

# NNH4-65B-R3B-V1



12-port sector antenna, 4x 698–896 and 8x 1695–2360 MHz, 65° HPBW, 3x RET, 3x SBT

- Features broadband Low Band (698-896 MHz) and High Band (1695-2360 MHz) arrays for 4T4R (4X MIMO) capability for 700 and 850 MHz, AWS, PCS and WCS applications
- Non-stacked high band array design provides higher gain and narrower vertical beamwidth than traditional antenna designs
- Independent RET for each pair of Arrays
- Array configuration provides capability for 4T4R (4x MIMO) on Low band and Dual 4T4R (4x MIMO) on High band
- Optimized SPR performance across all operating bands
- Excellent wind loading characteristics
- Supports re-configurable antenna sharing capability enabling control of the internal RET system using up to two separate RET compatible OEM radios

## General Specifications

|                                  |  |
|----------------------------------|--|
| Antenna Type                     | Sector   |
| Band                             | Multiband  |
| Color                            | Light Gray (RAL 7035)  |
| Grounding Type                   | RF connector inner conductor and body grounded to reflector and mounting bracket                                     |
| Performance Note                 | Outdoor usage   Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN |
| Radome Material                  | Fiberglass, UV resistant   |
| Radiator Material                | Aluminum   Low loss circuit board  |
| Reflector Material               | Aluminum   |
| RF Connector Interface           | 4.3-10 Female  |
| RF Connector Location            | Bottom   |
| RF Connector Quantity, high band | 0  |
| RF Connector Quantity, mid band  | 8  |
| RF Connector Quantity, low band  | 4  |
| RF Connector Quantity, total     | 12   |

## Remote Electrical Tilt (RET) Information

|               |                                   |
|---------------|-----------------------------------|
| RET Hardware  | CommRET v2                        |
| RET Interface | 8-pin DIN Female   8-pin DIN Male |

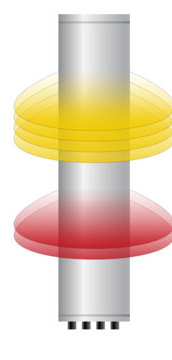
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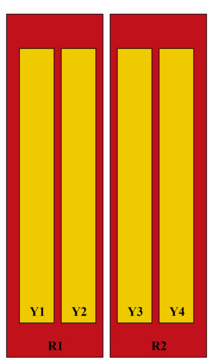
|  |                             |
|--|-----------------------------|
| RET Interface, quantity                  | 3 female   3 male           |
| Input Voltage                            | 10–30 Vdc                   |
| Internal Bias Tee                        | Port 1   Port 5   Port 9    |
| Internal RET                             | Low band (1)   Mid band (2) |
| Power Consumption, active state, maximum | 10 W                        |
| Power Consumption, idle state, maximum   | 2 W                         |
| Protocol                                 | 3GPP/AISG 2.0 (Single RET)  |

## Dimensions

|                          |                     |
|--------------------------|---------------------|
| Width                    | 498 mm   19.606 in  |
| Depth                    | 197 mm   7.756 in   |
| Length                   | 1848 mm   72.756 in |
| Net Weight, antenna only | 33.1 kg   72.973 lb |

## Array Layout



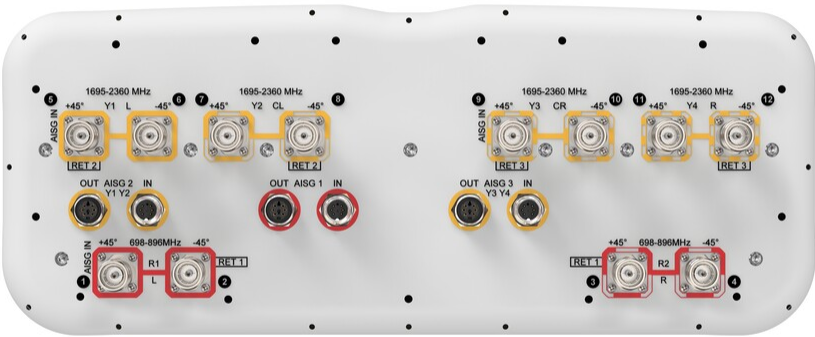


| Array ID | Frequency (MHz) | RF Connector | RET (SRET) | AISG No. | AISG RET UID      |
|----------|-----------------|--------------|------------|----------|-------------------|
| R1       | 698-896         | 1 - 2        | 1          | AISG1    | CPxxxxxxxxxxxxxR1 |
| R2       | 698-896         | 3 - 4        |            |          |                   |
| Y1       | 1695-2360       | 5 - 6        | 2          | AISG2    | CPxxxxxxxxxxxxxY1 |
| Y2       | 1695-2360       | 7 - 8        |            |          |                   |
| Y3       | 1695-2360       | 9 - 10       | 3          | AISG3    | CPxxxxxxxxxxxxxY3 |
| Y4       | 1695-2360       | 11 - 12      |            |          |                   |

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

## Port Configuration

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## Electrical Specifications

|                            |                                 |
|----------------------------|---------------------------------|
| Impedance                  | 50 ohm                          |
| Operating Frequency Band   | 1695 – 2360 MHz   698 – 896 MHz |
| Polarization               | ±45°                            |
| Total Input Power, maximum | 900 W @ 50 °C                   |

## Electrical Specifications

|                                   | R1-R2   | R1-R2   | Y1-Y4     | Y1-Y4     | Y1-Y4     | Y1-Y4     |
|-----------------------------------|---------|---------|-----------|-----------|-----------|-----------|
| Frequency Band, MHz               | 698-806 | 806-896 | 1695-1880 | 1850-1990 | 1920-2180 | 2300-2360 |
| RF Port                           | 1-4     | 1-4     | 5-12      | 5-12      | 5-12      | 5-12      |
| Gain, dBi                         | 14.5    | 14.9    | 17.3      | 17.9      | 18.2      | 18.6      |
| Beamwidth, Horizontal, degrees    | 71      | 60      | 71        | 65        | 61        | 56        |
| Beamwidth, Vertical, degrees      | 11.6    | 10.2    | 7.1       | 6.6       | 6.3       | 5.6       |
| Beam Tilt, degrees                | 2-14    | 2-14    | 2-12      | 2-12      | 2-12      | 2-12      |
| USLS (First Lobe), dB             | 16      | 17      | 16        | 19        | 18        | 16        |
| Front-to-Back Ratio at 180°, dB   | 31      | 33      | 34        | 35        | 33        | 32        |
| Isolation, Cross Polarization, dB | 25      | 25      | 25        | 25        | 25        | 25        |

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|  |            |            |            |            |            |            |
|--|------------|------------|------------|------------|------------|------------|
| Isolation, Inter-band, dB                    | 25         | 25         | 25         | 25         | 25         | 25         |
| VSWR   Return loss, dB                       | 1.5   14.0 | 1.5   14.0 | 1.5   14.0 | 1.5   14.0 | 1.5   14.0 | 1.5   14.0 |
| PIM, 3rd Order, 2 x 20 W, dBc                | -153       | -153       | -153       | -153       | -153       | -153       |
| Input Power per Port at 50°C, maximum, watts | 300        | 300        | 300        | 250        | 250        | 200        |

## Mechanical Specifications

|  |   |
|--|---|
| Effective Projective Area (EPA), frontal | 0.59 m²   6.351 ft²                       |
| Effective Projective Area (EPA), lateral | 0.18 m²   1.938 ft²                       |
| Wind Loading @ Velocity, frontal         | 629.0 N @ 150 km/h (141.4 lbf @ 150 km/h) |
| Wind Loading @ Velocity, lateral         | 191.0 N @ 150 km/h (42.9 lbf @ 150 km/h)  |
| Wind Loading @ Velocity, maximum         | 755.0 N @ 150 km/h (169.7 lbf @ 150 km/h) |
| Wind Loading @ Velocity, rear            | 433.0 N @ 150 km/h (97.3 lbf @ 150 km/h)  |
| Wind Speed, maximum                      | 241 km/h (150 mph)                        |

## Packaging and Weights

|                |                      |
|----------------|----------------------|
| Width, packed  | 565 mm   22.244 in   |
| Depth, packed  | 309 mm   12.165 in   |
| Length, packed | 2035 mm   80.118 in  |
| Weight, gross  | 46.8 kg   103.176 lb |

## Regulatory Compliance/Certifications

| Agency        | Classification   |
|---------------|--|
| 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

|          |   |  |
|----------|---|--|
| 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

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**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  |

