

# NNHH-65A-R4

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



- Ideal for 4T4R applications
- Excellent wind loading characteristics
- Array configuration provides capability for 4T4R (4x MIMO) on Low band and High band
- Optimized SPR performance across all operating bands

## General Specifications

<b>Antenna Type</b>	Sector
<b>Band</b>	Multiband
<b>Color</b>	Light gray
<b>Effective Projective Area (EPA), frontal</b>	0.48 m <sup>2</sup>   5.167 ft <sup>2</sup>
<b>Effective Projective Area (EPA), lateral</b>	0.16 m <sup>2</sup>   1.722 ft <sup>2</sup>
<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, low band</b>	4
<b>RF Connector Quantity, total</b>	8

## Remote Electrical Tilt (RET) Information, General

<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

## Dimensions

<b>Width</b>	498 mm   19.606 in
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**Length** 1400 mm | 55.118 in

**Depth** 197 mm | 7.756 in

## 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 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

## Remote Electrical Tilt (RET) Information, Electrical

<b>Protocol</b>	3GPP/AISG 2.0 (Multi-RET)
<b>Power Consumption, idle state, maximum</b>	1 W
<b>Power Consumption, normal conditions, maximum</b>	8 W
<b>Input Voltage</b>	10–30 Vdc
<b>Internal RET</b>	High band (2)   Low band (2)

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## Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360
Gain, dBi	13.4	13.9	17.2	17.7	17.8	18.3
Beamwidth, Horizontal, degrees	71	63	59	60	62	60
Beamwidth, Vertical, degrees	16.6	14.7	7.3	6.9	6.5	5.9
Beam Tilt, degrees	2–16	2–16	2–12	2–12	2–12	2–12
USLS (First Lobe), dB	18	19	16	17	18	20
Front-to-Back Ratio at 180°, dB	27	29	35	36	37	37
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
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	250	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	13.6	16.8	17.5	17.6	18
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.5	±0.7	±0.4	±0.3	±0.5
Gain by Beam Tilt, average, dBi	2°   13.2 9°   13.1 16°   13.0	2°   13.7 9°   13.7 16°   13.3	2°   16.8 7°   16.9 12°   16.6	2°   17.7 7°   17.6 12°   17.3	2°   17.5 7°   17.8 12°   17.4	2°   17.9 7°   18.2 12°   17.5
Beamwidth, Horizontal Tolerance, degrees	±4.7	±4.4	±3.6	±1.7	±3.4	±4.8
Beamwidth, Vertical Tolerance, degrees	±1.3	±0.9	±0.5	±0.4	±0.4	±0.3
USLS, beampeak to 20° above beampeak, dB	20	19	14	14	16	14
Front-to-Back Total Power at 180° ± 30°, dB	22	20	29	31	29	29
CPR at Boresight, dB	21	23	17	20	20	17
CPR at Sector, dB	10	4	9	10	8	9

## Mechanical Specifications

Wind Loading at Velocity, frontal

114.7 lbf @ 150 km/h | 509.0 N @ 150 km/h

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<b>Wind Loading at Velocity, lateral</b>	169.0 N @ 150 km/h   38.0 lbf @ 150 km/h
<b>Wind Loading at Velocity, maximum</b>	148.4 lbf @ 150 km/h   660.0 N @ 150 km/h
<b>Wind Speed, maximum</b>	241 km/h   149.75 mph

## Packaging and Weights

<b>Width, packed</b>	608 mm   23.937 in
<b>Depth, packed</b>	352 mm   13.858 in
<b>Length, packed</b>	1582 mm   62.283 in
<b>Net Weight, without mounting kit</b>	31 kg   68.343 lb
<b>Weight, gross</b>	44.2 kg   97.444 lb

## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
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 <a href="http://www.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a>
ROHS	Compliant



## 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