

# NNHH-65B-R4-V1



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

## General Specifications

<b>Antenna Type</b>	Sector
<b>Band</b>	Multiband
<b>Color</b>	Light Gray (RAL 7035)
<b>Grounding Type</b>	RF connector inner conductor and 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>	4.3-10 Female
<b>RF Connector Location</b>	Bottom
<b>RF Connector Quantity, high band</b>	4
<b>RF Connector Quantity, mid band</b>	0
<b>RF Connector Quantity, low band</b>	4
<b>RF Connector Quantity, total</b>	8

## Remote Electrical Tilt (RET) Information

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

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

## Dimensions

**Width** 498 mm | 19.606 in

**Depth** 197 mm | 7.756 in

**Length** 1828 mm | 71.969 in

**Net Weight, without mounting kit** 35.6 kg | 78.484 lb

## Array Layout



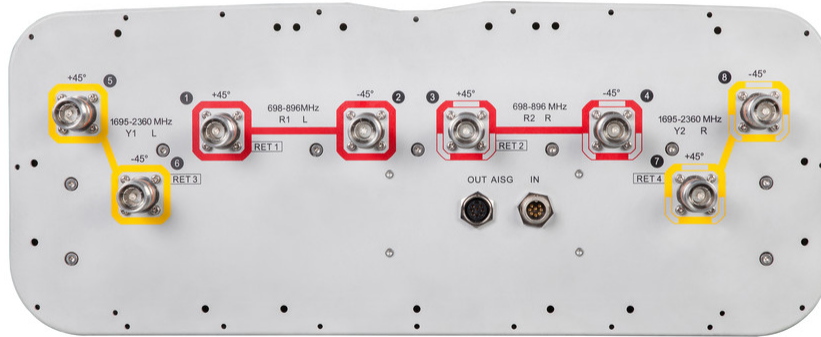
Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	698-896	1-2	1	CPxxxxxxxxxxxxxxxxR1
R2	698-896	3-4	2	CPxxxxxxxxxxxxxxxxR2
Y1	1695-2360	5-6	3	CPxxxxxxxxxxxxxxxxY1
Y2	1695-2360	7-8	4	CPxxxxxxxxxxxxxxxxY2

Left Bottom Right

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

## Port Configuration

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## 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	1920–2180	2300–2360
<b>Gain, dBi</b>	14.6	15	17	17.3	17.5	17.9
<b>Beamwidth, Horizontal, degrees</b>	66	64	58	61	63	59
<b>Beamwidth, Vertical, degrees</b>	11.9	10.3	7.4	6.9	6.4	5.7
<b>Beam Tilt, degrees</b>	2–14	2–14	2–12	2–12	2–12	2–12
<b>USLS (First Lobe), dB</b>	17	19	14	19	16	19
<b>Front-to-Back Ratio at 180°, dB</b>	30	31	35	38	37	34
<b>Isolation, Cross Polarization, dB</b>	25	25	25	25	25	25
<b>Isolation, Inter-band, dB</b>	25	25	25	25	25	25
<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

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<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

## Mechanical Specifications

<b>Effective Projective Area (EPA), frontal</b>	0.64 m <sup>2</sup>   6.889 ft <sup>2</sup>
<b>Effective Projective Area (EPA), lateral</b>	0.22 m <sup>2</sup>   2.368 ft <sup>2</sup>
<b>Mechanical Tilt Range</b>	0°–17°
<b>Wind Loading @ Velocity, frontal</b>	685.0 N @ 150 km/h (154.0 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	232.0 N @ 150 km/h (52.2 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	889.0 N @ 150 km/h (199.9 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	564.0 N @ 150 km/h (126.8 lbf @ 150 km/h)
<b>Wind Speed, maximum</b>	241 km/h (150 mph)

## Packaging and Weights

<b>Width, packed</b>	565 mm   22.244 in
<b>Depth, packed</b>	309 mm   12.165 in
<b>Length, packed</b>	2015 mm   79.331 in
<b>Weight, gross</b>	49.1 kg   108.247 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
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.
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## \* Footnotes

<b>Performance Note</b>	Severe environmental conditions may degrade optimum performance
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