

# NNHH-65A-R4-V1



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

Alternative products available:

NNHH-65A-R4-V2      8-port sector antenna, 4x 698–896 and 4x 1695–2360 MHz, 65° HPBW, 4x RETs

## General Specifications

Antenna Type	Sector
Band	Multiband
Color	Light Gray (RAL 7035)
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Performance Note	Outdoor usage   Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN
Radome Material	Fiberglass, UV resistant
Radiator Material	Aluminum   Low loss circuit board
Reflector Material	Aluminum
RF Connector Interface	4.3-10 Female
RF Connector Location	Bottom
RF Connector Quantity, high band	4
RF Connector Quantity, mid band	0
RF Connector Quantity, low band	4
RF Connector Quantity, total	8

## Remote Electrical Tilt (RET) Information

RET Hardware	CommRET v2
RET Interface	8-pin DIN Female   8-pin DIN Male
RET Interface, quantity	1 female   1 male
Input Voltage	10–30 Vdc

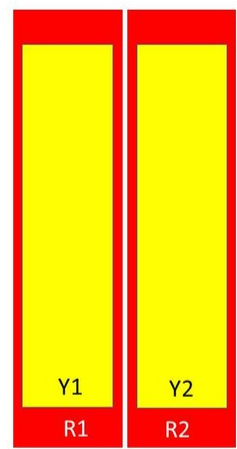
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Internal RET	High band (2)   Low band (2)
Power Consumption, idle state, maximum	1 W
Power Consumption, normal conditions, maximum	8 W
Protocol	3GPP/AISG 2.0 (Single RET)

## Dimensions

Width	498 mm   19.606 in
Depth	197 mm   7.756 in
Length	1400 mm   55.118 in
Net Weight, without mounting kit	31 kg   68.343 lb

## Array Layout



Left      Right  
Bottom

Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	698-896	1-2	1	CPxxxxxxxxxxxxxxR1
R2	698-896	3-4	2	CPxxxxxxxxxxxxxxR2
Y1	1695-2360	5-6	3	CPxxxxxxxxxxxxxxY1
Y2	1695-2360	7-8	4	CPxxxxxxxxxxxxxxY2

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

## Port Configuration

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## Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1695 – 2360 MHz   698 – 896 MHz
Polarization	±45°
Total Input Power, maximum	900 W @ 50 °C

## Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	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	18	18	21
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

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<b>PIM, 3rd Order, 2 x 20 W, dBc</b>	-153	-153	-153	-153	-153	-153
<b>Input Power per Port at 50°C, maximum, watts</b>	300	300	250	250	250	200

## Mechanical Specifications

<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>Mechanical Tilt Range</b>	0°–15°
<b>Wind Loading @ Velocity, frontal</b>	509.0 N @ 150 km/h (114.4 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	169.0 N @ 150 km/h (38.0 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	660.0 N @ 150 km/h (148.4 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	419.0 N @ 150 km/h (94.2 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>	1587 mm   62.48 in
<b>Weight, gross</b>	43.4 kg   95.681 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.andrew.com/ProductCompliance">www.andrew.com/ProductCompliance</a>
ROHS	Compliant
UK-ROHS	Compliant/Exempted



## 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.
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## \* Footnotes

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**Performance Note**      Severe environmental conditions may degrade optimum performance

# 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.

## Product Classification

**Product Type** Downtilt 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** 6.2 kg | 13.669 lb

## Material Specifications

**Material Type** Galvanized steel

## Packaging and Weights

**Included** Brackets | Hardware

**Packaging quantity** 1

**Weight, gross** 6.4 kg | 14.11 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

