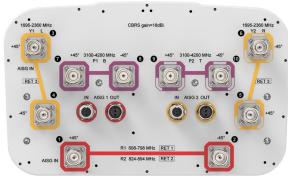


# NHHSS-65C-R3BDT4



10-port sector antenna, 2x 698-894, 4x 1695-2360 and 4x 3100-4200 MHz, 65° HPBW, 3x RETs and 2x SBTs

- Perfect antenna to add 3.5GHz CBRS to macro sites
- 18dBi max CBRS gain to align with FCC max EIRP limitations
- Internal SBT on low and mid band allow remote RET control from the radio over the RF jumper cable
- Separate RS-485 RET input/output for low and mid band
- Interleaved dipole technology providing for attractive, low wind load mechanical package
- Two LB RET and one MB RET. Both mid bands are controlled by one RET to ensure same tilt level for 4x MIMO
- The low band array is internally diplexed for an independent tilt at 700 MHz and 850 MHz

## General Specifications

<b>Antenna Type</b>	Sector with internal RET and bias tee
<b>Band</b>	Multiband
<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>	4
<b>RF Connector Quantity, mid band</b>	4
<b>RF Connector Quantity, low band</b>	2
<b>RF Connector Quantity, total</b>	10

## 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

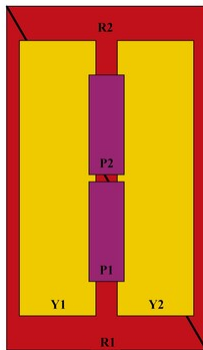
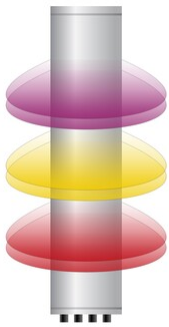
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<b>Internal Bias Tee</b>	Port 1   Port 3
<b>Internal RET</b>	Low band (2)   Mid band (1)
<b>Power Consumption, active state, maximum</b>	10 W
<b>Power Consumption, idle state, maximum</b>	2 W
<b>Protocol</b>	3GPP/AISG 2.0

## Dimensions

<b>Width</b>	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>	41 kg   90.389 lb

## Array Layout

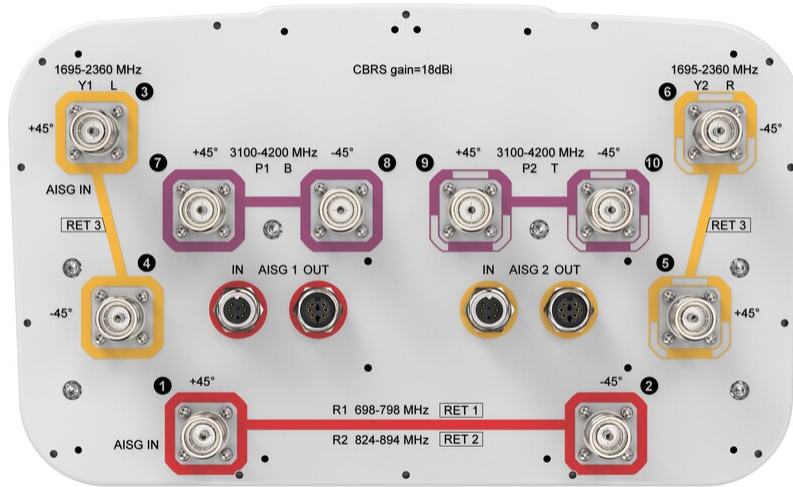


Array ID	Frequency (MHz)	RF Connector	RET (SRET)	AISG No.	AISG RET UID
R1	698-894	1 - 2	1	AISG1	CPxxxxxxxxxxxxxxxxR1
R2	698-894	1 - 2	2	AISG1	CPxxxxxxxxxxxxxxxxR2
Y1	1695-2360	3 - 4	3	AISG2	CPxxxxxxxxxxxxxxxxY1
Y2	1695-2360	5 - 6			
P1	3100-4200	7 - 8	N/A	NA	N/A
P2	3100-4200	9 - 10			

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

## Port Configuration

# NHHSS-65C-R3BDT4



## Electrical Specifications

<b>Impedance</b>	50 ohm
<b>Operating Frequency Band</b>	1695 – 2360 MHz   3100 – 4200 MHz   698 – 798 MHz   824 – 894 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	900 W @ 50 °C

## Electrical Specifications

	R1	R2	Y1,Y2	Y1,Y2	Y1,Y2	Y1,Y2	P1,P2	P1,P2	P1,P2
<b>Frequency Band, MHz</b>	<b>698–798</b>	<b>824–894</b>	<b>1695–1880</b>	<b>1850–1990</b>	<b>1920–2200</b>	<b>2200–2360</b>	<b>3100–3550</b>	<b>3550–3700</b>	<b>3700–4200</b>
<b>RF Port</b>	1,2	1,2	3,4,5,6	3,4,5,6	3,4,5,6	3,4,5,6	7,8,9,10	7,8,9,10	7,8,9,10
<b>Gain, dBi</b>	15.8	15.9	18.3	18.6	18.6	18.7	17.7	17.9	17.8
<b>Beamwidth, Horizontal, degrees</b>	63	61	62	57	61	69	57	54	60
<b>Beamwidth, Vertical, degrees</b>	8.8	7.8	5.4	5	4.7	5	5.6	5.2	5
<b>Beam Tilt, degrees</b>	0–11	0–11	0–10	0–10	0–10	0–10	4	4	4
<b>USLS (First Lobe), dB</b>	18	16	17	19	20	21	16	18	18
<b>Front-to-Back Ratio at 180°, dB</b>	33	34	26	28	29	33	31	29	25

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<b>Isolation, Cross Polarization, dB</b>	25	25	25	25	25	25	25	25	25
<b>Isolation, Inter-band, dB</b>	28	28	25	25	25	25	28	28	28
<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	1.5 14.0
<b>PIM, 3rd Order, 2 x 20 W, dBc</b>	-153	-153	-153	-153	-153	-153	-145	-145	-145
<b>Input Power per Port at 50°C, maximum, watts</b>	150	150	250	250	250	200	100	100	100

## Electrical Specifications, BASTA

<b>Frequency Band, MHz</b>	<b>698–798</b>	<b>824–894</b>	<b>1695–1880</b>	<b>1850–1990</b>	<b>1920–2200</b>	<b>2200–2360</b>	<b>3100–3550</b>	<b>3550–3700</b>	<b>3700–4200</b>
<b>Gain by all Beam Tilts, average, dBi</b>	15.4	15.5	17.7	18.3	18.3	18.3	17.1	17.6	17.1
<b>Gain by all Beam Tilts Tolerance, dB</b>	±0.4	±0.5	±0.8	±0.5	±0.5	±0.6	±0.7	±0.5	±1
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±2	±2	±6	±2	±7	±5	±8	±9	±11
<b>Beamwidth, Vertical Tolerance, degrees</b>	±0.5	±0.5	±0.3	±0.2	±0.3	±0.3	±0.4	±0.2	±0.2
<b>USLS, beampeak to 20° above beampeak, dB</b>	16	15	16	17	17	16	16	16	14
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	29	29	25	26	26	29	28	27	24
<b>CPR at Boresight, dB</b>	23	24	15	21	23	21	18	14	16
<b>CPR at Sector, dB</b>	14	8	6	5	6	8	8	8	6

## Mechanical Specifications

<b>Wind Loading @ Velocity, frontal</b>	425.0 N @ 150 km/h (95.5 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	361.0 N @ 150 km/h (81.2 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	900.0 N @ 150 km/h (202.3 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	451.0 N @ 150 km/h (101.4 lbf @ 150 km/h)
<b>Wind Speed, maximum</b>	241 km/h (150 mph)

## Packaging and Weights

<b>Width, packed</b>	456 mm   17.953 in
<b>Depth, packed</b>	357 mm   14.055 in
<b>Length, packed</b>	2585 mm   101.772 in
<b>Weight, gross</b>	56 kg   123.459 lb

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## Regulatory Compliance/Certifications

### Agency

ISO 9001:2015



### Classification

Designed, manufactured and/or distributed under this quality management system

## Included Products

BSAMNT-4

- 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