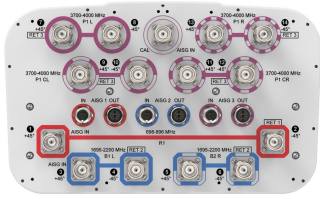


# NHHS4-65C-R3B



14 Port Sector Antenna, 2x698-896 MHz, 4x1695-2200 MHz 65 deg HPBW, and 8x3700-4000 MHz Beamformer, 3XRET

## 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>	4
<b>RF Connector Quantity, low band</b>	2
<b>RF Connector Quantity, total</b>	14

## Remote Electrical Tilt (RET) Information

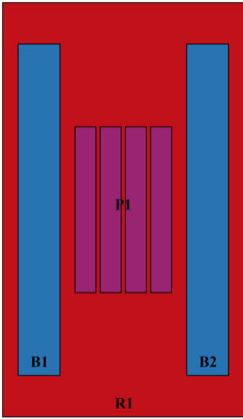
<b>RET Hardware</b>	CommRET v2
<b>RET Interface</b>	8-pin DIN Female   8-pin DIN Male
<b>RET Interface, quantity</b>	3 female   3 male
<b>Input Voltage</b>	10–30 Vdc
<b>Internal Bias Tee</b>	Cal Port   Port 1   Port 3
<b>Internal RET</b>	High band (1)   Low band (1)   Mid band (1)
<b>Protocol</b>	3GPP/AISG 2.0

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## Dimensions

<b>Width</b>	350 mm   13.78 in
<b>Depth</b>	208 mm   8.189 in
<b>Length</b>	2438 mm   95.984 in
<b>Net Weight, antenna only</b>	32.7 kg   72.091 lb

## Array Layout

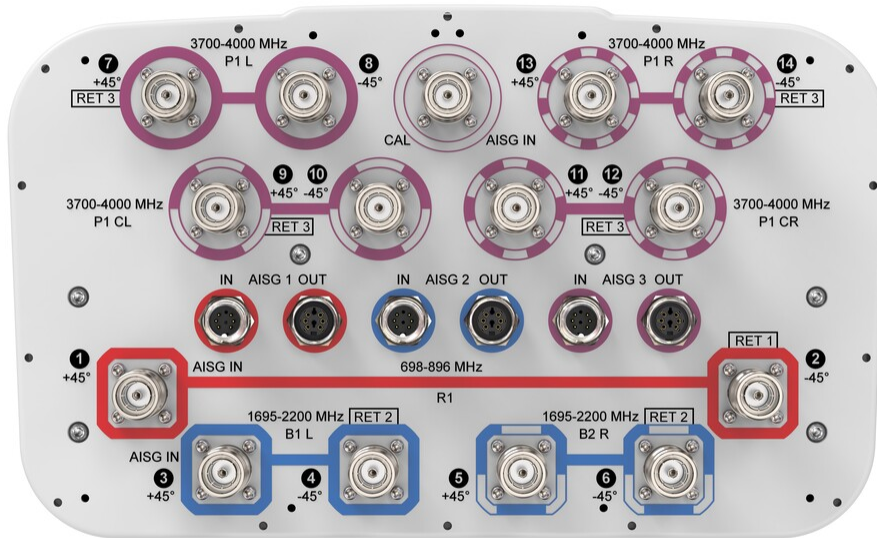


Array ID	Frequency (MHz)	RF Connector	RET (SRET)	AISG RET UID
R1	698-896	1 - 2	1	CPxxxxxxxxxxxxR1
B1	1695-2200	3 - 4	2	CPxxxxxxxxxxxxB1
B2	1695-2200	5 - 6		
P1	3700-4000	7 - 14	3	CPxxxxxxxxxxxxP1

(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 – 2200 MHz   3700 – 4000 MHz   698 – 896 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	1,040 W @ 50 °C

## Electrical Specifications

	<b>R1</b>	<b>R1</b>	<b>B1,B2</b>	<b>B1,B2</b>	<b>B1,B2</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>1920–2200</b>	<b>3700–4000</b>
<b>RF Port</b>	1-2	1-2	3-6	3-6	3-6	7-14
<b>Gain, dBi</b>	16	16	17.8	18.2	18.2	16.3
<b>Beamwidth, Horizontal, degrees</b>	65	63	62	61	65	79
<b>Beamwidth, Vertical, degrees</b>	9.6	8.6	5.5	5.2	5	5.7
<b>Beam Tilt, degrees</b>	0–11	0–11	0–10	0–10	0–10	0–10
<b>USLS (First Lobe), dB</b>	20	19	19	22	24	13
<b>Front-to-Back Ratio at 180°, dB</b>	39	31	33	37	37	31

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Coupling level, Amp, Antenna port to Cal port, dB						26
Coupling level, max Amp $\Delta$ , Antenna port to Cal port, dB						$\pm 2$
Coupler, max Amp $\Delta$ , Antenna port to Cal port, dB						0.5
Coupler, max Phase $\Delta$ , Antenna port to Cal port, degrees						5
Isolation, Cross Polarization, dB	25	25	25	25	25	25
Isolation, Inter-band, dB	25	25	25	25	25	25
Isolation, Co-polarization, dB						19
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	-145
Input Power per Port at 50°C, maximum, watts	300	300	250	250	250	75

## Electrical Specifications, BASTA

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	3700–4000
Gain by all Beam Tilts, average, dBi	15.7	15.9	17.4	17.9	18	15.6
Gain by all Beam Tilts Tolerance, dB	$\pm 0.3$	$\pm 0.3$	$\pm 0.7$	$\pm 0.2$	$\pm 0.3$	$\pm 0.9$
Beamwidth, Horizontal Tolerance, degrees	$\pm 3$	$\pm 3$	$\pm 7$	$\pm 6$	$\pm 5$	$\pm 19$
Beamwidth, Vertical Tolerance, degrees	$\pm 0.4$	$\pm 0.4$	$\pm 0.3$	$\pm 0.2$	$\pm 0.3$	$\pm 0.4$
Front-to-Back Total Power at 180° $\pm$ 30°, dB	29	26	26	30	30	23
CPR at Boresight, dB	23	17	19	22	24	14
CPR at Sector, dB	12	11	10	11	10	5

## Electrical Specifications, Broadcast 65°

Frequency Band, MHz	3700–4000
Gain, dBi	17.1
Beamwidth, Horizontal, degrees	65
Beamwidth, Vertical, degrees	5.7
Beamwidth, Vertical	$\pm 0.3$

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## Tolerance, degrees

**USLS (First Lobe), dB** 15

## Electrical Specifications, Envelope Pattern

**Frequency Band, MHz** 3700–4000

**Gain, dBi** 20.8

## Electrical Specifications, Service Beam

**Frequency Band, MHz** 3700–4000

**Steered 0° Gain, dBi** 20.9

**Steered 0° Gain Tolerance, dBi** ±0.5

**Steered 0° Beamwidth,  
Horizontal, degrees** 22

**Steered 0° Front-to-Back  
Total Power at 180° ± 30°, dB** 29

**Steered 0° Horizontal  
Sidelobe, dB** 13

**Steered 30° Gain, dBi** 19.8

**Steered 30° Gain Tolerance,  
dBi** ±0.8

**Steered 30° Beamwidth,  
Horizontal, degrees** 27

**Steered 30° Front-to-Back  
Total Power at 180° ± 30°, dB** 28

## Electrical Specifications, Soft Split

**Frequency Band, MHz** 3700–4000

**Gain, dBi** 19.2

**Beamwidth, Horizontal,  
degrees** 32

**Front-to-Back Total Power at  
180° ± 30°, dB** 28

**Horizontal Sidelobe, dB** 16

## Mechanical Specifications

**Wind Loading @ Velocity, frontal** 425.0 N @ 150 km/h (95.5 lbf @ 150 km/h)

**Wind Loading @ Velocity, lateral** 361.0 N @ 150 km/h (81.2 lbf @ 150 km/h)

**Wind Loading @ Velocity, maximum** 899.0 N @ 150 km/h (202.1 lbf @ 150 km/h)

**Wind Loading @ Velocity, rear** 451.0 N @ 150 km/h (101.4 lbf @ 150 km/h)

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**Wind Speed, maximum** 241 km/h (150 mph)

## Packaging and Weights

**Width, packed** 456 mm | 17.953 in  
**Depth, packed** 357 mm | 14.055 in  
**Length, packed** 2585 mm | 101.772 in  
**Weight, gross** 46.5 kg | 102.515 lb

## Regulatory Compliance/Certifications

Agency	Classification
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-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.

## \* Footnotes

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