

# NNHH-65C-R2



8-port sector antenna, 4x 698–896 and 4x 1695–2360 MHz, 65° HPBW, 2x RETs

- Array configuration provides capability for 4T4R (4x MIMO) on Low band and Mid band
- Optimized SPR performance across all operating bands
- Excellent wind loading characteristics

## General Specifications

|  |  |
|--|--|
| <b>Antenna Type</b>                    | Sector   |
| <b>Band</b>                            | Multiband  |
| <b>Color</b>                           | Light gray   |
| <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>                 | Fiberglass, 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, mid band</b> | 4  |
| <b>RF Connector Quantity, low band</b> | 4  |
| <b>RF Connector Quantity, total</b>    | 8  |

## Remote Electrical Tilt (RET) Information

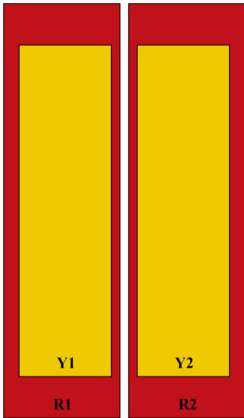
|   |                                   |
|---|-----------------------------------|
| <b>RET Hardware</b>                             | CommRET v2                        |
| <b>RET Interface</b>                            | 8-pin DIN Female   8-pin DIN Male |
| <b>RET Interface, quantity</b>                  | 1 female   1 male                 |
| <b>Input Voltage</b>                            | 10–30 Vdc                         |
| <b>Internal RET</b>                             | Low band (1)   Mid band (1)       |
| <b>Power Consumption, active state, maximum</b> | 10 W                              |
| <b>Power Consumption, idle state, maximum</b>   | 2 W                               |
| <b>Protocol</b>                                 | 3GPP/AISG 2.0                     |

## Dimensions

# NNHH-65C-R2

|                                 |                     |
|---------------------------------|---------------------|
| <b>Width</b>                    | 498 mm   19.606 in  |
| <b>Depth</b>                    | 197 mm   7.756 in   |
| <b>Net Weight, antenna only</b> | 37 kg   81.571 lb   |
| <b>Length</b>                   | 2438 mm   95.984 in |

## Array Layout



| Array ID | Frequency (MHz) | RF Connector | RET (MRET) | AISG No. | AISG RET UID       |
|----------|-----------------|--------------|------------|----------|--------------------|
| R1       | 698-896         | 1 - 2        | 1          | AISG1    | CPxxxxxxxxxxxxMM.1 |
| R2       | 698-896         | 3 - 4        |            |          |                    |
| Y1       | 1695-2360       | 5 - 6        | 2          | AISG1    | CPxxxxxxxxxxxxMM.2 |
| Y2       | 1695-2360       | 7 - 8        |            |          |                    |

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

## Port Configuration



## Electrical Specifications

# NNHH-65C-R2

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

## Electrical Specifications

| <b>Frequency Band, MHz</b>                          | <b>698–806</b> | <b>806–896</b> | <b>1695–1880</b> | <b>1850–1990</b> | <b>1920–2180</b> | <b>2300–2360</b> |
|---|----------------|----------------|------------------|------------------|------------------|------------------|
| <b>Beamwidth, Horizontal, degrees</b>               | 75             | 69             | 63               | 56               | 58               | 62               |
| <b>Beamwidth, Vertical, degrees</b>                 | 9.9            | 8.7            | 5.4              | 5                | 4.8              | 4.3              |
| <b>Beam Tilt, degrees</b>                           | 0–10           | 0–10           | 0–10             | 0–10             | 0–10             | 0–10             |
| <b>USLS (First Lobe), dB</b>                        | 21             | 18             | 17               | 18               | 20               | 20               |
| <b>Front-to-Back Ratio at 180°, dB</b>              | 29             | 28             | 36               | 40               | 38               | 35               |
| <b>Front-to-Back Total Power at 180° ± 30°, dB</b>  | 20             | 21             | 29               | 32               | 31               | 28               |
| <b>Isolation, Cross Polarization, dB</b>            | 25             | 25             | 25               | 25               | 25               | 25               |
| <b>Isolation, Inter-band, dB</b>                    | 25             | 25             | 25               | 25               | 25               | 25               |
| <b>VSWR   Return loss, dB</b>                       | 1.5 14.0       | 1.5 14.0       | 1.5 14.0         | 1.5 14.0         | 1.5 14.0         | 1.5 14.0         |
| <b>PIM, 3rd Order, 2 x 20 W, dBc</b>                | -150           | -150           | -150             | -150             | -150             | -150             |
| <b>Input Power per Port at 50°C, maximum, watts</b> | 300            | 300            | 250              | 250              | 250              | 200              |

## Electrical Specifications, BASTA

| <b>Frequency Band, MHz</b>                      | <b>698–806</b> | <b>806–896</b> | <b>1695–1880</b> | <b>1850–1990</b> | <b>1920–2180</b> | <b>2300–2360</b> |
|---|----------------|----------------|------------------|------------------|------------------|------------------|
| <b>Gain by all Beam Tilts, average, dBi</b>     | 15.3           | 15.8           | 17.8             | 18.7             | 18.9             | 18.9             |
| <b>Gain by all Beam Tilts Tolerance, dB</b>     | ±0.5           | ±0.3           | ±0.5             | ±0.4             | ±0.3             | ±0.3             |
| <b>Beamwidth, Horizontal Tolerance, degrees</b> | ±3             | ±2.8           | ±4.6             | ±4.1             | ±6.3             | ±2.3             |
| <b>Beamwidth, Vertical Tolerance, degrees</b>   | ±0.6           | ±0.6           | ±0.3             | ±0.2             | ±0.3             | ±0.1             |
| <b>USLS, beampeak to 20° above beampeak, dB</b> | 18             | 14             | 16               | 17               | 18               | 17               |
| <b>CPR at Boresight, dB</b>                     | 21             | 21             | 19               | 23               | 23               | 22               |
| <b>CPR at Sector, dB</b>                        | 10             | 6              | 6                | 8                | 7                | 8                |

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## Mechanical Specifications

|   |   |
|---|---|
| <b>Wind Loading @ Velocity, frontal</b> | 865.0 N @ 150 km/h (194.5 lbf @ 150 km/h)   |
| <b>Wind Loading @ Velocity, lateral</b> | 268.0 N @ 150 km/h (60.2 lbf @ 150 km/h)    |
| <b>Wind Loading @ Velocity, maximum</b> | 1,037.0 N @ 150 km/h (233.1 lbf @ 150 km/h) |
| <b>Wind Loading @ Velocity, rear</b>    | 595.0 N @ 150 km/h (133.8 lbf @ 150 km/h)   |
| <b>Wind Speed, maximum</b>              | 241.402 km/h   150 mph                      |

## Packaging and Weights

|                       |                      |
|-----------------------|----------------------|
| <b>Width, packed</b>  | 565 mm   22.244 in   |
| <b>Depth, packed</b>  | 309 mm   12.165 in   |
| <b>Length, packed</b> | 2625 mm   103.347 in |
| <b>Weight, gross</b>  | 53 kg   116.845 lb   |

## Regulatory Compliance/Certifications

| <b>Agency</b> | <b>Classification</b>  |
|---------------|--|
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |



## Included Products

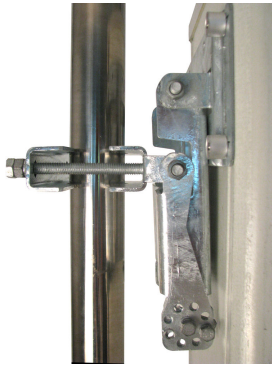
|          |  |
|----------|--|
| BSAMNT-3 | – Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set. |
|----------|--|

## \* Footnotes

|                         |   |
|-------------------------|---|
| <b>Performance Note</b> | Severe environmental conditions may degrade optimum performance |
|-------------------------|---|

# BSAMNT-3

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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

## Material Specifications

**Material Type** Galvanized steel

## Packaging and Weights

**Included** Brackets | Hardware

**Packaging quantity** 1

**Weight, net** 6.2 kg | 13.669 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.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a> |
| ROHS          | Compliant  |

# BSAMNT-3

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