

# NHH-45B-R2B



6-port sector antenna, 2x 698–896 and 4x 1695–2360 MHz, 45° HPBW, 2x RETs and 2x SBTs. Both high bands share the same electrical tilt.

- Narrow beamwidth capacity antenna for higher level of densification and enhanced data throughput
- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- Separate RS-485 RET input/output for low and high band
- One LB RET and one HB RET. Both high bands are controlled by one RET to ensure same tilt level for 4x Rx or 4x MIMO

## General Specifications

<b>Antenna Type</b>	Sector
<b>Band</b>	Multiband
<b>Color</b>	Light gray
<b>Effective Projective Area (EPA), frontal</b>	1 m <sup>2</sup>   10.764 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 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>	2
<b>RF Connector Quantity, total</b>	6

## Remote Electrical Tilt (RET) Information, General

<b>RET Interface</b>	8-pin DIN Female   8-pin DIN Male
<b>RET Interface, quantity</b>	2 female   2 male

## Dimensions

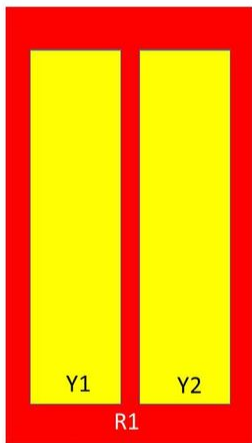
<b>Width</b>	457 mm   17.992 in
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**Length** 1829 mm | 72.008 in

**Depth** 178 mm | 7.008 in

## Array Layout



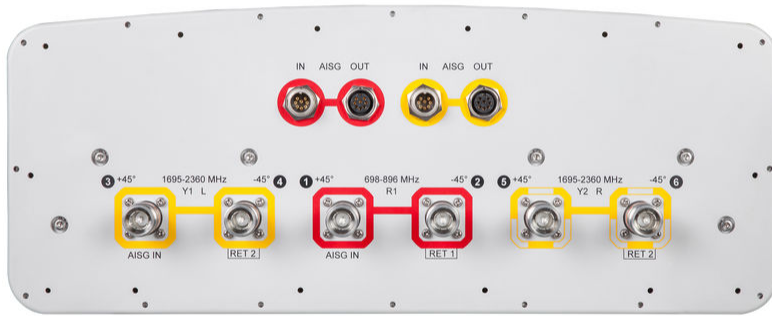
Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	698-896	1-2	1	ANxxxxxxxxxxxxxxxxxx1
Y1	1695-2360	3-4	2	ANxxxxxxxxxxxxxxxxxx2
Y2	1695-2360	5-6		

Left Right  
Bottom

(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>	800 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>	10 W
<b>Input Voltage</b>	10–30 Vdc
<b>Internal Bias Tee</b>	Port 1   Port 3

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Internal RET

High band (1) | Low band (1)

## Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	16.8	17.5	19.3	19.9	20.3	20.8
Beamwidth, Horizontal, degrees	48	43	45	43	41	39
Beamwidth, Vertical, degrees	12.5	11.4	5.8	5.4	5	4.5
Beam Tilt, degrees	2–14	2–14	0–8	0–8	0–8	0–8
USLS (First Lobe), dB	19	22	18	18	18	17
Front-to-Back Ratio at 180°, dB	34	39	37	38	40	38
Isolation, Cross Polarization, dB	25	25	25	25	25	25
Isolation, Inter-band, dB	30	30	28	28	28	28
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, maximum, watts	300	300	300	300	300	250

## Electrical Specifications, BASTA

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	16.5	17.2	19.1	19.8	20.2	20.8
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.4	±0.5	±0.4	±0.4	±0.3
Gain by Beam Tilt, average, dBi	2°   16.5 8°   16.6 14°   16.3	2°   17.3 8°   17.4 14°   16.9	0°   19.0 4°   19.2 8°   19.0	0°   19.7 4°   19.9 8°   19.7	0°   20.0 4°   20.2 8°   20.2	0°   20.6 4°   20.9 8°   20.6
Beamwidth, Horizontal Tolerance, degrees	±1.5	±2.8	±1.8	±1	±2.7	±1.4
Beamwidth, Vertical Tolerance, degrees	±0.7	±0.6	±0.3	±0.2	±0.3	±0.1
USLS, beampeak to 20° above beampeak, dB	19	23	16	17	16	16
Front-to-Back Total Power at 180° ± 30°, dB	24	24	29	31	33	33
CPR at Boresight, dB	25	26	19	20	18	17
CPR at Sector, dB	6	4	10	10	8	16

## Mechanical Specifications

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<b>Wind Loading at Velocity, frontal</b>	1,065.0 N @ 150 km/h
<b>Wind Loading at Velocity, lateral</b>	220.0 N @ 150 km/h
<b>Wind Loading at Velocity, maximum</b>	1,065.0 N @ 150 km/h   239.4 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>	1970 mm   77.559 in
<b>Net Weight, without mounting kit</b>	33.4 kg   73.634 lb
<b>Weight, gross</b>	55.8 kg   123.018 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



## 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