# NNH4-65A-R6D

12-port sector antenna, 4x 698-894 and 8x 1695-2360 MHz, 65° HPBW, 6x RET.

- Features broadband Low Band (698-894 MHz) and High Band (1695-2360 MHz) arrays for 4T4R (4X MIMO) capability for 700 and 850 MHz, AWS, PCS and WCS applications
- The Low Band array is diplexed, providing independent tilt for the 700 and 850 MHz bands for 4T4R (4X MIMO) capability when used with Dual Band radios
- Optimized SPR performance across all operating bands
- Excellent wind loading characteristics

## 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** | Low loss circuit board |
| **Reflector Material** | Aluminum |
| **RF Connector Interface** | 4.3-10 Female |
| **RF Connector Location** | Bottom |
| **RF Connector Quantity, high band** | 8 |
| **RF Connector Quantity, mid band** | 0 |
| **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 |
| **Input Voltage** | 10–30 Vdc |
| **Internal RET** | High band (4) \| Low band (2) |
| **Power Consumption, active state, maximum** | 8 W |
| **Power Consumption, idle state, maximum** | 1 W |

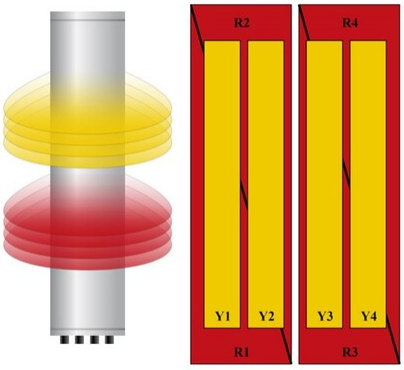
# NNH4-65A-R6D

| | |
|---|---|
| **Protocol** | 3GPP/AISG 2.0 |

## Dimensions

| | |
|---|---|
| **Width** | 498 mm \| 19.606 in |
| **Depth** | 197 mm \| 7.756 in |
| **Length** | 1499 mm \| 59.016 in |
| **Net Weight, antenna only** | 39.1 kg \| 86.201 lb |

## Array Layout




| Array ID | Frequency (MHz) | RF Connector | RET (MRET) | AISG No. | AISG RET UID |
|---|---|---|---|---|---|
| R1 | 698-798 | 1 - 2 | 1 | AISG1 | CPxxxxxxxxxxxxMM.1 |
| R3 | 698-798 | 3 - 4 | | | |
| R2 | 824-894 | 1 - 2 | 2 | AISG1 | CPxxxxxxxxxxxxMM.2 |
| R4 | 824-894 | 3 - 4 | | | |
| Y1 | 1695-2360 | 5 - 6 | 3 | AISG1 | CPxxxxxxxxxxxxMM.3 |
| Y2 | 1695-2360 | 7 - 8 | 4 | AISG1 | CPxxxxxxxxxxxxMM.4 |
| Y3 | 1695-2360 | 9 - 10 | 5 | AISG1 | CPxxxxxxxxxxxxMM.5 |
| Y4 | 1695-2360 | 11 - 12 | 6 | AISG1 | CPxxxxxxxxxxxxMM.6 |

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

## Port Configuration

# NNH4-65A-R6D

## Electrical Specifications

| | |
|---|---|
| **Impedance** | 50 ohm |
| **Operating Frequency Band** | 1695 – 2360 MHz \| 698 – 798 MHz \| 824 – 894 MHz |
| **Polarization** | ±45° |
| **Total Input Power, maximum** | 900 W @ 50 °C |

## Electrical Specifications

| | R1,R3 | R2,R4 | Y1,Y2,Y3,Y4 | Y1,Y2,Y3,Y4 | Y1,Y2,Y3,Y4 | Y1,Y2,Y3,Y4 |
|---|---|---|---|---|---|---|
| **Frequency Band, MHz** | **698–798** | **824–894** | **1695–1880** | **1850–1990** | **1920–2180** | **2300–2360** |
| **RF Port** | 1-4 | 1-4 | 5-12 | 5-12 | 5-12 | 5-12 |
| **Gain, dBi** | 12.5 | 12.9 | 16.3 | 17.1 | 17.6 | 18.2 |
| **Beamwidth, Horizontal, degrees** | 75 | 67 | 72 | 69 | 64 | 59 |
| **Beamwidth, Vertical, degrees** | 16.8 | 14.5 | 7.4 | 7 | 6.6 | 5.9 |
| **Beam Tilt, degrees** | 2–16 | 2–16 | 2–12 | 2–12 | 2–12 | 2–12 |
| **USLS (First Lobe), dB** | 16 | 19 | 15 | 18 | 19 | 23 |
| **Front-to-Back Ratio at 180°, dB** | 28 | 27 | 32 | 34 | 35 | 35 |
| **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 \| 14.5 | 1.5 \| 14.5 | 1.5 \| 14.5 | 1.5 \| 14.5 | 1.5 \| 14.5 | 1.5 \| 14.5 |
| **PIM, 3rd Order, 2 x 20 W, dBc** | -150 | -150 | -150 | -150 | -150 | -150 |
| **Input Power per Port at 50°C, maximum, watts** | 150 | 150 | 250 | 250 | 250 | 200 |

## Mechanical Specifications

| | |
|---|---|
| **Wind Loading @ Velocity, frontal** | 498.0 N @ 150 km/h (112.0 lbf @ 150 km/h) |
| **Wind Loading @ Velocity, lateral** | 148.0 N @ 150 km/h (33.3 lbf @ 150 km/h) |
| **Wind Loading @ Velocity, maximum** | 597.0 N @ 150 km/h (134.2 lbf @ 150 km/h) |
| **Wind Loading @ Velocity, rear** | 342.0 N @ 150 km/h (76.9 lbf @ 150 km/h) |
| **Wind Speed, maximum** | 241 km/h (150 mph) |

## Packaging and Weights

| | |
|---|---|
| **Width, packed** | 565 mm \| 22.244 in |

# NNH4-65A-R6D

| | |
|---|---|
| **Depth, packed** | 309 mm \| 12.165 in |
| **Length, packed** | 1686 mm \| 66.378 in |
| **Weight, gross** | 52.8 kg \| 116.404 lb |

## Regulatory Compliance/Certifications

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

## Included Products

| | | |
|---|---|---|
| BSAMNT-4 | – | 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 |