

# NHHSS-45C-R2BT4



10-port sector antenna, 2x 698–896, 4x 1695–2200 MHz and 4x 3100–4200, 45° HPBW, 2x RETs and 2x SBTs. Both high bands share the same electrical tilt.

- Perfect antenna to add 3.5GHz CBRS to macro sites
- Low band and mid band performance mirrors the performance of existing NHH hex port antennas
- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- Separate RS-485 RET input/output for low and high band
- Interleaved dipole technology providing for attractive, low wind load mechanical package
- One LB RET and one HB RET. Both high bands are controlled by one RET to ensure same tilt level for 4x MIMO

## General Specifications

|   |  |
|---|--|
| <b>Antenna Type</b>                     | Sector   |
| <b>Band</b>                             | Multiband  |
| <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>                  | Fiberglass, UV resistant   |
| <b>Radiator Material</b>                | Aluminum   Low loss circuit board  |
| <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> | 4  |
| <b>RF Connector Quantity, mid band</b>  | 4  |
| <b>RF Connector Quantity, low band</b>  | 2  |
| <b>RF Connector Quantity, total</b>     | 10   |

## 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> | 2 female   2 male                 |

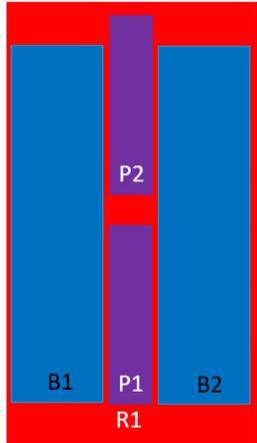
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|   |                             |
|---|-----------------------------|
| <b>Input Voltage</b>                            | 10–30 Vdc                   |
| <b>Internal RET</b>                             | Low band (1)   Mid band (1) |
| <b>Power Consumption, active state, maximum</b> | 10 W                        |
| <b>Power Consumption, idle state, maximum</b>   | 2 W                         |
| <b>Protocol</b>                                 | 3GPP/AISG 2.0               |

## Dimensions

|                                 |                     |
|---------------------------------|---------------------|
| <b>Width</b>                    | 457 mm   17.992 in  |
| <b>Depth</b>                    | 178 mm   7.008 in   |
| <b>Length</b>                   | 2437 mm   95.945 in |
| <b>Net Weight, antenna only</b> | 41.5 kg   91.492 lb |

## Array Layout



| Array | Freq (MHz) | Conns | RET (SRET) | AISG RET UID         |
|-------|------------|-------|------------|----------------------|
| R1    | 698-896    | 1-2   | 1          | CPxxxxxxxxxxxxxxxxR1 |
| B1    | 1695-2200  | 3-4   | 2          | CPxxxxxxxxxxxxxxxxB1 |
| B2    | 1695-2200  | 5-6   |            |                      |
| P1    | 3100-4200  | 7-8   | n/a        | n/a                  |
| P2    | 3100-4200  | 9-10  | n/a        | n/a                  |

Left Right  
Bottom

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

## Port Configuration

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## Electrical Specifications

|                                   |   |
|-----------------------------------|---|
| <b>Impedance</b>                  | 50 ohm  |
| <b>Operating Frequency Band</b>   | 1695 – 2200 MHz   3100 – 4200 MHz   698 – 896 MHz |
| <b>Polarization</b>               | ±45°  |
| <b>Total Input Power, maximum</b> | 1,000 W @ 50 °C                                   |

## Electrical Specifications

|  | R1             | R1             | B1,B2            | B1,B2            | B1,B2            | P1,P2            | P1,P2            | P1,P2            |
|--|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <b>Frequency Band, MHz</b>               | <b>698–806</b> | <b>806–896</b> | <b>1695–1880</b> | <b>1850–1990</b> | <b>1920–2200</b> | <b>3100–3550</b> | <b>3550–3700</b> | <b>3700–4200</b> |
| <b>RF Port</b>                           | 1,2            | 1,2            | 3,4,5,6          | 3,4,5,6          | 3,4,5,6          | 7,8,9,10         | 7,8,9,10         | 7,8,9,10         |
| <b>Gain, dBi</b>                         | 18             | 18.6           | 19.3             | 19.7             | 20.3             | 16.9             | 17.4             | 17.4             |
| <b>Beamwidth, Horizontal, degrees</b>    | 46             | 41             | 45               | 43               | 41               | 49               | 42               | 40               |
| <b>Beamwidth, Vertical, degrees</b>      | 9.3            | 8.2            | 5.7              | 5.4              | 5.1              | 9.7              | 9                | 8.4              |
| <b>Beam Tilt, degrees</b>                | 0–10           | 0–10           | 0–8              | 0–8              | 0–8              | 4                | 4                | 4                |
| <b>USLS (First Lobe), dB</b>             | 18             | 22             | 15               | 16               | 16               | 18               | 17               | 13               |
| <b>Front-to-Back Ratio at 180°, dB</b>   | 32             | 34             | 33               | 34               | 36               | 32               | 33               | 29               |
| <b>Isolation, Cross Polarization, dB</b> | 25             | 25             | 25               | 25               | 25               | 25               | 25               | 25               |

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|   |          |          |          |          |          |          |          |          |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| <b>Isolation, Inter-band, dB</b>                    | 30       | 30       | 28       | 28       | 28       | 28       | 28       | 28       |
| <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 | 1.5 14.0 | 1.5 14.0 |
| <b>PIM, 3rd Order, 2 x 20 W, dBc</b>                | -153     | -153     | -153     | -153     | -153     | -140     | -140     | -140     |
| <b>Input Power per Port at 50°C, maximum, watts</b> | 250      | 250      | 250      | 250      | 250      | 100      | 100      | 100      |

## Mechanical Specifications

|   |   |
|---|---|
| <b>Wind Loading @ Velocity, frontal</b> | 1,485.0 N @ 150 km/h (333.8 lbf @ 150 km/h) |
| <b>Wind Loading @ Velocity, lateral</b> | 315.0 N @ 150 km/h (70.8 lbf @ 150 km/h)    |
| <b>Wind Loading @ Velocity, maximum</b> | 1,485.0 N @ 150 km/h (333.8 lbf @ 150 km/h) |
| <b>Wind Loading @ Velocity, rear</b>    | 1,304.0 N @ 150 km/h (293.2 lbf @ 150 km/h) |
| <b>Wind Speed, maximum</b>              | 241 km/h (150 mph)                          |

## Packaging and Weights

|                       |                     |
|-----------------------|---------------------|
| <b>Width, packed</b>  | 526 mm   20.709 in  |
| <b>Depth, packed</b>  | 283 mm   11.142 in  |
| <b>Length, packed</b> | 2604 mm   102.52 in |
| <b>Weight, gross</b>  | 60.5 kg   133.38 lb |

## Regulatory Compliance/Certifications

| Agency     | Classification                    |
|------------|-----------------------------------|
| CHINA-ROHS | Above maximum concentration value |
| 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.
- 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