

# NNH4-45B-R6-V1



12-port sector antenna, 4x 698–896 and 8x 1695–2360MHz, 45° 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.
- 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

## General Specifications

<b>Antenna Type</b>	Sector
<b>Band</b>	Multiband
<b>Color</b>	Light gray
<b>Effective Projective Area (EPA), frontal</b>	1.01 m <sup>2</sup>   10.872 ft <sup>2</sup>
<b>Effective Projective Area (EPA), lateral</b>	0.21 m <sup>2</sup>   2.26 ft <sup>2</sup>
<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>	8
<b>RF Connector Quantity, low band</b>	4
<b>RF Connector Quantity, total</b>	12

## Remote Electrical Tilt (RET) Information, General

<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

## Dimensions

# NNH4-45B-R6-V1

<b>Width</b>	457 mm   17.992 in
<b>Length</b>	1848 mm   72.756 in
<b>Depth</b>	178 mm   7.008 in

## Array Layout



Left                  Right  
Bottom

Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	698-896	1-2	1	CPxxxxxxxxxxxxxxxxR1
R2	698-896	3-4	2	CPxxxxxxxxxxxxxxxxR2
Y1	1695-2360	5-6	3	CPxxxxxxxxxxxxxxxxY1
Y2	1695-2360	7-8	4	CPxxxxxxxxxxxxxxxxY2
Y3	1695-2360	9-10	5	CPxxxxxxxxxxxxxxxxY3
Y4	1695-2360	11-12	6	CPxxxxxxxxxxxxxxxxY4

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

## Port Configuration

# NNH4-45B-R6-V1



## 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

## Remote Electrical Tilt (RET) Information, Electrical

<b>Protocol</b>	3GPP/AISG 2.0 (Single RET)
<b>Power Consumption, idle state, maximum</b>	1 W
<b>Power Consumption, normal conditions, maximum</b>	8 W
<b>Input Voltage</b>	10–30 Vdc
<b>Internal RET</b>	High band (4)   Low band (2)

# NNH4-45B-R6-V1

## Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360
Gain, dBi	13.9	14.9	16.9	17.5	18	18.7
Beamwidth, Horizontal, degrees	49	42	44	42	41	37
Beamwidth, Vertical, degrees	24.4	21.7	10.6	10	9.5	8.4
Beam Tilt, degrees	0–16	0–16	0–10	0–10	0–10	0–10
USLS (First Lobe), dB	18	21	17	18	17	18
Front-to-Back Ratio at 180°, dB	35	33	35	36	36	34
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
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port at 50° C, maximum, watts	150	150	300	300	300	250

## Electrical Specifications, BASTA

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360
Gain by all Beam Tilts, average, dBi	13.6	14.6	16.5	17.1	17.6	18.3
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.4	±0.5	±0.5	±0.6	±0.4
Gain by Beam Tilt, average, dBi	0°   13.6 8°   13.6 16°   13.5	0°   14.6 8°   14.6 16°   14.4	0°   16.5 5°   16.6 10°   16.5	0°   17.0 5°   17.1 10°   17.1	0°   17.5 5°   17.6 10°   17.6	0°   18.3 5°   18.4 10°   18.2
Beamwidth, Horizontal Tolerance, degrees	±1.9	±3.2	±2.1	±1.6	±2.2	±2.1
Beamwidth, Vertical Tolerance, degrees	±1.5	±1.5	±0.6	±0.4	±0.7	±0.4
USLS, beampeak to 20° above beampeak, dB	8	10	18	19	17	18
Front-to-Back Total Power at 180° ± 30°, dB	25	24	28	29	30	28
CPR at Boresight, dB	23	24	16	19	20	21
CPR at 10 dB Horizontal Beamwidth, dB	12	13	7	8	11	14

## Mechanical Specifications

Wind Loading at Velocity, frontal

1,077.0 N @ 150 km/h

# NNH4-45B-R6-V1

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<b>Wind Loading at Velocity, lateral</b>	222.0 N @ 150 km/h
<b>Wind Loading at Velocity, maximum</b>	1,077.0 N @ 150 km/h   242.1 lbf @ 150 km/h
<b>Wind Speed, maximum</b>	241 km/h   149.75 mph

## Packaging and Weights

<b>Width, packed</b>	608 mm   23.937 in
<b>Depth, packed</b>	346 mm   13.622 in
<b>Length, packed</b>	1991 mm   78.386 in
<b>Net Weight, without mounting kit</b>	36.4 kg   80.248 lb
<b>Weight, gross</b>	57 kg   125.663 lb

## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system



## 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.
- BSAMNT-M — Middle Downtilt Mounting Kit for Long Antennas for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor bracket set.

## \* Footnotes

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