

# NNH4-65A-R6H4



12-port sector antenna, 4x 698–896 and 8x 1695–2360 MHz, 65° HPBW, 6x RET.

- Features broadband Low Band (698-896 MHz) and High Band (1695-2360 MHz) arrays for 4T4R (4X MIMO) capability for Band 14, AWS, PCS and WCS applications
- Non-stacked high band array design provides higher gain and narrower vertical beamwidth than traditional antenna designs
- Independent tilt for all arrays
- Array configuration provides capability for 4T4R (4x MIMO) on Low band and Dual 4T4R (4x MIMO) on High band
- Optimized SPR performance across all operating bands
- Excellent wind loading characteristics
- Supports re-configurable antenna sharing capability enabling control of the internal RET system using up to two separate RET compatible OEM radios

## General Specifications

<b>Antenna Type</b>	Sector
<b>Band</b>	Multiband
<b>Color</b>	Light Gray (RAL 7035)
<b>Grounding Type</b>	RF connector 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>	8
<b>RF Connector Quantity, mid band</b>	0
<b>RF Connector Quantity, low band</b>	4
<b>RF Connector Quantity, total</b>	12

## 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

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<b>Input Voltage</b>	10–30 Vdc
<b>Internal RET</b>	High band (4)   Low band (2)
<b>Power Consumption, idle state, maximum</b>	1 W
<b>Power Consumption, normal conditions, maximum</b>	8 W
<b>Protocol</b>	3GPP/AISG 2.0 (Multi-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, without mounting kit</b>	33.5 kg   73.855 lb

## Array Layout



Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
<b>R1</b>	698-896	1-2	1	CPxxxxxxxxxxxxxxxxmm.1
<b>R2</b>	698-896	3-4	2	CPxxxxxxxxxxxxxxxxmm.2
<b>Y1</b>	1695-2360	5-6	3	CPxxxxxxxxxxxxxxxxmm.3
<b>Y2</b>	1695-2360	7-8	4	CPxxxxxxxxxxxxxxxxmm.4
<b>Y3</b>	1695-2360	9-10	5	CPxxxxxxxxxxxxxxxxmm.5
<b>Y4</b>	1695-2360	11-12	6	CPxxxxxxxxxxxxxxxxmm.6

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>	13.2	13.7	16.1	17	17.6	18.2
<b>Beamwidth, Horizontal, degrees</b>	69	66	71	67	61	57
<b>Beamwidth, Vertical, degrees</b>	17.1	15.4	7.5	6.9	6.4	5.7
<b>Beam Tilt, degrees</b>	2–16	2–16	2–12	2–12	2–12	2–12
<b>USLS (First Lobe), dB</b>	19	19	15	17	18	21
<b>Front-to-Back Ratio at 180°, dB</b>	32	31	33	33	34	33
<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	300	250	250	200

## Mechanical Specifications

<b>Effective Projective Area (EPA), frontal</b>	0.52 m <sup>2</sup>   5.597 ft <sup>2</sup>
<b>Effective Projective Area (EPA), lateral</b>	0.17 m <sup>2</sup>   1.83 ft <sup>2</sup>
<b>Mechanical Tilt Range</b>	0°–15°
<b>Wind Loading @ Velocity, frontal</b>	549.0 N @ 150 km/h (123.4 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	183.0 N @ 150 km/h (41.1 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	712.0 N @ 150 km/h (160.1 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	452.0 N @ 150 km/h (101.6 lbf @ 150 km/h)
<b>Wind Speed, maximum</b>	241 km/h (150 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>	1682 mm   66.221 in
<b>Weight, gross</b>	43.8 kg   96.562 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



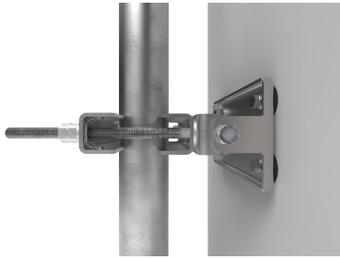
## Included Products

BSAMNT-2F	–	Mounting bracket for cylindrical pipe installations (60-115mm pipe diameter) for fix mechanical tilt applications.
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## \* Footnotes

<b>Performance Note</b>	Severe environmental conditions may degrade optimum performance
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# 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.andrew.com/ProductCompliance">www.andrew.com/ProductCompliance</a>
ROHS	Compliant
UK-ROHS	Compliant

# BSAMNT-2F

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