

NNHH-65A-R4-V2



8-port sector antenna, 4x 698–896 and 4x 1695–2360 MHz, 65° HPBW, 4x RETs

- Array configuration provides capability for 4T4R (4x MIMO) on Low band and High band
- Optimized SPR performance across all operating bands
- Excellent wind loading characteristics
- Optimized for rooftop applications – Heavily suppressed lower sidelobes for elevation pattern
- The antenna is supplied with mounting kits that provide 0 degree of mechanical downtilt; optional downtilt mounting kits are available

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 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 | 4 |
| RF Connector Quantity, low band | 4 |
| RF Connector Quantity, total | 8 |

Remote Electrical Tilt (RET) Information

| | |
|---|-----------------------------------|
| RET Hardware | CommRET v2 |
| RET Interface | 8-pin DIN Female 8-pin DIN Male |
| RET Interface, quantity | 1 female 1 male |
| Input Voltage | 10–30 Vdc |
| Internal RET | High band (2) Low band (2) |
| Power Consumption, idle state, maximum | 1 W |

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Power Consumption, normal conditions, maximum 8 W
Protocol 3GPP/AISG 2.0 (Multi-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 31 kg | 68.343 lb

Array Layout



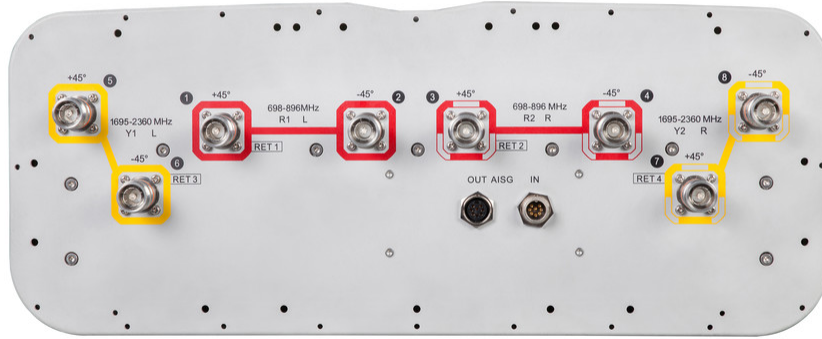
| Array | Freq (MHz) | Conns | RET (MRET) | AISG RET UID |
|-------|------------|-------|------------|------------------------|
| R1 | 698-896 | 1-2 | 1 | CPxxxxxxxxxxxxxxxxmm.1 |
| R2 | 698-896 | 3-4 | 2 | CPxxxxxxxxxxxxxxxxmm.2 |
| Y1 | 1695-2360 | 5-6 | 3 | CPxxxxxxxxxxxxxxxxmm.3 |
| Y2 | 1695-2360 | 7-8 | 4 | CPxxxxxxxxxxxxxxxxmm.4 |

Left Right
Bottom

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

Port Configuration

NNHH-65A-R4-V2



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 | 13.3 | 13.7 | 16.7 | 17.1 | 17.4 | 18.2 |
| Beamwidth, Horizontal, degrees | 70 | 66 | 62 | 63 | 63 | 61 |
| Beamwidth, Vertical, degrees | 16.7 | 14.9 | 7.4 | 6.9 | 6.5 | 5.8 |
| Beam Tilt, degrees | 2–16 | 2–16 | 2–12 | 2–12 | 2–12 | 2–12 |
| USLS (First Lobe), dB | 14 | 12 | 14 | 16 | 17 | 20 |
| Front-to-Back Ratio at 180°, dB | 33 | 36 | 33 | 36 | 35 | 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 | -150 | -150 | -150 | -150 | -150 | -150 |
| 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 | 13.1 | 13.5 | 16.2 | 16.8 | 17.1 | 17.9 |
| Gain by all Beam Tilts Tolerance, dB | ±0.4 | ±0.3 | ±0.7 | ±0.5 | ±0.4 | ±0.5 |
| Gain by Beam Tilt, average, dBi | 2° 13.1 9° 13.1 16° 12.9 | 2° 13.4 9° 13.5 16° 13.4 | 2° 16.0 7° 16.3 12° 16.2 | 2° 16.5 7° 16.9 12° 16.8 | 2° 16.8 7° 17.2 12° 17.0 | 2° 17.7 7° 18.0 12° 17.7 |
| Beamwidth, Horizontal Tolerance, degrees | ±5.3 | ±3.6 | ±9.7 | ±2.8 | ±2.6 | ±5.4 |
| Beamwidth, Vertical Tolerance, degrees | ±1.1 | ±0.9 | ±0.5 | ±0.3 | ±0.5 | ±0.2 |
| USLS, beampeak to 20° above beampeak, dB | 15 | 12 | 14 | 16 | 17 | 17 |
| Front-to-Back Total Power at 180° ± 30°, dB | 23 | 23 | 29 | 29 | 27 | 28 |
| CPR at Boresight, dB | 24 | 25 | 17 | 22 | 22 | 17 |
| CPR at Sector, dB | 13 | 9 | 8 | 6 | 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 | 1686 mm 66.378 in |

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Weight, gross

41.3 kg | 91.051 lb

Regulatory Compliance/Certifications

Agency

Classification

CHINA-ROHS

Below maximum concentration value

ISO 9001:2015

Designed, manufactured and/or distributed under this quality management system

REACH-SVHC

Compliant as per SVHC revision on www.commscope.com/ProductCompliance

ROHS

Compliant

UK-ROHS

Compliant



Included Products

BSAMNT-2F

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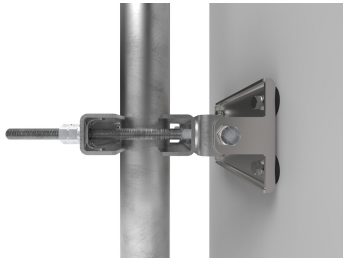
Mounting bracket for cylindrical pipe installations (60-115mm pipe diameter) for fix mechanical tilt applications.

* Footnotes

Performance Note

Severe environmental conditions may degrade optimum performance

BSAMNT-2F



Mounting bracket for cylindrical pipe installations (60-115mm pipe diameter) for fix mechanical tilt applications.

Product Classification

Product Type Fixed tilt mounting kit

General Specifications

Application Outdoor

Color Silver

Dimensions

Compatible Diameter, maximum 115 mm | 4.528 in

Compatible Diameter, minimum 60 mm | 2.362 in

Weight, net 3.8 kg | 8.378 lb

Material Specifications

Material Type Galvanized steel

Packaging and Weights

Included Brackets | Hardware

Packaging quantity 1

Weight, gross 4 kg | 8.818 lb

Regulatory Compliance/Certifications

| Agency | Classification |
|---------------|--|
| CE | Compliant with the relevant CE product directives |
| CHINA-ROHS | Below maximum concentration value |
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |
| REACH-SVHC | Compliant as per SVHC revision on www.commscope.com/ProductCompliance |
| ROHS | Compliant |
| UK-ROHS | Compliant |

BSAMNT-2F

