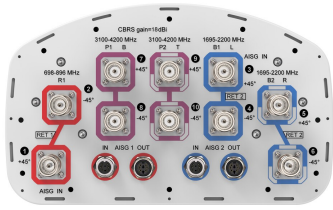# NHHSS-65B-R2BT10



10-port sector antenna, 2x 698–896, 4x 1695–2200 and 4x 3100-4200 MHz, 65° 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
- Interleaved dipole technology providing for attractive, low wind load mechanical package
- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- 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

| | |
|---|---|
| **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 |
| **Reflector Material** | Aluminum |
| **RF Connector Interface** | 4.3-10 Female |
| **RF Connector Location** | Bottom |
| **RF Connector Quantity, high band** | 4 |
| **RF Connector Quantity, mid band** | 4 |
| **RF Connector Quantity, low band** | 2 |
| **RF Connector Quantity, total** | 10 |

## Remote Electrical Tilt (RET) Information

| | |
|---|---|
| **RET Hardware** | CommRET v2 |
| **RET Interface** | 8-pin DIN Female   \|   8-pin DIN Male |
| **RET Interface, quantity** | 2 female   \|   2 male |
| **Input Voltage** | 10–30 Vdc |
| **Internal RET** | High band (1)   \|   Low band (1) |

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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** | 301 mm  \|  11.85 in |
| **Depth** | 181 mm  \|  7.126 in |
| **Length** | 1828 mm  \|  71.969 in |
| **Net Weight, antenna only** | 23.1 kg  \|  50.927 lb |

## Array Layout
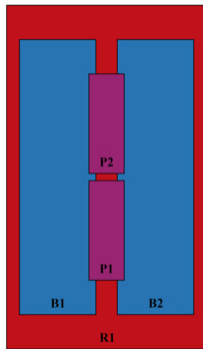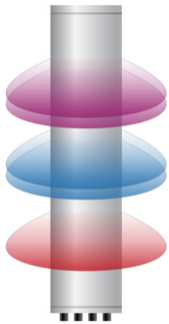


| Array ID | Frequency (MHz) | RF Connector | RET (SRET) | AISG No. | AISG RET UID |
|---|---|---|---|---|---|
| R1 | 698-896 | 1 - 2 | 1 | AISG1 | CPxxxxxxxxxxxxxxxxR1 |
| B1 | 1695-2200 | 3 - 4 | 2 | AISG2 | CPxxxxxxxxxxxxxxxxB1 |
| B2 | 1695-2200 | 5 - 6 | | | |
| P1 | 3100-4200 | 7 - 8 | N/A | NA | N/A |
| P2 | 3100-4200 | 9 - 10 | | | |

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

## Port Configuration

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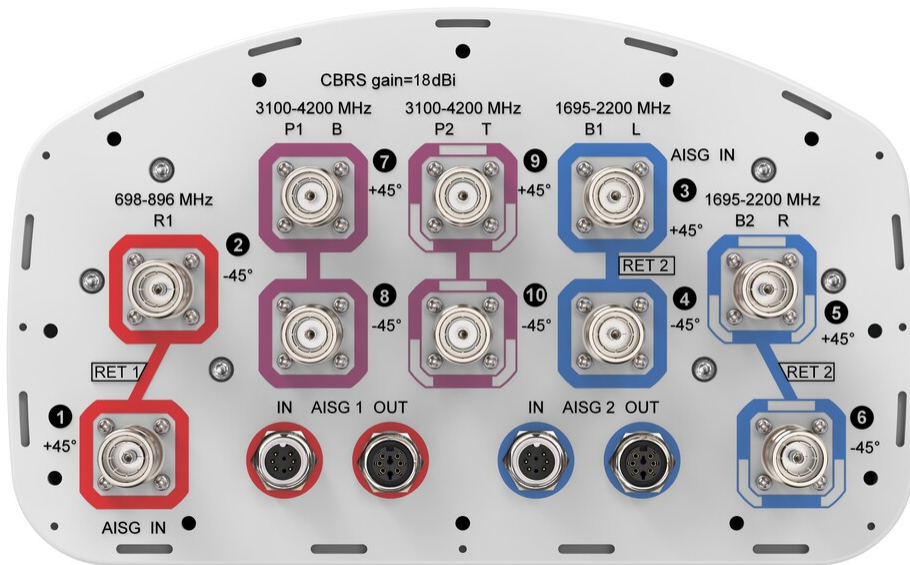
# NHHSS-65B-R2BT10

## Electrical Specifications

| | |
|---|---|
| **Impedance** | 50 ohm |
| **Operating Frequency Band** | 1695 − 2200 MHz   \|   3100 − 4200 MHz   \|   698 − 896 MHz |
| **Polarization** | ±45° |
| **Total Input Power, maximum** | 1,000 W @ 50 °C |

## Electrical Specifications

| | R1 | R1 | B1,B2 | B1,B2 | B1,B2 | P1,P2 | P1,P2 | P1,P2 |
|---|---|---|---|---|---|---|---|---|
| **Frequency Band, MHz** | 698−806 | 806−896 | 1695−1880 | 1850−1990 | 1920−2200 | 3100−3550 | 3550−3700 | 3700−4200 |
| **RF Port** | 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 |
| **Gain, dBi** | 14.8 | 15.2 | 17.4 | 17.8 | 18 | 17.8 | 17.6 | 17.2 |
| **Beamwidth, Horizontal, degrees** | 65 | 62 | 66 | 61 | 64 | 52 | 60 | 62 |
| **Beamwidth, Vertical, degrees** | 13 | 11.6 | 5.5 | 5.2 | 4.9 | 5.7 | 5.3 | 5.1 |
| **Beam Tilt, degrees** | 0−14 | 0−14 | 0−7 | 0−7 | 0−7 | 10 | 10 | 10 |
| **USLS (First Lobe), dB** | 15 | 15 | 16 | 18 | 18 | 15 | 19 | 18 |
| **Front-to-Back Ratio at 180°, dB** | 26 | 29 | 31 | 28 | 27 | 30 | 34 | 31 |
| **Isolation, Cross Polarization, dB** | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| **Isolation, Inter-band, dB** | 25 | 25 | 25 | 25 | 25 | 28 | 28 | 28 |
| **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 | 1.5 \| 14.0 | 1.5 \| 14.0 |
| **PIM, 3rd Order, 2 x 20 W, dBc** | -153 | -153 | -153 | -153 | -153 | -145 | -145 | -145 |
| **Input Power per Port at 50°C, maximum, watts** | 300 | 300 | 300 | 300 | 300 | 100 | 100 | 100 |

## Mechanical Specifications

| | |
|---|---|
| **Wind Loading @ Velocity, frontal** | 278.0 N @ 150 km/h (62.5 lbf @ 150 km/h) |
| **Wind Loading @ Velocity, lateral** | 230.0 N @ 150 km/h (51.7 lbf @ 150 km/h) |
| **Wind Loading @ Velocity, maximum** | 537.0 N @ 150 km/h (120.7 lbf @ 150 km/h) |
| **Wind Loading @ Velocity, rear** | 282.0 N @ 150 km/h (63.4 lbf @ 150 km/h) |
| **Wind Speed, maximum** | 241 km/h (150 mph) |

## Packaging and Weights

| | |
|---|---|
| **Width, packed** | 380 mm   \|   14.961 in |

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| | |
|---|---|
| **Depth, packed** | 295 mm  |  11.614 in |
| **Length, packed** | 1956 mm  |  77.008 in |
| **Weight, gross** | 34.4 kg  |  75.839 lb |

## Regulatory Compliance/Certifications

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

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

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