

# NNHH-65C-R4



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
- The antenna is supplied with mounting kits that provide 0 degree of mechanical downtilt; optional downtilt mounting kits are available

## 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, 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 (Multi-RET)

## Dimensions

**Width** 498 mm | 19.606 in

**Depth** 197 mm | 7.756 in

**Length** 2438 mm | 95.984 in

**Net Weight, without mounting kit** 39.3 kg | 86.642 lb

## Array Layout



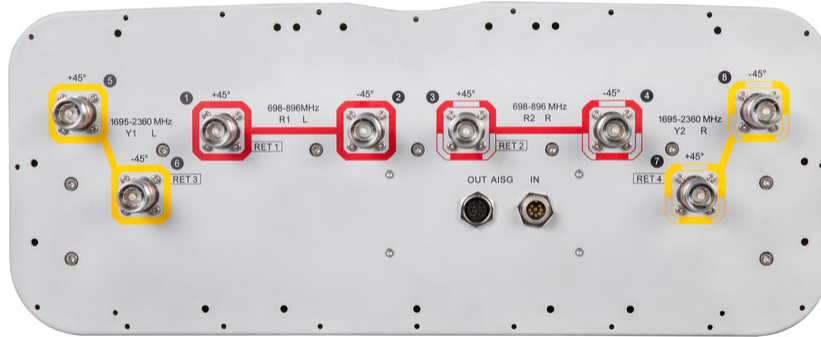
Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
R1	698-896	1-2	1	CPxxxxxxxxxxxxxxxxmm.1
R2	698-896	3-4	2	CPxxxxxxxxxxxxxxxxmm.2
Y1	1695-2360	5-6	3	CPxxxxxxxxxxxxxxxxmm.3
Y2	1695-2360	7-8	4	CPxxxxxxxxxxxxxxxxmm.4

Left 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>	15.6	16.1	18.3	19	19.2	19.1
<b>Beamwidth, Horizontal, degrees</b>	75	69	63	56	58	62
<b>Beamwidth, Vertical, degrees</b>	9.9	8.7	5.4	5	4.8	4.3
<b>Beam Tilt, degrees</b>	2–12	2–12	2–12	2–12	2–12	2–12
<b>USLS (First Lobe), dB</b>	21	18	17	18	20	20
<b>Front-to-Back Ratio at 180°, dB</b>	29	28	36	40	38	35
<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>	-150	-150	-150	-150	-150	-150
<b>Input Power per Port at 50°C, maximum, watts</b>	300	300	250	250	250	200

## 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>Gain by all Beam Tilts, average, dBi</b>	15.3	15.8	17.8	18.7	18.9	18.9
<b>Gain by all Beam Tilts Tolerance, dB</b>	±0.5	±0.3	±0.5	±0.4	±0.3	±0.3
<b>Gain by Beam Tilt, average, dBi</b>	2°   15.2 7°   15.4 12°   15.2	2°   15.9 7°   15.9 12°   15.6	2°   17.8 7°   18.0 12°   17.7	2°   18.6 7°   18.9 12°   18.6	2°   18.8 7°   19.1 12°   18.7	2°   18.7 7°   19.0 12°   18.8
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±3	±2.8	±4.6	±4.1	±6.3	±2.3
<b>Beamwidth, Vertical Tolerance, degrees</b>	±0.6	±0.6	±0.3	±0.2	±0.3	±0.1
<b>USLS, beampeak to 20° above beampeak, dB</b>	18	14	16	17	18	17
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	20	21	29	32	31	28
<b>CPR at Boresight, dB</b>	21	21	19	23	23	22
<b>CPR at Sector, dB</b>	10	6	6	8	7	8

## Mechanical Specifications

<b>Effective Projective Area (EPA), frontal</b>	0.9 m <sup>2</sup>   9.688 ft <sup>2</sup>
<b>Effective Projective Area (EPA), lateral</b>	0.31 m <sup>2</sup>   3.337 ft <sup>2</sup>
<b>Mechanical Tilt Range</b>	0°–10°
<b>Wind Loading @ Velocity, frontal</b>	954.0 N @ 150 km/h (214.5 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	331.0 N @ 150 km/h (74.4 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	1,235.0 N @ 150 km/h (277.6 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	785.0 N @ 150 km/h (176.5 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>	2625 mm   103.347 in

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**Weight, gross**

53.8 kg | 118.609 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-3F – 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-3F



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** 5.6 kg | 12.346 lb

## Material Specifications

**Material Type** Galvanized steel

## Packaging and Weights

**Included** Brackets | Hardware

**Packaging quantity** 1

**Weight, gross** 5.8 kg | 12.787 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-3F

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