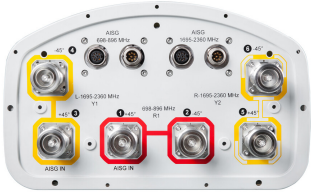


# NHH-65A-R2B



6-port sector antenna, 2x 698–896 and 4x 1695–2360 MHz, 65° HPBW, 2x RET. Both high bands share the same electrical tilt.

- 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
- Separate RS-485 RET input/output for low and high band
- One RET for low band and one RET for both high bands to ensure same tilt level for 4x Rx or 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 body grounded to reflector and mounting bracket   |
| <b>Performance Note</b>                 | Outdoor usage   Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN |
| <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>           | 7-16 DIN Female  |
| <b>RF Connector Location</b>            | Bottom   |
| <b>RF Connector Quantity, high band</b> | 4  |
| <b>RF Connector Quantity, low band</b>  | 2  |
| <b>RF Connector Quantity, total</b>     | 6  |

## Remote Electrical Tilt (RET) Information

|  |                                   |
|--|-----------------------------------|
| <b>RET Interface</b>                                 | 8-pin DIN Female   8-pin DIN Male |
| <b>RET Interface, quantity</b>                       | 2 female   2 male                 |
| <b>Input Voltage</b>                                 | 10–30 Vdc                         |
| <b>Internal Bias Tee</b>                             | Port 1   Port 3                   |
| <b>Internal RET</b>                                  | High band (1)   Low band (1)      |
| <b>Power Consumption, idle state, maximum</b>        | 2 W                               |
| <b>Power Consumption, normal conditions, maximum</b> | 13 W                              |

# NHH-65A-R2B

**Protocol** 3GPP/AISG 2.0 (Single RET)

## Dimensions

**Width** 301 mm | 11.85 in

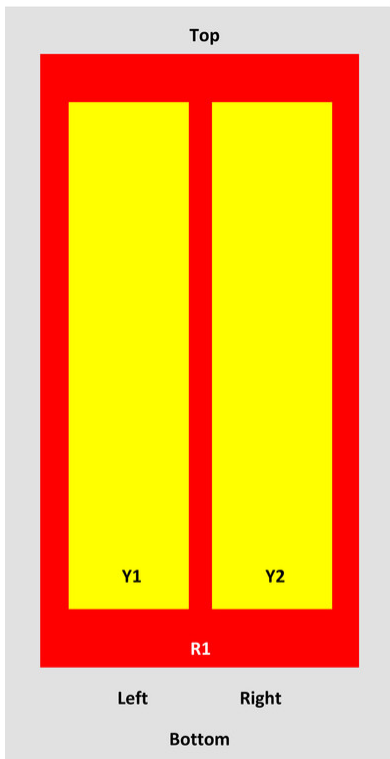
**Depth** 180 mm | 7.087 in

**Length** 1413 mm | 55.63 in

**Net Weight, without mounting kit** 15.9 kg | 35.053 lb

## Array Layout

NHH



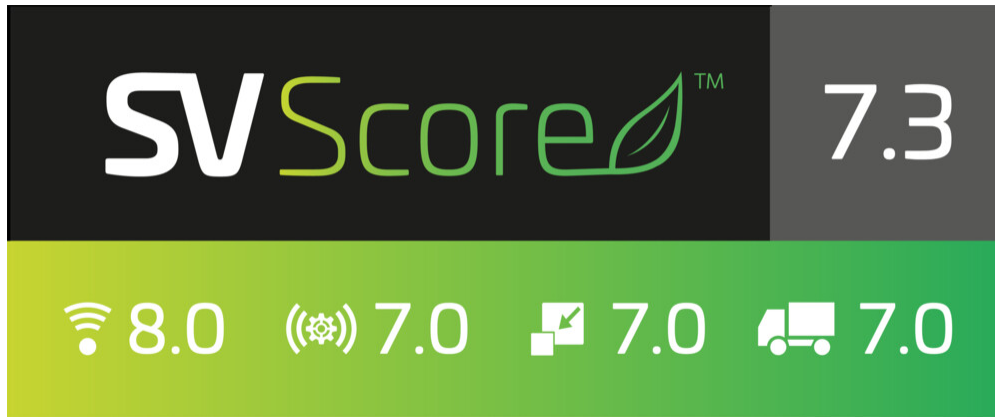
| Array | Freq (MHz) | Coms | RET (SRET) | AISG RET UID     |
|-------|------------|------|------------|------------------|
| R1    | 698-896    | 1-2  | 1          | ANXXXXXXXXXXXXX1 |
| Y1    | 1695-2360  | 3-4  | 2          | ANXXXXXXXXXXXXX2 |
| Y2    | 1695-2360  | 5-6  |            |                  |

View from the front of the antenna

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

## Logo Image

# NHH-65A-R2B



## Electrical Specifications

|                                   |                                 |
|-----------------------------------|---------------------------------|
| <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

| Frequency Band, MHz                                 | 698–806  | 806–896  | 1695–1880 | 1850–1990 | 1920–2200 | 2300–2360 |
|---|----------|----------|-----------|-----------|-----------|-----------|
| <b>Gain, dBi</b>                                    | 13.4     | 13.5     | 16.4      | 16.5      | 17.1      | 17.5      |
| <b>Beamwidth, Horizontal, degrees</b>               | 66.2     | 61       | 69        | 64        | 61        | 61        |
| <b>Beamwidth, Vertical, degrees</b>                 | 17.8     | 16.2     | 7.1       | 6.5       | 6.1       | 5.5       |
| <b>Beam Tilt, degrees</b>                           | 0–18     | 0–18     | 0–10      | 0–10      | 0–10      | 0–10      |
| <b>USLS (First Lobe), dB</b>                        | 18       | 16       | 18        | 17        | 16        | 15        |
| <b>Front-to-Back Ratio at 180°, dB</b>              | 29       | 26       | 33        | 32        | 30        | 32        |
| <b>Isolation, Cross Polarization, dB</b>            | 25       | 25       | 25        | 25        | 25        | 25        |
| <b>Isolation, Inter-band, dB</b>                    | 30       | 30       | 30        | 30        | 30        | 30        |
| <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>                | -153     | -153     | -153      | -153      | -153      | -153      |
| <b>Input Power per Port at 50°C, maximum, watts</b> | 300      | 300      | 250       | 250       | 250       | 200       |

## Electrical Specifications, BASTA

| Frequency Band, MHz | 698–806 | 806–896 | 1695–1880 | 1850–1990 | 1920–2200 | 2300–2360 |
|---------------------|---------|---------|-----------|-----------|-----------|-----------|
|---------------------|---------|---------|-----------|-----------|-----------|-----------|

# NHH-65A-R2B

|  |                                      |                                      |                                      |                                      |                                      |                                      |
|--|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| <b>Gain by all Beam Tilts, average, dBi</b>        | 13.1                                 | 13.2                                 | 16.1                                 | 16.3                                 | 16.6                                 | 17.1                                 |
| <b>Gain by all Beam Tilts Tolerance, dB</b>        | ±0.4                                 | ±0.5                                 | ±0.4                                 | ±0.4                                 | ±0.6                                 | ±0.5                                 |
| <b>Gain by Beam Tilt, average, dBi</b>             | 0°   13.3<br>9°   13.2<br>18°   13.8 | 0°   13.4<br>9°   13.4<br>18°   12.7 | 0°   16.0<br>5°   16.1<br>10°   16.0 | 0°   16.1<br>5°   16.3<br>10°   16.3 | 0°   16.4<br>5°   16.7<br>10°   16.4 | 0°   17.0<br>5°   17.2<br>10°   16.7 |
| <b>Beamwidth, Horizontal Tolerance, degrees</b>    | ±2.8                                 | ±3.6                                 | ±3.9                                 | ±3.5                                 | ±6.6                                 | ±4.6                                 |
| <b>Beamwidth, Vertical Tolerance, degrees</b>      | ±1.5                                 | ±1.3                                 | ±0.3                                 | ±0.4                                 | ±0.5                                 | ±0.3                                 |
| <b>USLS, beampeak to 20° above beampeak, dB</b>    | 15                                   | 16                                   | 12                                   | 13                                   | 13                                   | 14                                   |
| <b>Front-to-Back Total Power at 180° ± 30°, dB</b> | 24                                   | 23                                   | 27                                   | 26                                   | 23                                   | 26                                   |
| <b>CPR at Boresight, dB</b>                        | 18                                   | 19                                   | 20                                   | 22                                   | 21                                   | 22                                   |
| <b>CPR at Sector, dB</b>                           | 10                                   | 5                                    | 12                                   | 9                                    | 5                                    | 2                                    |

## Mechanical Specifications

|   |   |
|---|---|
| <b>Effective Projective Area (EPA), frontal</b> | 0.19 m <sup>2</sup>   2.045 ft <sup>2</sup> |
| <b>Effective Projective Area (EPA), lateral</b> | 0.16 m <sup>2</sup>   1.722 ft <sup>2</sup> |
| <b>Mechanical Tilt Range</b>                    | 0°–18°                                      |
| <b>Wind Loading @ Velocity, frontal</b>         | 206.0 N @ 150 km/h (46.3 lbf @ 150 km/h)    |
| <b>Wind Loading @ Velocity, lateral</b>         | 169.0 N @ 150 km/h (38.0 lbf @ 150 km/h)    |
| <b>Wind Loading @ Velocity, maximum</b>         | 396.0 N @ 150 km/h (89.0 lbf @ 150 km/h)    |
| <b>Wind Loading @ Velocity, rear</b>            | 208.0 N @ 150 km/h (46.8 lbf @ 150 km/h)    |
| <b>Wind Speed, maximum</b>                      | 241 km/h (150 mph)                          |

## Packaging and Weights

|                       |                     |
|-----------------------|---------------------|
| <b>Width, packed</b>  | 380 mm   14.961 in  |
| <b>Depth, packed</b>  | 295 mm   11.614 in  |
| <b>Length, packed</b> | 1537 mm   60.512 in |
| <b>Weight, gross</b>  | 26.5 kg   58.422 lb |

## Regulatory Compliance/Certifications

| <b>Agency</b> | <b>Classification</b>  |
|---------------|--|
| CHINA-ROHS    | Above maximum concentration value  |
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |

# NHH-65A-R2B

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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.

## \* Footnotes

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