

# NNH4SS-65A-R3BT8



16- Port sector antenna, 4x 698-896, 8x 1695-2360 and 4x 3550-3700MHz, 65° HPBW, 3x RETs and 3x SBTs

- Features broadband Low Band (698-896 MHz), Mid Band(1695-2360 MHz) and High Band (3550-3700 MHz) arrays for 4T4R (4X MIMO) capability for bands 5, 13, 25, 66 and 48. Also covers bands 12, 14, 29, and 30
- Perfect antenna to add 3.5GHz CBRS to macro sites
- Non-stacked mid band array design provides higher gain and narrower vertical beamwidth than traditional antenna designs
- Array configuration provides capability for 4T4R (4X MIMO) on Low Band, dual 4T4R (4X MIMO) on Mid Band and 4T4R (4X MIMO) on High Band
- 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
<b>Radome Material</b>	Fiberglass, UV resistant
<b>Radiator Material</b>	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>	8
<b>RF Connector Quantity, low band</b>	4
<b>RF Connector Quantity, total</b>	16

## 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>	3 female   3 male
<b>Input Voltage</b>	10–30 Vdc

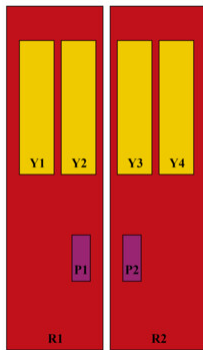
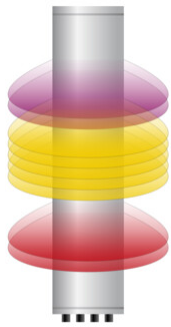
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<b>Internal Bias Tee</b>	Port 1   Port 5   Port 9
<b>Internal RET</b>	Low band (1)   Mid band (2)
<b>Power Consumption, active state, maximum</b>	10 W
<b>Power Consumption, idle state, maximum</b>	2 W
<b>Protocol</b>	3GPP/AISG 2.0 (Single RET)

## Dimensions

<b>Width</b>	498 mm   19.606 in
<b>Depth</b>	197 mm   7.756 in
<b>Length</b>	1499 mm   59.016 in
<b>Net Weight, antenna only</b>	31 kg   68.343 lb

## Array Layout

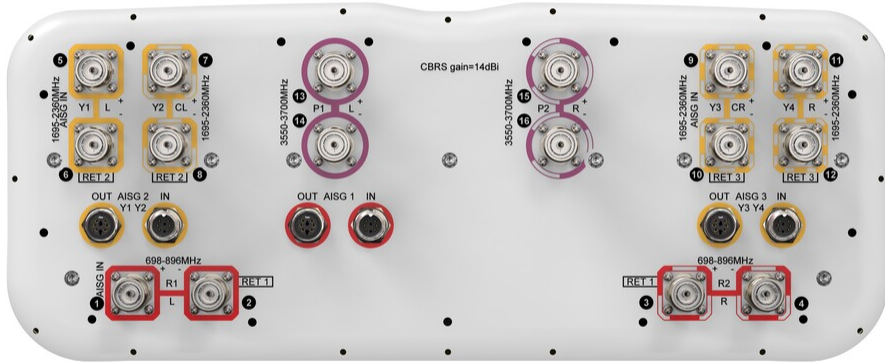


Array ID	Frequency (MHz)	RF Connector	RET (SRET)	AISG No.	AISG RET UID
R1	698-896	1 - 2	1	AISG1	CPxxxxxxxxxxxxxxxxR1
R2	698-896	3 - 4			
Y1	1695-2360	5 - 6	2	AISG2	CPxxxxxxxxxxxxxxxxY1
Y2	1695-2360	7 - 8			
Y3	1695-2360	9 - 10	3	AISG3	CPxxxxxxxxxxxxxxxxY3
Y4	1695-2360	11 - 12			
P1	3550-3700	13 - 14	N/A	NA	N/A
P2	3550-3700	15 - 16			

(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   3550 – 3700 MHz   698 – 896 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	1,600 W @ 50 °C

## Electrical Specifications

	R1,R2	R1,R2	Y1-Y4	Y1-Y4	Y1-Y4	Y1-Y4	P1,P2
<b>Frequency Band, MHz</b>	<b>698–806</b>	<b>806–896</b>	<b>1695–1880</b>	<b>1850–1990</b>	<b>1920–2180</b>	<b>2300–2360</b>	<b>3550–3700</b>
<b>RF Port</b>	1-4	1-4	5-12	5-12	5-12	5-12	13-16
<b>Gain at Mid Tilt, dBi</b>	13.1	13.4	15.8	16.5	17.3	17.8	13.8
<b>Beamwidth, Horizontal, degrees</b>	72	64	71	69	63	59	66
<b>Beamwidth, Vertical, degrees</b>	17.2	15	8	7.4	7	6.3	17.3
<b>Beam Tilt, degrees</b>	2–16	2–16	2–12	2–12	2–12	2–12	8
<b>USLS (First Lobe), dB</b>	19	15	14	16	16	18	19
<b>Front-to-Back Ratio at 180°, dB</b>	30	28	32	32	32	33	35
<b>Isolation, Cross Polarization,</b>	25	25	25	25	25	25	25

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dB

<b>Isolation, Inter-band, dB</b>	25	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	1.5 14.0
<b>PIM, 3rd Order, 2 x 20 W, dBc</b>	-153	-153	-153	-153	-153	-153	-145
<b>Input Power per Port at 50°C, maximum, watts</b>	300	300	250	250	250	200	100

## Electrical Specifications, BASTA

<b>Frequency Band, MHz</b>	<b>698–806</b>	<b>806–896</b>	<b>1695–1880</b>	<b>1850–1990</b>	<b>1920–2180</b>	<b>2300–2360</b>	<b>3550–3700</b>
<b>Gain by all Beam Tilts, average, dBi</b>	12.6	13.1	15.3	16.1	16.8	17.5	13.4
<b>Gain by all Beam Tilts Tolerance, dB</b>	±0.4	±0.4	±0.7	±0.7	±0.7	±0.5	±0.6
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	23	22	24	24	25	27	27
<b>CPR at Boresight, dB</b>	21	22	20	21	23	24	23
<b>CPR at Sector, dB</b>	13	9	8	7	6	7	6

## Mechanical Specifications

<b>Wind Loading @ Velocity, frontal</b>	498.0 N @ 150 km/h (112.0 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	148.0 N @ 150 km/h (33.3 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	597.0 N @ 150 km/h (134.2 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	342.0 N @ 150 km/h (76.9 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>	1686 mm   66.378 in
<b>Weight, gross</b>	43.7 kg   96.342 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

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## 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