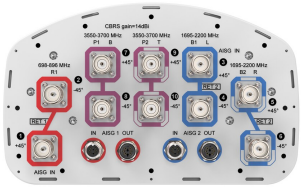
# NHHSS-65B-R2BT8-V2



10-port sector antenna 2x 698-896, 4x 1695-2200 and 4x 3550-3700 MHz, 65° HPBW, 2x RETs and 2x SBTs.

- 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 mid band allow remote RET control from the radio over the RF jumper cable
- One LB RET and one MB RET, both Mid bands are controlled by one RET to ensure same tilt level for 4x MIMO

## General Specifications

| | |
|---|---|
| **Antenna Type** | Sector |
| **Band** | Multiband |
| **Color** | Light gray |
| **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, 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 Bias Tee** | Port 1 \| Port 3 |



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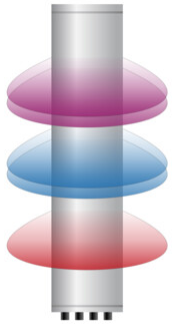
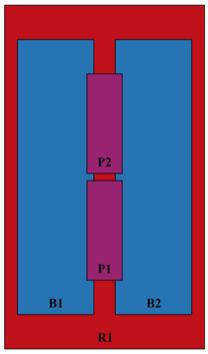
| | |
|---|---|
| **Internal RET** | Low band (1) \| Mid band (1) |
| **Power Consumption, active state, maximum** | 10 W |
| **Power Consumption, idle state, maximum** | 2 W |
| **Protocol** | 3GPP/AISG 2.0 |

## Dimensions

| | |
|---|---|
| **Width** | 301 mm \| 11.85 in |
| **Depth** | 181 mm \| 7.126 in |
| **Length** | 1828 mm \| 71.969 in |
| **Net Weight, without mounting kit** | 21 kg \| 46.297 lb |

## Array Layout






| Array ID | Frequency (MHz) | RF Connector | HPBW | RET (SRET) | AISG No. | AISG RET UID |
|---|---|---|---|---|---|---|
| R1 | 698-896 | 1 - 2 | 65° | 1 | AISG1 | CPxxxxxxxxxxxxxxxR1 |
| B1 | 1695-2200 | 3 - 4 | 65° | 2 | AISG2 | CPxxxxxxxxxxxxxxxB1 |
| B2 | 1695-2200 | 5 - 6 | 65° | | | |
| P1 | 3550-3700 | 7 - 8 | 65° | N/A | NA | N/A |
| P2 | 3550-3700 | 9 - 10 | 65° | | | |

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

## Port Configuration



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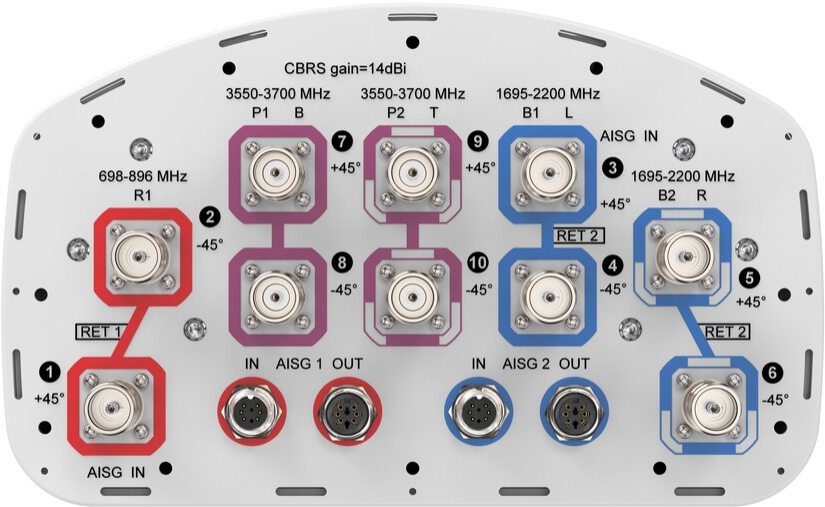


## Electrical Specifications

| | |
|---|---|
| **Impedance** | 50 ohm |
| **Operating Frequency Band** | 1695 – 2200 MHz \| 3550 – 3700 MHz \| 698 – 896 MHz |
| **Polarization** | ±45° |
| **Total Input Power, maximum** | 1,000 W @ 50 °C |

## Electrical Specifications

| **Frequency Band, MHz** | **698–806** | **806–896** | **1695–1880** | **1850–1990** | **1920–2200** | **3550–3700** |
|---|---|---|---|---|---|---|
| **Gain, dBi** | 14.7 | 14.8 | 17.4 | 17.7 | 17.7 | 13 |
| **Beamwidth, Horizontal, degrees** | 66 | 62 | 66 | 62 | 66 | 57 |
| **Beamwidth, Vertical, degrees** | 13 | 11.4 | 5.5 | 5.2 | 4.8 | 18.3 |
| **Beam Tilt, degrees** | 0–14 | 0–14 | 0–7 | 0–7 | 0–7 | 8 |
| **USLS (First Lobe), dB** | 17 | 16 | 15 | 15 | 15 | 14 |
| **Front-to-Back Ratio at 180°, dB** | 28 | 27 | 28 | 27 | 25 | 26 |
| **Isolation, Cross Polarization, dB** | 25 | 25 | 25 | 25 | 25 | 25 |
| **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 |



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| | | | | | | |
|---|---|---|---|---|---|---|
| **PIM, 3rd Order, 2 x 20 W, dBc** | -153 | -153 | -153 | -153 | -153 | -145 |
| **Input Power per Port at 50°C, maximum, watts** | 300 | 300 | 250 | 250 | 250 | 100 |

## Electrical Specifications, BASTA

| **Frequency Band, MHz** | **698–806** | **806–896** | **1695–1880** | **1850–1990** | **1920–2200** | **3550–3700** |
|---|---|---|---|---|---|---|
| **Gain by all Beam Tilts, average, dBi** | 14.3 | 14.6 | 17.1 | 17.5 | 17.5 | 12.7 |
| **Gain by all Beam Tilts Tolerance, dB** | ±0.5 | ±0.4 | ±0.6 | ±0.3 | ±0.4 | ±0.6 |
| **USLS, beampeak to 20° above beampeak, dB** | 17 | 16 | 15 | 15 | 15 | 13 |
| **Front-to-Back Total Power at 180° ± 30°, dB** | 23 | 25 | 25 | 26 | 24 | 23 |
| **CPR at Boresight, dB** | 22 | 17 | 15 | 18 | 22 | 15 |
| **CPR at Sector, dB** | 10 | 8 | 11 | 9 | 7 | 2 |

## 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 \| 149.75 mph |

## Packaging and Weights

| | |
|---|---|
| **Width, packed** | 441 mm \| 17.362 in |
| **Depth, packed** | 337 mm \| 13.268 in |
| **Length, packed** | 1973 mm \| 77.677 in |
| **Weight, gross** | 33 kg \| 72.752 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 |



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## 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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