

# NNH4-65C-HG-R3B



12-port Next Generation PerforMax™ sector antenna, 4x 698-896 and 8x 1695–2200 MHz, 65° HPBW, 3x RET, 3x SBT

- Antenna optimized for higher gain with superior radiation efficiency
- Superior patterns for enhanced interference mitigation resulting in improved SINR, higher throughput, and more capacity
- Interleaved dipole technology results into an attractive, low wind load mechanical package
- Internal SBTs allow remote RET control from the radio over the RF jumper cable
- Best in class PIM immunity
- Powered by Andrew's SEED® technology (Sustainable Energy Efficient Design)

## 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                                                                    |
| 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, 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 |
| 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)       |

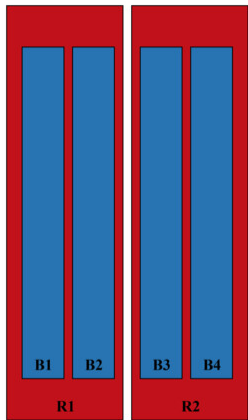
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|                                          |                            |
|------------------------------------------|----------------------------|
| Power Consumption, active state, maximum | 10 W                       |
| Power Consumption, idle 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                           | 2438 mm   95.984 in |
| Net Weight, without mounting kit | 42 kg   92.594 lb   |

## Array Layout

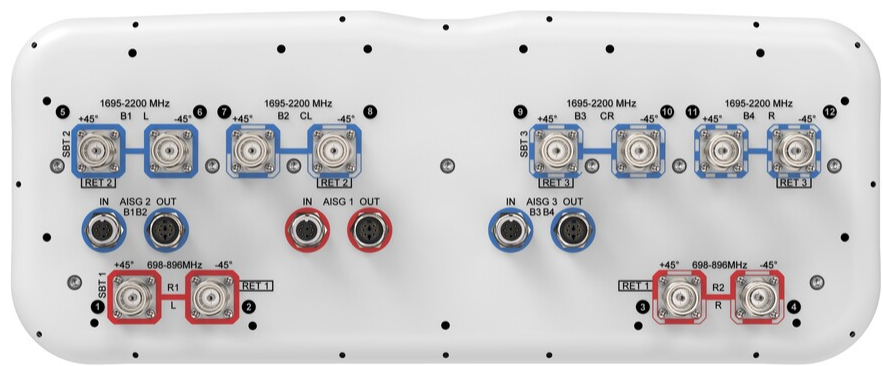


| Array ID | Frequency (MHz) | RF Connector | RET (SRET) | AISG No. | SBT RF PORT | SBT No. | RET UID          |
|----------|-----------------|--------------|------------|----------|-------------|---------|------------------|
| R1       | 698-896         | 1 - 2        | 1          | AISG1    | 1           | 1       | CPxxxxxxxxxxxxR1 |
| R2       | 698-896         | 3 - 4        |            |          |             |         |                  |
| B1       | 1695-2200       | 5 - 6        | 2          | AISG2    | 5           | 2       | CPxxxxxxxxxxxxB1 |
| B2       | 1695-2200       | 7 - 8        |            |          |             |         |                  |
| B3       | 1695-2200       | 9 - 10       | 3          | AISG3    | 9           | 3       | CPxxxxxxxxxxxxB3 |
| B4       | 1695-2200       | 11 - 12      |            |          |             |         |                  |

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

## Port Configuration

# NNH4-65C-HG-R3B



## Electrical Specifications

|                            |                                 |
|----------------------------|---------------------------------|
| Impedance                  | 50 ohm                          |
| Operating Frequency Band   | 1695 – 2200 MHz   698 – 896 MHz |
| Polarization               | ±45°                            |
| Total Input Power, maximum | 1,440 W @ 50 °C                 |

## Electrical Specifications

|                                | R1,R2   | R1,R2   | B1-B4     | B1-B4     | B1-B4     |
|--------------------------------|---------|---------|-----------|-----------|-----------|
| Frequency Band, MHz            | 698–806 | 806–896 | 1695–1880 | 1850–1990 | 1920–2200 |
| RF Port                        | 1-4     | 1-4     | 5-12      | 5-12      | 5-12      |
| Gain, Maximum, dBi             | 16.6    | 16.7    | 18.9      | 19.3      | 20.1      |
| Gain, dBi                      | 16.3    | 16.5    | 18.4      | 19        | 19.6      |
| Beamwidth, Horizontal, degrees | 66      | 64      | 71        | 66        | 62        |
| Beamwidth, Vertical, degrees   | 9       | 8       | 5.3       | 5         | 4.7       |
| Beam Tilt, degrees             | 0–10    | 0–10    | 0–10      | 0–10      | 0–10      |
| USLS (First Lobe), dB          | 17      | 15      | 16        | 17        | 18        |
| Front-to-Back Ratio at 180°,   | 31      | 32      | 32        | 35        | 36        |

# NNH4-65C-HG-R3B

|                                              |            |            |            |            |            |
|----------------------------------------------|------------|------------|------------|------------|------------|
| dB                                           |            |            |            |            |            |
| CPR at Boresight, dB                         | 24         | 24         | 21         | 21         | 21         |
| Isolation, Cross Polarization, dB            | 25         | 25         | 25         | 25         | 25         |
| Isolation, Inter-band, dB                    | 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 |
| PIM, 3rd Order, 2 x 20 W, dBc                | -153       | -153       | -153       | -153       | -153       |
| Input Power per Port at 50°C, maximum, watts | 300        | 300        | 250        | 250        | 250        |

## Mechanical Specifications

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| Wind Loading @ Velocity, frontal | 865.0 N @ 150 km/h (194.5 lbf @ 150 km/h)   |
| Wind Loading @ Velocity, lateral | 268.0 N @ 150 km/h (60.2 lbf @ 150 km/h)    |
| Wind Loading @ Velocity, maximum | 1,037.0 N @ 150 km/h (233.1 lbf @ 150 km/h) |
| Wind Loading @ Velocity, rear    | 595.0 N @ 150 km/h (133.8 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 | 2685 mm   105.709 in |
| Weight, gross  | 61.9 kg   136.466 lb |

## Regulatory Compliance/Certifications

| Agency        | Classification                                                                 |
|---------------|--------------------------------------------------------------------------------|
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |
| UK-ROHS       | Compliant                                                                      |

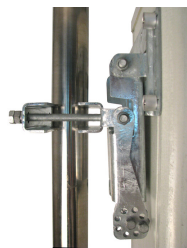
## Included Products

|          |   |                                                                                                                                                                  |
|----------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
| BSAMNT-M | – | Middle Downtilt Mounting Kit for Long Antennas for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor 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

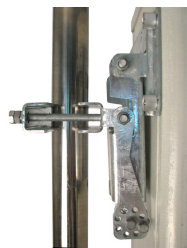
**Weight, gross** 6.4 kg | 14.11 lb

## 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-M



Middle Downtilt Mounting Kit for Long Antennas for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor 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** 4.5 kg | 9.921 lb

## Material Specifications

**Material Type** Galvanized steel

## Packaging and Weights

**Included** Brackets | Hardware

**Packaging quantity** 1

## Regulatory Compliance/Certifications

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

