

NNH4-65A-R6H4-V1



12-port sector antenna, 4x 698–896 and 8x 1695–2360 MHz, 65° HPBW, 6x RET.

- Features broadband Low Band (698-896 MHz) and High Band (1695-2360 MHz) arrays for 4T4R (4X MIMO) capability for Band 14, AWS, PCS and WCS applications
- Non-stacked high band array design provides higher gain and narrower vertical beamwidth than traditional antenna designs
- Independent tilt for all arrays
- Array configuration provides capability for 4T4R (4x MIMO) on Low band and Dual 4T4R (4x MIMO) on High band
- Optimized SPR performance across all operating bands
- Excellent wind loading characteristics
- Supports re-configurable antenna sharing capability enabling control of the internal RET system using up to two separate RET compatible OEM radios

General Specifications

| | |
|---|--|
| Antenna Type | Sector |
| Band | Multiband |
| Color | Light Gray (RAL 7035) |
| Grounding Type | RF connector body grounded to reflector and mounting bracket |
| Performance Note | Outdoor usage Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN |
| 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 | 8 |
| 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 |
| RET Interface, quantity | 2 female 2 male |
| Input Voltage | 10–30 Vdc |


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| | |
|--|------------------------------|
| Internal RET | High band (4) Low band (2) |
| Power Consumption, idle state, maximum | 1 W |
| Power Consumption, normal conditions, maximum | 8 W |
| Protocol | 3GPP/AISG 2.0 (Single RET) |

Dimensions

| | |
|---|---------------------|
| Width | 498 mm 19.606 in |
| Depth | 197 mm 7.756 in |
| Length | 1499 mm 59.016 in |
| Net Weight, without mounting kit | 33.5 kg 73.855 lb |

Array Layout



| Array | Freq (MHz) | Conns | RET (SRET) | AISG RET UID |
|-----------|------------|-------|------------|----------------------|
| R1 | 698-896 | 1-2 | 1 | CPxxxxxxxxxxxxxxxxR1 |
| R2 | 698-896 | 3-4 | 2 | CPxxxxxxxxxxxxxxxxR2 |
| Y1 | 1695-2360 | 5-6 | 3 | CPxxxxxxxxxxxxxxxxY1 |
| Y2 | 1695-2360 | 7-8 | 4 | CPxxxxxxxxxxxxxxxxY2 |
| Y3 | 1695-2360 | 9-10 | 5 | CPxxxxxxxxxxxxxxxxY3 |
| Y4 | 1695-2360 | 11-12 | 6 | CPxxxxxxxxxxxxxxxxY4 |

Left Bottom Right

(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 – 2360 MHz 698 – 896 MHz |
| Polarization | ±45° |
| Total Input Power, maximum | 900 W @ 50 °C |

Electrical Specifications

| Frequency Band, MHz | 698–806 | 806–896 | 1695–1880 | 1850–1990 | 1920–2180 | 2300–2360 |
|--|----------|----------|-----------|-----------|-----------|-----------|
| Gain, dBi | 13.2 | 13.7 | 16.1 | 17 | 17.6 | 18.2 |
| Beamwidth, Horizontal, degrees | 69 | 66 | 71 | 67 | 61 | 57 |
| Beamwidth, Vertical, degrees | 17.1 | 15.4 | 7.5 | 6.9 | 6.4 | 5.7 |
| Beam Tilt, degrees | 2–16 | 2–16 | 2–12 | 2–12 | 2–12 | 2–12 |
| USLS (First Lobe), dB | 19 | 19 | 15 | 17 | 18 | 21 |
| Front-to-Back Ratio at 180°, dB | 32 | 31 | 33 | 33 | 34 | 33 |
| 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 | -153 |
| Input Power per Port at 50°C, maximum, watts | 300 | 300 | 300 | 250 | 250 | 200 |

Electrical Specifications, BASTA

| Frequency Band, MHz | 698–806 | 806–896 | 1695–1880 | 1850–1990 | 1920–2180 | 2300–2360 |
|--|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Gain by all Beam Tilts, average, dBi | 12.9 | 13.3 | 15.6 | 16.5 | 17.1 | 17.8 |
| Gain by all Beam Tilts Tolerance, dB | ±0.5 | ±0.5 | ±0.7 | ±0.7 | ±0.6 | ±0.4 |
| Gain by Beam Tilt, average, dBi | 2° 13.0 9° 12.9 16° 12.6 | 2° 13.5 9° 13.4 16° 12.9 | 2° 15.4 7° 15.6 12° 15.5 | 2° 16.2 7° 16.6 12° 16.4 | 2° 16.9 7° 17.3 12° 17.0 | 2° 17.7 7° 18.0 12° 17.6 |
| Beamwidth, Horizontal Tolerance, degrees | ±5.7 | ±4.0 | ±4.9 | ±7.3 | ±5.7 | ±2.4 |
| Beamwidth, Vertical Tolerance, degrees | ±1.6 | ±1.4 | ±0.6 | ±0.4 | ±0.5 | ±0.2 |
| USLS, beampeak to 20° above beampeak, dB | | | 14 | 16 | 17 | 16 |
| Front-to-Back Total Power at 180° ± 30°, dB | 23 | 21 | 27 | 27 | 26 | 27 |
| CPR at Boresight, dB | 24 | 24 | 19 | 21 | 21 | 18 |
| CPR at Sector, dB | 12 | 9 | 9 | 7 | 7 | 8 |

Mechanical Specifications

| | |
|---|---|
| Effective Projective Area (EPA), frontal | 0.52 m ² 5.597 ft ² |
| Effective Projective Area (EPA), lateral | 0.17 m ² 1.83 ft ² |
| Mechanical Tilt Range | 0°–15° |
| Wind Loading @ Velocity, frontal | 549.0 N @ 150 km/h (123.4 lbf @ 150 km/h) |
| Wind Loading @ Velocity, lateral | 183.0 N @ 150 km/h (41.1 lbf @ 150 km/h) |
| Wind Loading @ Velocity, maximum | 712.0 N @ 150 km/h (160.1 lbf @ 150 km/h) |
| Wind Loading @ Velocity, rear | 452.0 N @ 150 km/h (101.6 lbf @ 150 km/h) |
| Wind Speed, maximum | 241 km/h (150 mph) |

Packaging and Weights

| | |
|-----------------------|---------------------|
| Width, packed | 565 mm 22.244 in |
| Depth, packed | 309 mm 12.165 in |
| Length, packed | 1682 mm 66.221 in |

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Weight, gross

46.2 kg | 101.853 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

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