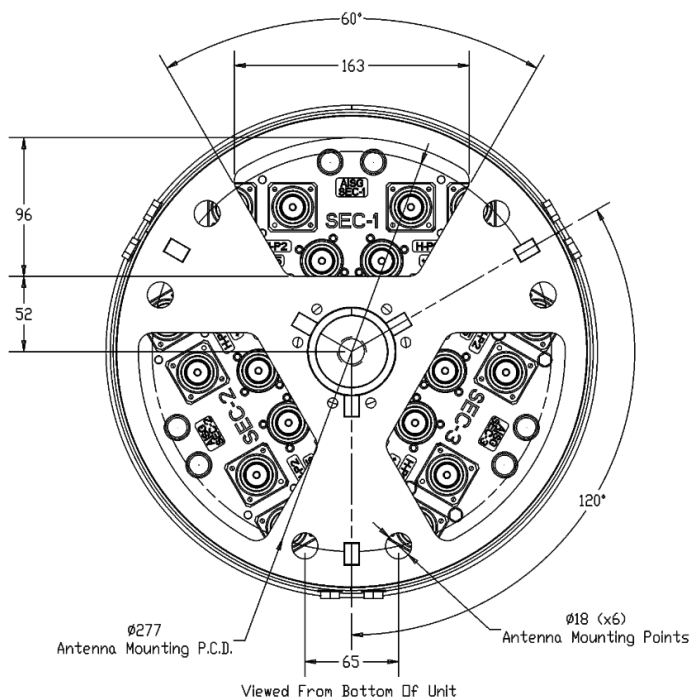
2753 (108.3)



TECHNICAL SPECIFICATION

Mounting Bracket Kit

360mm Canister Flange Mount



| Mounting Kit Tilt Range | Mounting Kit Material | Mounting Kit Pole Diameter |
|-------------------------|-----------------------|----------------------------|
| 0 | Stainless Steel | N/A |

Ordering Info

| Order Code - Antenna | Description |
|--------------------------|--|
| AW3787-E-F | 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") |

Enquiries

Global Headquarters
Ashgrove Business Centre,
Ballybrittas, Portlaoise, Ireland
Post code: R32 DT0A
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

DISCLAIMER

The information in this document is provided solely regarding Alpha Wireless products. The information is not a guarantee of performance or characteristics. Alpha Wireless reserves the right to modify, change, amend, improve or make corrections to this document and its products, at any time and its sole discretion without prior written consent or notice. No license to any intellectual property rights is granted or implied under this document. Alpha Wireless disclaims warranties and liabilities of any kind including non-infringement of intellectual property rights of any third party.

Alpha Wireless