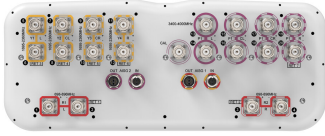


# NNH4S4-65B-R7



20-port sector antenna, 4x 698-896 and 8x 1695-2360 MHz, 65° HPBW, and 8 x 3400-4000 MHz, 90° HPBW, 7 x RET

- Multi-band FDD antenna featuring C-Band 8T8R functionality
- The C-band RET is factory set to AISG2. All other RET are assigned to AISG1
- Feature the same dimensions as existing 8 and 12-port FDD capable antennas
- New endcap designs provide improved wind loading performance

## General Specifications

<b>Antenna Type</b>	Sector- and beamforming
<b>Band</b>	Multiband
<b>Calibration Connector Interface</b>	4.3-10 Female
<b>Calibration Connector Quantity</b>	1
<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
<b>Radome Material</b>	Fiberglass, UV resistant
<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, mid band</b>	8
<b>RF Connector Quantity, low band</b>	4
<b>RF Connector Quantity, total</b>	20

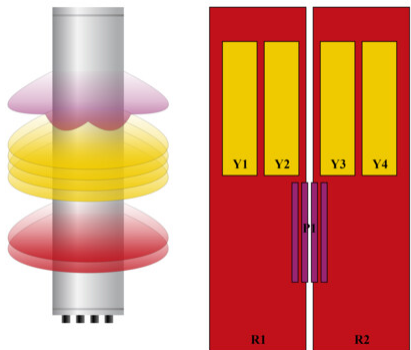
## Remote Electrical Tilt (RET) Information

<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>	High band (1)   Low band (2)   Mid band (4)
<b>Power Consumption, active state, maximum</b>	8 W

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<b>Power Consumption, idle state, maximum</b>	1 W
<b>Protocol</b>	3GPP/AISG 2.0
<b>Dimensions</b>	
<b>Width</b>	498 mm   19.606 in
<b>Depth</b>	197 mm   7.756 in
<b>Length</b>	1848 mm   72.756 in
<b>Net Weight, antenna only</b>	41.3 kg   91.051 lb
<b>TDD Column Spacing</b>	41 mm   1.614 in

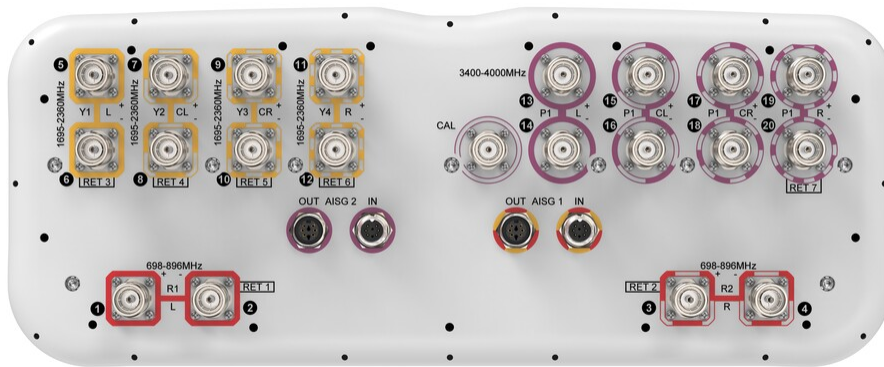
## Array Layout



Array ID	Frequency (MHz)	RF Connector	RET (MRET)	AISG No.	AISG RET UID
R1	698-896	1 - 2	1	AISG1	CPxxxxxxxxxxxxMM.1
R2	698-896	3 - 4	2	AISG1	CPxxxxxxxxxxxxMM.2
Y1	1695-2360	5 - 6	3	AISG1	CPxxxxxxxxxxxxMM.3
Y2	1695-2360	7 - 8	4	AISG1	CPxxxxxxxxxxxxMM.4
Y3	1695-2360	9 - 10	5	AISG1	CPxxxxxxxxxxxxMM.5
Y4	1695-2360	11 - 12	6	AISG1	CPxxxxxxxxxxxxMM.6
P1	3400-4200	13 - 20	7	AISG2	CPxxxxxxxxxxxxMM.1

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

## Port Configuration



## Electrical Specifications

<b>Impedance</b>	50 ohm
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<b>Operating Frequency Band</b>	1695 – 2360 MHz   3400 – 4000 MHz   698 – 896 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	1,500 W @ 50 °C

## Electrical Specifications

	<b>R1,R2</b>	<b>R1,R2</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>Y1,Y2,Y3,Y4</b>	<b>P1</b>
<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>3400–3800</b>	<b>3700–4000</b>
<b>RF Port</b>	1-4	1-4	5-12	5-12	5-12	5-12	13-20	13-20
<b>Gain, dBi</b>	14.1	15	15.6	16.2	16.6	16.8	16.1	16.3
<b>Beamwidth, Horizontal, degrees</b>	75	66	68	67	62	60	85	74
<b>Beamwidth, Vertical, degrees</b>	12.3	10.7	9.2	8.6	8.2	7.4	6	5.6
<b>Beam Tilt, degrees</b>	2–14	2–14	2–12	2–12	2–12	2–12	0–10	0–10
<b>USLS (First Lobe), dB</b>	18	17	16	17	16	18	16	15
<b>Front-to-Back Ratio at 180°, dB</b>	27	28	34	34	33	36	30	31
<b>Coupling level, Amp, Antenna port to Cal port, dB</b>							-26	-26
<b>Coupling level, max Amp Δ, Antenna port to Cal port, dB</b>							±2	±2
<b>Coupler, max Amp Δ, Antenna port to Cal port, dB</b>							0.6	0.6
<b>Coupler, max Phase Δ, Antenna port to Cal port, degrees</b>							5	5
<b>Isolation, Cross Polarization, dB</b>	25	25	25	25	25	25	25	25
<b>Isolation, Inter-band, dB</b>	25	25	25	25	25	25	25	25
<b>Isolation, Co-polarization, dB</b>							19	19
<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	1.5 14.0	1.5 14.0
<b>PIM, 3rd Order, 2 x 20 W, dBc</b>	-150	-150	-150	-150	-150	-150	-145	-145
<b>Input Power per Port at 50°C, maximum, watts</b>	300	300	250	250	250	200	75	75

## 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>3400–3800</b>	<b>3700–4000</b>
<b>Gain by all Beam Tilts, average, dBi</b>	13.7	14.6	15	15.7	16.2	16.6	15.4	15.7

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<b>Gain by all Beam Tilts Tolerance, dB</b>	±0.6	±0.4	±0.9	±0.7	±0.7	±0.4	±0.9	±0.7
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±5.9	±2.9	±6.1	±8.4	±6.7	±4.3	±21.7	±9.4
<b>Beamwidth, Vertical Tolerance, degrees</b>	±0.9	±0.6	±0.5	±0.4	±0.5	±0.3	±0.4	±0.4
<b>USLS, beampeak to 20° above beampeak, dB</b>	19	15	15	15	16	17	12	11
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	22	21	24	24	25	25	23	23
<b>CPR at Boresight, dB</b>	18	21	19	20	21	22	15	15
<b>CPR at Sector, dB</b>	14	9	9	7	8	9	7	7

## Electrical Specifications, Broadcast 65°

Frequency Band, MHz	3400–3800	3700–4000
<b>Gain, dBi</b>	17.9	18.5
<b>Beamwidth, Horizontal, degrees</b>	65	65
<b>Beamwidth, Vertical, degrees</b>	5.9	5.6
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	26	27
<b>USLS (First Lobe), dB</b>	19	20

## Electrical Specifications, Envelope Pattern

Frequency Band, MHz	3400–3800	3700–4000
<b>Gain, dBi</b>	21.1	21.3
<b>Beamwidth, Horizontal at 10 dB, degrees</b>	119	119
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	28	28
<b>USLS (First Lobe), dB</b>	22	22

## Electrical Specifications, Service Beam

Frequency Band, MHz	3400–3800	3700–4000
<b>Steered 0° Gain, dBi</b>	21.1	21.1
<b>Steered 0° Beamwidth, Horizontal, degrees</b>	24	25
<b>Steered 0° Front-to-Back Total Power at 180° ± 30°, dB</b>	31	30
<b>Steered 0° Horizontal</b>	13	12

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## Sidelobe, dB

<b>Steered 30° Gain, dBi</b>	19.7	20.3
<b>Steered 30° Beamwidth, Horizontal, degrees</b>	30	25
<b>Steered 30° Front-to-Back Total Power at 180° ± 30°, dB</b>	28	28

## Electrical Specifications, Soft Split

<b>Frequency Band, MHz</b>	<b>3400–3800</b>	<b>3700–4000</b>
<b>Gain, dBi</b>	19.7	20.1
<b>Beamwidth, Horizontal, degrees</b>	33	27
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	29	28
<b>Horizontal Sidelobe, dB</b>	15	15

## Mechanical Specifications

<b>Effective Projective Area (EPA), frontal</b>	0.59 m <sup>2</sup>   6.351 ft <sup>2</sup>
<b>Effective Projective Area (EPA), lateral</b>	0.18 m <sup>2</sup>   1.938 ft <sup>2</sup>
<b>Wind Loading @ Velocity, frontal</b>	629.0 N @ 150 km/h (141.4 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	191.0 N @ 150 km/h (42.9 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	755.0 N @ 150 km/h (169.7 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	433.0 N @ 150 km/h (97.3 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>	2035 mm   80.118 in
<b>Weight, gross</b>	52.6 kg   115.963 lb

## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
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.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a>

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ROHS Compliant

UK-ROHS Compliant



## Included Products

- BSAMNT-2F – Mounting bracket for cylindrical pipe installations (60-115mm pipe diameter) for fix mechanical tilt applications.

## \* Footnotes

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