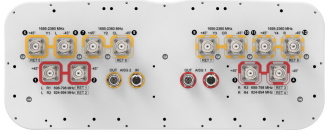


# NNH4-65C-R8D



8 ft, 12-Port Multiband Antenna, 4 x 698-894, 8 x 1695-2360 MHz, independent tilt for the 700 and 850 MHz bands through diplexing of the low band arrays, 8 x RETs

- Features broadband Low Band (698-894 MHz) and High Band (1695-2360 MHz) arrays for 4T4R (4X MIMO) capability for 700 and 850 MHz, AWS, PCS and WCS applications
- The Low Band array is diplexed, providing independent tilt for the 700 and 850 MHz bands for 4T4R (4X MIMO) capability when used with Dual Band radios
- Optimized SPR performance across all operating bands
- Excellent wind loading characteristics
- Low Band RET assigned to AISG1, Mid Band RET assigned to AISG2
- 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>Performance Note</b>	Outdoor usage
<b>Radome Material</b>	Fiberglass, UV resistant
<b>Radiator Material</b>	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, mid band</b>	8
<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
<b>Input Voltage</b>	10–30 Vdc
<b>Internal RET</b>	Low band (4)   Mid band (4)
<b>Power Consumption, active state, maximum</b>	8 W

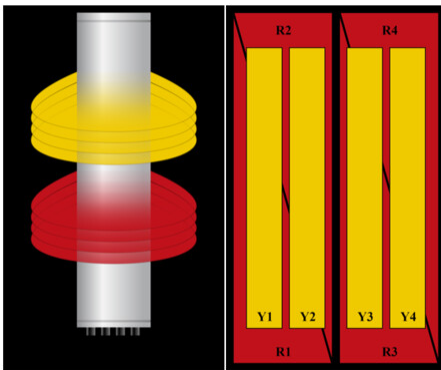
# NNH4-65C-R8D

**Power Consumption, idle state, maximum** 1 W  
**Protocol** 3GPP/AISG 2.0 (Multi-RET)

## Dimensions

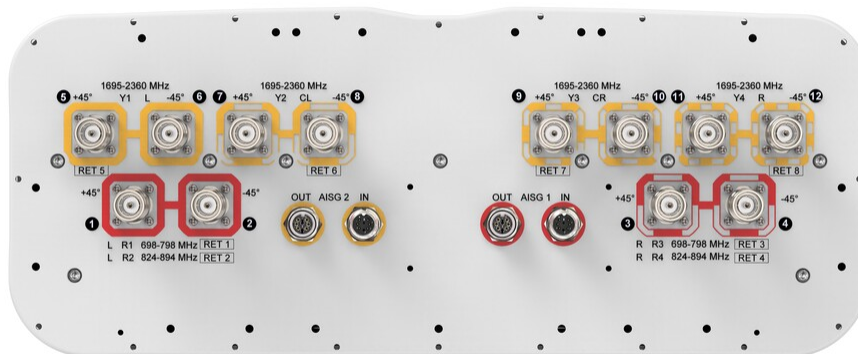
**Width** 498 mm | 19.606 in  
**Depth** 197 mm | 7.756 in  
**Length** 2438 mm | 95.984 in  
**Net Weight, antenna only** 59.5 kg | 131.175 lb

## Array Layout



Array ID	Frequency (MHz)	RF Connector	RET (MRET)	AISG No.	AISG RET UID
R1	698-798	1 - 2	1	AISG1	CPxxxxxxxxxxxxMM 1
R2	824-894	1 - 2	2	AISG1	CPxxxxxxxxxxxxMM 2
R3	698-798	3 - 4	3	AISG1	CPxxxxxxxxxxxxMM 3
R4	824-894	3 - 4	4	AISG1	CPxxxxxxxxxxxxMM 4
Y1	1695-2360	5 - 6	5	AISG2	CPxxxxxxxxxxxxMM 5
Y2	1695-2360	7 - 8	6	AISG2	CPxxxxxxxxxxxxMM 6
Y3	1695-2360	9 - 10	7	AISG2	CPxxxxxxxxxxxxMM 7
Y4	1695-2360	11 - 12	8	AISG2	CPxxxxxxxxxxxxMM 8

## Port Configuration



## Electrical Specifications

**Impedance** 50 ohm

# NNH4-65C-R8D

<b>Operating Frequency Band</b>	1695 – 2360 MHz   698 – 798 MHz   824 – 894 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	900 W @ 50 °C

## Electrical Specifications

	<b>R1,R3</b>	<b>R2,R4</b>	<b>Y1,Y2,Y3,Y4</b>	<b>Y1,Y2,Y3,Y4</b>	<b>Y1,Y2,Y3,Y4</b>	<b>Y1,Y2,Y3,Y4</b>
<b>Frequency Band, MHz</b>	<b>698–798</b>	<b>824–894</b>	<b>1695–1880</b>	<b>1850–1990</b>	<b>1920–2180</b>	<b>2300–2360</b>
<b>RF Port</b>	1,2,3,4	1,2,3,4	5,6,7,8,9,10,11,12	5,6,7,8,9,10,11,12	5,6,7,8,9,10,11,12	5,6,7,8,9,10,11,12
<b>Gain, dBi</b>	14.9	15.2	17.3	18	18.7	19
<b>Beamwidth, Horizontal, degrees</b>	58	61	68	67	61	58
<b>Beamwidth, Vertical, degrees</b>	9.5	8.4	5.7	5.2	4.9	4.4
<b>Beam Tilt, degrees</b>	0–10	0–10	0–10	0–10	0–10	0–10
<b>USLS (First Lobe), dB</b>	20	18	19	18	17	19
<b>Front-to-Back Ratio at 180°, dB</b>	30	29	34	32	32	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
<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>	150	150	250	250	250	200

## Electrical Specifications, BASTA

	<b>698–798</b>	<b>824–894</b>	<b>1695–1880</b>	<b>1850–1990</b>	<b>1920–2180</b>	<b>2300–2360</b>
<b>Frequency Band, MHz</b>	<b>698–798</b>	<b>824–894</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>	14.5	14.7	16.9	17.6	18.3	18.7
<b>Gain by all Beam Tilts Tolerance, dB</b>	±0.4	±0.5	±0.7	±0.6	±0.7	±0.4
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±4.5	±7.2	±7.7	±7.5	±6.1	±3.1
<b>Beamwidth, Vertical Tolerance, degrees</b>	±0.6	±0.5	±0.3	±0.2	±0.3	±0.1
<b>USLS, beampeak to 20° above beampeak, dB</b>	19	16	17	17	17	18
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	21	23	27	27	27	28

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<b>CPR at Boresight, dB</b>	23	20	21	22	23	18
<b>CPR at Sector, dB</b>	11	10	8	7	7	9

## Mechanical Specifications

<b>Effective Projective Area (EPA), frontal</b>	0.9 m <sup>2</sup>   9.688 ft <sup>2</sup>
<b>Effective Projective Area (EPA), lateral</b>	0.31 m <sup>2</sup>   3.337 ft <sup>2</sup>
<b>Wind Loading @ Velocity, frontal</b>	954.0 N @ 150 km/h (214.5 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	331.0 N @ 150 km/h (74.4 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	1,235.0 N @ 150 km/h (277.6 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	785.0 N @ 150 km/h (176.5 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>	2625 mm   103.347 in
<b>Weight, gross</b>	74 kg   163.142 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.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a>
ROHS	Compliant
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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