

# S4-90M-R1-V5



## 8-Port Beamforming Antenna, 3300-4200 MHz, 1x RET

- Planer array antenna - 4 columns
- Single internal RET control for all four antenna arrays
- Designed for beamforming, including calibration port
- Optimized for software defined split six sector applications
- Fits in the ANDREW AEKT solution

## General Specifications

|   |  |
|---|--|
| <b>Antenna Type</b>                     | Sector and beamforming   |
| <b>Band</b>                             | Single band  |
| <b>Calibration Connector Interface</b>  | 4.3-10 Female  |
| <b>Calibration Connector Quantity</b>   | 1  |
| <b>Color</b>                            | Light Gray (RAL 7035)  |
| <b>Grounding Type</b>                   | RF connector inner conductor and body grounded to reflector and mounting bracket |
| <b>Performance Note</b>                 | Outdoor usage  |
| <b>Radome Material</b>                  | PVC, UV resistant  |
| <b>Reflector Material</b>               | Aluminum   |
| <b>RF Connector Interface</b>           | 4.3-10 Female  |
| <b>RF Connector Location</b>            | Bottom   |
| <b>RF Connector Quantity, high band</b> | 8  |
| <b>RF Connector Quantity, mid band</b>  | 0  |
| <b>RF Connector Quantity, low band</b>  | 0  |
| <b>RF Connector Quantity, total</b>     | 8  |

## Remote Electrical Tilt (RET) Information

|   |                                   |
|---|-----------------------------------|
| <b>RET Hardware</b>                             | CommRET v2                        |
| <b>RET Interface</b>                            | 8-pin DIN Female   8-pin DIN Male |
| <b>RET Interface, quantity</b>                  | 1 female   1 male                 |
| <b>Input Voltage</b>                            | 10–30 Vdc                         |
| <b>Internal RET</b>                             | High band (1)                     |
| <b>Power Consumption, active state, maximum</b> | 10 W                              |

# S4-90M-R1-V5

**Power Consumption, idle state, maximum** 2 W  
**Protocol** 3GPP/AISG 2.0 (Single RET)

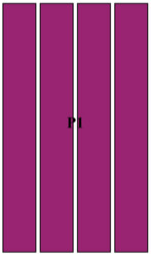
## Dimensions

**Width** 307 mm | 12.087 in  
**Depth** 118 mm | 4.646 in  
**Length** 850 mm | 33.465 in  
**Net Weight, antenna only** 8.5 kg | 18.739 lb

## Array Layout

| Array ID | Frequency (MHz) | RF Connector | RET (MRET) | AISG RET UID       |
|----------|-----------------|--------------|------------|--------------------|
| P1       | 3300-4200       | 1 - 8        | 1          | CPxxxxxxxxxxxxMM.1 |

(Sizes of colored boxes are not true depictions of array sizes)



## Port Configuration

# S4-90M-R1-V5



## Electrical Specifications

|                                   |                 |
|-----------------------------------|-----------------|
| <b>Impedance</b>                  | 50 ohm          |
| <b>Operating Frequency Band</b>   | 3300 – 4200 MHz |
| <b>Polarization</b>               | ±45°            |
| <b>Total Input Power, maximum</b> | 400 W @ 50 °C   |

## Electrical Specifications

|  | <b>P1</b>        | <b>P1</b>        | <b>P1</b>        | <b>P1</b>        |
|--|------------------|------------------|------------------|------------------|
| <b>Frequency Band, MHz</b>                                     | <b>3300–3400</b> | <b>3400–3700</b> | <b>3700–4000</b> | <b>4000–4200</b> |
| <b>RF Port</b>   | 1-8              | 1-8              | 1-8              | 1-8              |
| <b>Gain, dBi</b>   | 16               | 16.7             | 17.6             | 17               |
| <b>Beamwidth, Horizontal, degrees</b>                          | 92               | 87               | 81               | 75               |
| <b>Beamwidth, Vertical, degrees</b>                            | 6.5              | 6.1              | 5.8              | 5.5              |
| <b>Beam Tilt, degrees</b>                                      | 0–10             | 0–10             | 0–10             | 0–10             |
| <b>Front-to-Back Ratio at 180°, dB</b>                         | 31               | 31               | 31               | 30               |
| <b>Coupling level, Amp, Antenna port to Cal port, dB</b>       | 26               | 26               | 26               | 26               |
| <b>Coupling level, max Amp Δ, Antenna port to Cal port, dB</b> | ±2               | ±2               | ±2               | ±2               |

# S4-90M-R1-V5

|   |          |          |          |          |
|---|----------|----------|----------|----------|
| Coupler, max Amp $\Delta$ , Antenna port to Cal port, dB        | 0.6      | 0.6      | 0.6      | 0.6      |
| Coupler, max Phase $\Delta$ , Antenna port to Cal port, degrees | 5        | 5        | 5        | 5        |
| Isolation, Cross Polarization, dB                               | 25       | 25       | 25       | 25       |
| VSWR   Return loss, dB  | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 |
| PIM, 3rd Order, 2 x 20 W, dBc                                   | -150     | -150     | -150     | -150     |
| Input Power per Port at 50°C, maximum, watts                    | 75       | 75       | 75       | 75       |

## Electrical Specifications, Broadcast 65°

| Frequency Band, MHz                             | 3300–3400 | 3400–3700 | 3700–4000 | 4000–4200 |
|---|-----------|-----------|-----------|-----------|
| Gain, dBi                                       | 17.3      | 17.7      | 17.8      | 18        |
| Beamwidth, Horizontal at 10 dB, degrees         | 129       | 120       | 112       | 95        |
| Beamwidth, Vertical, degrees                    | 6.5       | 6.1       | 5.7       | 5.4       |
| Beamwidth, Vertical Tolerance, degrees          | $\pm 0.3$ | $\pm 0.3$ | $\pm 0.3$ | $\pm 0.2$ |
| Front-to-Back Total Power at 180° $\pm$ 30°, dB | 28        | 27        | 25        | 26        |
| USLS (First Lobe), dB                           | 18        | 17        | 17        | 18        |

## Electrical Specifications, Envelope Pattern

| Frequency Band, MHz                             | 3300–3400 | 3400–3700 | 3700–4000 | 4000–4200 |
|---|-----------|-----------|-----------|-----------|
| Gain, dBi                                       | 21.1      | 21.5      | 22        | 21.6      |
| Beamwidth, Horizontal at 10 dB, degrees         | 129       | 121       | 119       | 118       |
| Beamwidth, Vertical at 3 dB, degrees            | 6.5       | 6.2       | 5.7       | 5.5       |
| Front-to-Back Total Power at 180° $\pm$ 30°, dB | 29        | 28        | 28        | 26        |
| USLS (First Lobe), dB                           | 18        | 18        | 19        | 20        |

## Electrical Specifications, Service Beam

| Frequency Band, MHz  | 3300–3400 | 3400–3700 | 3700–4000 | 4000–4200 |
|--|-----------|-----------|-----------|-----------|
| Steered 0° Gain, dBi                                       | 21.1      | 21.5      | 22.3      | 21.9      |
| Steered 0° Beamwidth, Horizontal, degrees                  | 26        | 25        | 23        | 21        |
| Steered 0° Front-to-Back Total Power at 180° $\pm$ 30°, dB | 31        | 31        | 31        | 30        |

# S4-90M-R1-V5

|  |      |      |      |      |
|--|------|------|------|------|
| <b>Steered 0° Horizontal Sidelobe, dB</b>                      | 15   | 15   | 14   | 14   |
| <b>Steered 30° Gain, dBi</b>                                   | 19.9 | 20.4 | 21.3 | 20.9 |
| <b>Steered 30° Beamwidth, Horizontal, degrees</b>              | 30   | 29   | 26   | 23   |
| <b>Steered 30° Front-to-Back Total Power at 180° ± 30°, dB</b> | 30   | 29   | 29   | 28   |

## Electrical Specifications, Soft Split

|                            |                  |                  |                  |                  |
|----------------------------|------------------|------------------|------------------|------------------|
| <b>Frequency Band, MHz</b> | <b>3300–3400</b> | <b>3400–3700</b> | <b>3700–4000</b> | <b>4000–4200</b> |
| <b>Gain, dBi</b>           | 20               | 20.4             | 20.8             | 20.3             |

## Mechanical Specifications

|   |   |
|---|---|
| <b>Effective Projective Area (EPA), frontal</b> | 0.27 m <sup>2</sup>   2.906 ft <sup>2</sup> |
| <b>Effective Projective Area (EPA), lateral</b> | 0.05 m <sup>2</sup>   0.538 ft <sup>2</sup> |
| <b>Wind Loading @ Velocity, frontal</b>         | 284.0 N @ 150 km/h (63.8 lbf @ 150 km/h)    |
| <b>Wind Loading @ Velocity, lateral</b>         | 56.0 N @ 150 km/h (12.6 lbf @ 150 km/h)     |
| <b>Wind Loading @ Velocity, maximum</b>         | 286.0 N @ 150 km/h (64.3 lbf @ 150 km/h)    |
| <b>Wind Loading @ Velocity, rear</b>            | 343.0 N @ 150 km/h (77.1 lbf @ 150 km/h)    |
| <b>Wind Speed, maximum</b>                      | 241 km/h (150 mph)                          |

## Packaging and Weights

|                       |                     |
|-----------------------|---------------------|
| <b>Width, packed</b>  | 413 mm   16.26 in   |
| <b>Depth, packed</b>  | 257 mm   10.118 in  |
| <b>Length, packed</b> | 1035 mm   40.748 in |
| <b>Weight, gross</b>  | 19 kg   41.888 lb   |

## Regulatory Compliance/Certifications

| <b>Agency</b> | <b>Classification</b>  |
|---------------|--|
| CHINA-ROHS    | Above maximum concentration value  |
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |
| ROHS          | Compliant/Exempted   |
| UK-ROHS       | Compliant/Exempted   |



## Included Products

# S4-90M-R1-V5

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BSAMNT-3                      –        Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members.  
Kit contains one scissor top bracket set and one bottom bracket set.

## \* Footnotes

**Performance Note**        Severe environmental conditions may degrade optimum performance

# BSAMNT-3



Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

## Product Classification

**Product Type** Downtilt mounting kit

## General Specifications

**Application** Outdoor

**Color** Silver

## Dimensions

**Compatible Diameter, maximum** 115 mm | 4.528 in

**Compatible Diameter, minimum** 60 mm | 2.362 in

**Weight, net** 6.2 kg | 13.669 lb

## Material Specifications

**Material Type** Galvanized steel

## Packaging and Weights

**Included** Brackets | Hardware

**Packaging quantity** 1

**Weight, gross** 6.4 kg | 14.11 lb

## Regulatory Compliance/Certifications

| Agency        | Classification   |
|---------------|--|
| CE            | Compliant with the relevant CE product directives  |
| CHINA-ROHS    | Below maximum concentration value  |
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system   |
| REACH-SVHC    | Compliant as per SVHC revision on <a href="http://www.andrew.com/ProductCompliance">www.andrew.com/ProductCompliance</a> |
| ROHS          | Compliant  |
| UK-ROHS       | Compliant  |

# BSAMNT-3

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