

# NNHH-45B-R4



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

- Interleaved dipole technology providing for attractive, low wind load mechanical package
- 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

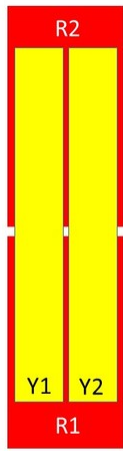
<b>RET Hardware</b>	CommRET v2
<b>RET Interface</b>	8-pin DIN Female   8-pin DIN Male
<b>RET Interface, quantity</b>	1 female   1 male
<b>Input Voltage</b>	10–30 Vdc
<b>Internal RET</b>	High band (2)   Low band (2)
<b>Power Consumption, idle state, maximum</b>	1 W
<b>Power Consumption, normal conditions, maximum</b>	8 W
<b>Protocol</b>	3GPP/AISG 2.0 (Multi-RET)

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## Dimensions

<b>Width</b>	457 mm   17.992 in
<b>Depth</b>	178 mm   7.008 in
<b>Length</b>	1828 mm   71.969 in
<b>Net Weight, without mounting kit</b>	34.5 kg   76.059 lb

## Array Layout



Left Right  
Bottom

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

(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>	14	14.9	19.4	20	20.5	21
<b>Beamwidth, Horizontal, degrees</b>	49	42	45	43	41	38
<b>Beamwidth, Vertical, degrees</b>	24.4	21.6	5.9	5.5	5.1	4.6
<b>Beam Tilt, degrees</b>	2–18	2–18	2–12	2–12	2–12	2–12
<b>USLS (First Lobe), dB</b>	18	19	14	15	15	17
<b>Front-to-Back Ratio at 180°, dB</b>	32	34	35	37	39	38
<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	300	300	250

## 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>	13.7	14.7	18.9	19.7	20.1	20.7
<b>Gain by all Beam Tilts Tolerance, dB</b>	±0.4	±0.4	±0.6	±0.4	±0.4	±0.3
<b>Gain by Beam Tilt, average, dBi</b>	2°   13.7 10°   13.7 18°   13.6	2°   14.8 10°   14.7 18°   14.4	2°   18.8 7°   19.0 12°   18.8	2°   19.5 7°   19.8 12°   19.7	2°   20.0 7°   20.2 12°   20.0	2°   20.7 7°   20.8 12°   20.5
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±1.9	±2.9	±2.7	±1.3	±2.1	±1.6
<b>Beamwidth, Vertical Tolerance, degrees</b>	±1.5	±1.6	±0.4	±0.2	±0.3	±0.2
<b>USLS, beampeak to 20° above beampeak, dB</b>			14	15	15	16
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	24	24	27	31	32	30
<b>CPR at Boresight, dB</b>	23	23	19	20	20	21

## Mechanical Specifications

<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>Mechanical Tilt Range</b>	0°–15°
<b>Wind Loading @ Velocity, frontal</b>	1,077.0 N @ 150 km/h (242.1 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	222.0 N @ 150 km/h (49.9 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	1,077.0 N @ 150 km/h (242.1 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	946.0 N @ 150 km/h (212.7 lbf @ 150 km/h)
<b>Wind Speed, maximum</b>	241 km/h (150 mph)

## Packaging and Weights

<b>Width, packed</b>	563 mm   22.165 in
<b>Depth, packed</b>	355 mm   13.976 in
<b>Length, packed</b>	2021 mm   79.567 in
<b>Weight, gross</b>	47.4 kg   104.499 lb

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## 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.
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## \* Footnotes

<b>Performance Note</b>	Severe environmental conditions may degrade optimum performance
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