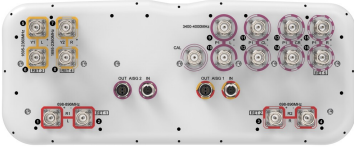


# NNHHS4-65B-R5



16-port sector antenna, 4x 698-896 MHz and 4x 1695-2360 MHz, 65° HPBW, and 8 x 3400-4000 MHz, 90° HPBW, 5 x RETs

- Multi-band FDD antenna featuring C-Band 8T8R functionality
- The C-band RET is factory set to AISG2. All other RET assigned to AISG1
- Feature the same dimensions as existing 8 and 12-port FDD capable antennas
- New endcap designs provide improved wind loading performance

## General Specifications

<b>Antenna Type</b>	Sector- and beamforming
<b>Band</b>	Multiband
<b>Calibration Connector Interface</b>	4.3-10 Female
<b>Calibration Connector Quantity</b>	1
<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>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>	8
<b>RF Connector Quantity, mid band</b>	4
<b>RF Connector Quantity, low band</b>	4
<b>RF Connector Quantity, total</b>	16

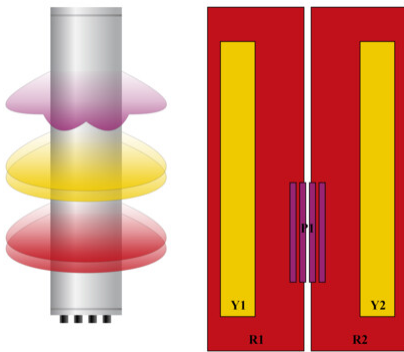
## Remote Electrical Tilt (RET) Information

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

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<b>Power Consumption, idle state, maximum</b>	1 W
<b>Protocol</b>	3GPP/AISG 2.0
<b>Dimensions</b>	
<b>Width</b>	498 mm   19.606 in
<b>Depth</b>	197 mm   7.756 in
<b>Length</b>	1848 mm   72.756 in
<b>Net Weight, antenna only</b>	37.9 kg   83.555 lb
<b>TDD Column Spacing</b>	41 mm   1.614 in

## Array Layout



Array ID	Frequency (MHz)	RF Connector	RET (MRET)	AISG No.	AISG RET UID
R1	694-896	1 - 2	1	AISG1	CPxxxxxxxxxxxxMM,1
R2	694-896	3 - 4	2	AISG1	CPxxxxxxxxxxxxMM,2
Y1	1695-2360	5 - 6	3	AISG1	CPxxxxxxxxxxxxMM,3
Y2	1695-2360	7 - 8	4	AISG1	CPxxxxxxxxxxxxMM,4
P1	3400-4000	9 - 16	5	AISG2	CPxxxxxxxxxxxxMM,1

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

## Port Configuration



## Electrical Specifications

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<b>Impedance</b>	50 ohm
<b>Operating Frequency Band</b>	1695 – 2360 MHz   3400 – 4000 MHz   698 – 896 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	1,500 W @ 50 °C

## Electrical Specifications

	<b>R1,R2</b>	<b>R1,R2</b>	<b>Y1,Y2</b>	<b>Y1,Y2</b>	<b>Y1,Y2</b>	<b>Y1,Y2</b>	<b>P1</b>	<b>P1</b>
<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>3400–3800</b>	<b>3700–4000</b>
<b>RF Port</b>	1-4	1-4	5-8	5-8	5-8	5-8	9-16	9-16
<b>Gain, dBi</b>	14.6	15.1	17.6	17.8	18.3	18.5	16.2	16.4
<b>Beamwidth, Horizontal, degrees</b>	72	64	58	58	59	59	83	73
<b>Beamwidth, Vertical, degrees</b>	12.2	10.6	6.3	5.8	5.5	5.1	6.1	5.7
<b>Beam Tilt, degrees</b>	2–14	2–14	2–12	2–12	2–12	2–12	0–10	0–10
<b>USLS (First Lobe), dB</b>	19	16	17	17	18	17	15	14
<b>Front-to-Back Ratio at 180°, dB</b>	28	28	34	35	35	33	23	29
<b>Coupling level, Amp, Antenna port to Cal port, dB</b>							-26	-26
<b>Coupling level, max Amp Δ, Antenna port to Cal port, dB</b>							±2	±2
<b>Coupler, max Amp Δ, Antenna port to Cal port, dB</b>							0.6	0.6
<b>Coupler, max Phase Δ, Antenna port to Cal port, degrees</b>							5	5
<b>Isolation, Cross Polarization, dB</b>	25	25	25	25	25	25	25	25
<b>Isolation, Inter-band, dB</b>	25	25	25	25	25	25	25	25
<b>Isolation, Co-polarization, dB</b>							19	19
<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	1.5 14.0
<b>PIM, 3rd Order, 2 x 20 W, dBc</b>	-150	-150	-150	-150	-150	-150	-145	-145
<b>Input Power per Port at 50°C, maximum, watts</b>	300	300	250	250	250	200	75	75

## Electrical Specifications, BASTA

	<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>3400–3800</b>	<b>3700–4000</b>
<b>Frequency Band, MHz</b>								
<b>Gain by all Beam Tilts,</b>	14.3	14.8	17.1	17.6	18	18.2	15.5	15.8

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## average, dBi

<b>Gain by all Beam Tilts Tolerance, dB</b>	±0.5	±0.4	±0.7	±0.4	±0.5	±0.7	±0.9	±0.7
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±6	±4	±5	±4	±3	±4	±25	±16
<b>Beamwidth, Vertical Tolerance, degrees</b>	±1	±0.8	±0.4	±0.2	±0.3	±0.3	±0.4	±0.3
<b>USLS, beampeak to 20° above beampeak, dB</b>	18	15	13	14	14	14	13	12
<b>CPR at Boresight, dB</b>	26	26	19	21	21	21	15	14
<b>CPR at Sector, dB</b>	15	10	10	7	7	7	6	5

## Electrical Specifications, Broadcast 65°

Frequency Band, MHz	3400–3800	3700–4000
<b>Gain, dBi</b>	18	18.3
<b>Beamwidth, Horizontal, degrees</b>	65	65
<b>Beamwidth, Vertical, degrees</b>	6.1	5.8
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	27	28
<b>USLS (First Lobe), dB</b>	17	18

## Electrical Specifications, Envelope Pattern

Frequency Band, MHz	3400–3800	3700–4000
<b>Gain, dBi</b>	21.1	21.5
<b>Beamwidth, Horizontal at 10 dB, degrees</b>	118	117
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	29	29
<b>USLS (First Lobe), dB</b>	20	22

## Electrical Specifications, Service Beam

Frequency Band, MHz	3400–3800	3700–4000
<b>Steered 0° Gain, dBi</b>	21.1	21.4
<b>Steered 0° Beamwidth, Horizontal, degrees</b>	24	24
<b>Steered 0° Front-to-Back Total Power at 180° ± 30°, dB</b>	30	29
<b>Steered 0° Horizontal Sidelobe, dB</b>	14	13

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<b>Steered 30° Gain, dBi</b>	19.9	20.5
<b>Steered 30° Beamwidth, Horizontal, degrees</b>	29	25
<b>Steered 30° Front-to-Back Total Power at 180° ± 30°, dB</b>	28	28

## Electrical Specifications, Soft Split

	<b>3400–3800</b>	<b>3700–4000</b>
<b>Frequency Band, MHz</b>		
<b>Gain, dBi</b>	19.8	20.2
<b>Beamwidth, Horizontal, degrees</b>	32	28
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	28	28
<b>Horizontal Sidelobe, dB</b>	18	17

## Mechanical Specifications

<b>Effective Projective Area (EPA), frontal</b>	0.59 m <sup>2</sup>   6.351 ft <sup>2</sup>
<b>Effective Projective Area (EPA), lateral</b>	0.18 m <sup>2</sup>   1.938 ft <sup>2</sup>
<b>Wind Loading @ Velocity, frontal</b>	629.0 N @ 150 km/h (141.4 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	191.0 N @ 150 km/h (42.9 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>	433.0 N @ 150 km/h (97.3 lbf @ 150 km/h)
<b>Wind Speed, maximum</b>	241.4 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>	2035 mm   80.118 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

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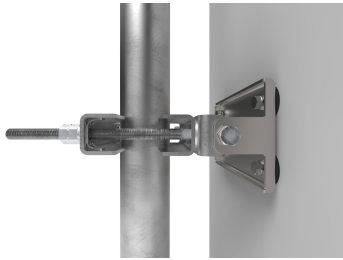
## Included Products

- BSAMNT-2F – 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 <a href="http://www.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a>
ROHS	Compliant
UK-ROHS	Compliant

# BSAMNT-2F

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