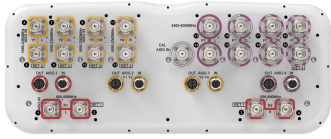


# NNH4S4-65C-R4B-V1



20 Port Sector Antenna & Beamforming , 4x698-896 MHz, 8x1695-2360 MHz, 65° HPBW and 8x3400-3550/3700-4000 MHz Beamformer, 4XRET

- Multi-band FDD antenna featuring C-Band 8T8R functionality
- Includes a separate RET for C-band array
- 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>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, 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>	4 female   4 male
<b>Input Voltage</b>	10-30 Vdc

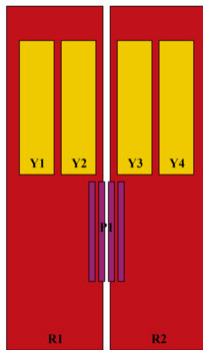
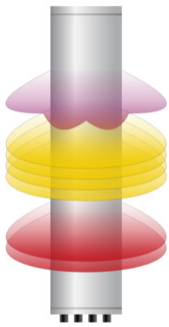
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<b>Internal Bias Tee</b>	Cal Port   Port 1   Port 5   Port 9
<b>Internal RET</b>	High band (1)   Low band (1)   Mid band (2)
<b>Power Consumption, active state, maximum</b>	10 W
<b>Power Consumption, idle state, maximum</b>	2 W
<b>Protocol</b>	3GPP/AISG 2.0

## Dimensions

<b>Width</b>	498 mm   19.606 in
<b>Depth</b>	197 mm   7.756 in
<b>Length</b>	2438 mm   95.984 in
<b>Net Weight, antenna only</b>	53 kg   116.845 lb

## Array Layout

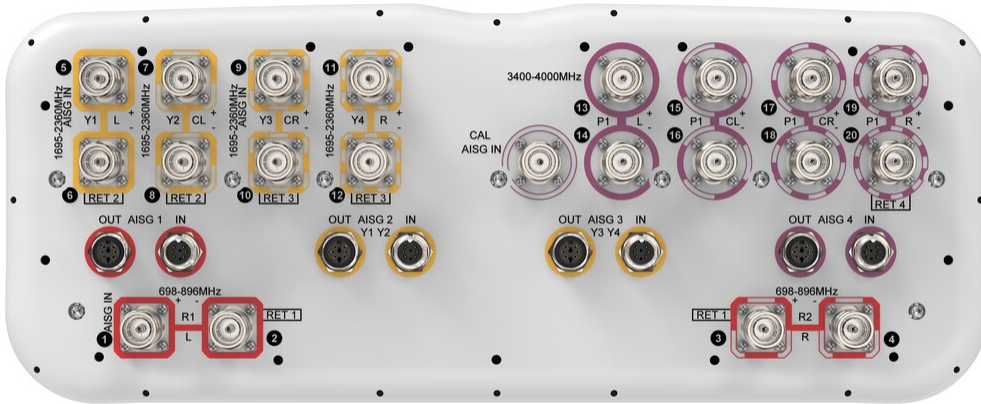


Array ID	Frequency (MHz)	RF Connector	RET (SRET)	AISG No.	AISG RET UID
R1	698-896	1 - 2	1	AISG1	CPxxxxxxxxxxxxxxxxR1
R2	698-896	3 - 4			
Y1	1695-2360	5 - 6	2	AISG2	CPxxxxxxxxxxxxxxxxY1
Y2	1695-2360	7 - 8			
Y3	1695-2360	9 - 10	3	AISG3	CPxxxxxxxxxxxxxxxxY3
Y4	1695-2360	11 - 12			
P1	3400-4000	13 - 20	4	AISG4	CPxxxxxxxxxxxxxxxxP1

(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   3400 – 4000 MHz   698 – 896 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	1,500 W @ 50 °C

## Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360	3400–3550	3700–4000
<b>Gain, dBi</b>	15.6	16	17	17.5	18.1	18.6	15.6	17.1
<b>Beamwidth, Horizontal, degrees</b>	71	64	71	69	63	56	102	79
<b>Beamwidth, Vertical, degrees</b>	9.5	8.3	5.9	5.5	5.2	4.6	6.3	5.7
<b>Beam Tilt, degrees</b>	0–10	0–10	0–10	0–10	0–10	0–10	0–10	0–10
<b>USLS (First Lobe), dB</b>	15	15	17	17	17	17	16	16
<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,</b>	25	25	25	25	25	25	25	25

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dB

<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>	-153	-153	-153	-153	-153	-153	-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>3400–3550</b>	<b>3700–4000</b>
<b>Gain by all Beam Tilts, average, dBi</b>	15.2	15.8	16.5	17.1	17.7	18.3	15.1	16.4
<b>Gain by all Beam Tilts Tolerance, dB</b>	±1.6	±1.6	±1.6	±1.6	±1.6	±1.6	±1.6	±1.6
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	23	23	27	27	28	27	23	24
<b>CPR at Boresight, dB</b>	21	23	20	22	23	22	16	15
<b>CPR at Sector, dB</b>	14	9	12	12	9	7	5	7

## Electrical Specifications, Broadcast 65°

<b>Frequency Band, MHz</b>	<b>3400–3550</b>	<b>3700–4000</b>
<b>Gain, dBi</b>	17.8	18.9
<b>Beamwidth, Horizontal, degrees</b>	47.9	42
<b>Beamwidth, Vertical, degrees</b>	6.3	5.7
<b>Beamwidth, Vertical Tolerance, degrees</b>	±0.2	±0.3
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	26.4	26.5
<b>USLS (First Lobe), dB</b>	18	17

## Electrical Specifications, Envelope Pattern

<b>Frequency Band, MHz</b>	<b>3400–3550</b>	<b>3700–4000</b>
<b>Gain, dBi</b>	20.6	21.7

## Electrical Specifications, Service Beam

<b>Frequency Band, MHz</b>	<b>3400–3550</b>	<b>3700–4000</b>
<b>Steered 0° Gain, dBi</b>	20.5	21.7
<b>Steered 0° Beamwidth,</b>	26	24

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## Horizontal, degrees

<b>Steered 0° Front-to-Back Total Power at 180° ± 30°, dB</b>	29	30
<b>Steered 30° Gain, dBi</b>	19.2	20.3
<b>Steered 30° Beamwidth, Horizontal, degrees</b>	34	29
<b>Steered 30° Front-to-Back Total Power at 180° ± 30°, dB</b>	29	28

## Electrical Specifications, Soft Split

<b>Frequency Band, MHz</b>	<b>3400–3550</b>	<b>3700–4000</b>
<b>Gain, dBi</b>	19.2	20.3
<b>Beamwidth, Horizontal, degrees</b>	38	30
<b>Horizontal Sidelobe, dB</b>	16	15
<b>USLS (First Lobe), dB</b>	19	18

## Mechanical Specifications

<b>Wind Loading @ Velocity, frontal</b>	865.0 N @ 150 km/h (194.5 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	268.0 N @ 150 km/h (60.2 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	1,037.0 N @ 150 km/h (233.1 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	595.0 N @ 150 km/h (133.8 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>	2685 mm   105.709 in
<b>Weight, gross</b>	72.9 kg   160.717 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
UK-ROHS	Compliant/Exempted

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## 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