

# 2NN2HH-33C-R4



16-port multibeam antenna, 8x 698–896 MHz, 2x 2-beam 33° HPBW and 8x 1695–2400 MHz, 2x 2-beam 33° HPBW, 4x RET

- Provides 4T4R capability in low and mid bands
- Full spectrum operation for Band 14, AWS, PCS and WCS bands
- Twin beam patterns are optimized for minimum beam crossover providing for improved LTE data throughput
- Excellent Front-to-Back and SPR performance

## General Specifications

<b>Antenna Type</b>	Multibeam
<b>Band</b>	Multiband
<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, mid band</b>	8
<b>RF Connector Quantity, low band</b>	8
<b>RF Connector Quantity, total</b>	16

## Remote Electrical Tilt (RET) Information

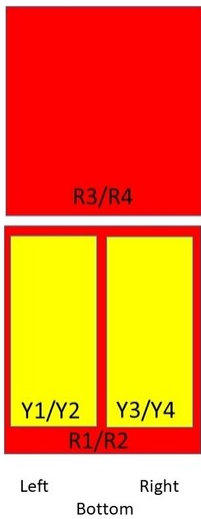
<b>RET Hardware</b>	CommRET v2
<b>RET Interface</b>	8-pin DIN Female   8-pin DIN Male
<b>RET Interface, quantity</b>	1 female   1 male
<b>Input Voltage</b>	10–30 Vdc
<b>Internal RET</b>	Low band (2)   Mid band (2)
<b>Power Consumption, active state, maximum</b>	10 W
<b>Power Consumption, idle state, maximum</b>	2 W
<b>Power Consumption, normal conditions, maximum</b>	10 W
<b>Protocol</b>	3GPP/AISG 2.0 (Multi-RET)

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## Dimensions

<b>Width</b>	640 mm   25.197 in
<b>Depth</b>	235 mm   9.252 in
<b>Length</b>	2437 mm   95.945 in
<b>Net Weight, antenna only</b>	66.7 kg   147.048 lb

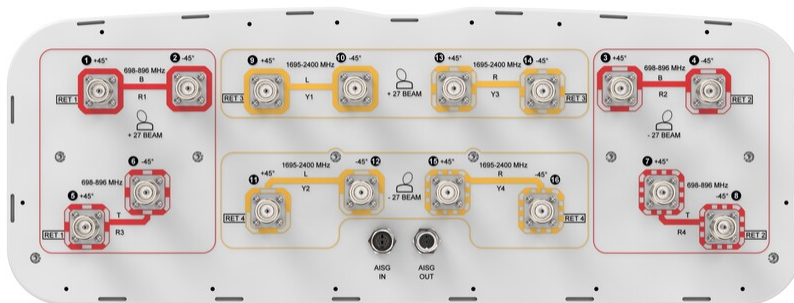
## Array Layout



Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
R1	698-896	1-2	1	CPxxxxxxxxxxxxxxxxMM1
R3	698-896	5-6		
R2	698-896	3-4	2	CPxxxxxxxxxxxxxxxxMM2
R4	698-896	7-8		
Y1	1695-2400	9-10	3	CPxxxxxxxxxxxxxxxxMM3
Y3	1695-2400	13-14		
Y2	1695-2400	11-12	4	CPxxxxxxxxxxxxxxxxMM4
Y4	1695-2400	15-16		

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

## Port Configuration



## Electrical Specifications

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<b>Impedance</b>	50 ohm
<b>Operating Frequency Band</b>	1695 – 2400 MHz   698 – 896 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	1,500 W @ 50 °C

## Electrical Specifications

	<b>R1-R4</b>	<b>R1-R4</b>	<b>Y1-Y6</b>	<b>Y1-Y6</b>	<b>Y1-Y6</b>	<b>Y1-Y6</b>
<b>Frequency Band, MHz</b>	<b>698–806</b>	<b>824–896</b>	<b>1695–1880</b>	<b>1850–1990</b>	<b>1920–2200</b>	<b>2300–2400</b>
<b>RF Port</b>	1-8	1-8	9-16	9-16	9-16	9-16
<b>Gain, dBi</b>	14.8	16	17.7	18.3	19.1	19.1
<b>Beam Centers, Horizontal, degrees</b>	±27	±27	±27	±27	±27	±27
<b>Beamwidth, Horizontal, degrees</b>	43	36	35	33	32	28
<b>Beamwidth, Vertical, degrees</b>	18.8	16.7	7.7	7.3	7	6.4
<b>Beam Tilt, degrees</b>	2–16	2–16	2–12	2–12	2–12	2–12
<b>Horizontal Sidelobe, dB</b>	13	12	16	18	19	16
<b>USLS (First Lobe), dB</b>	17	18	18	21	22	20
<b>Front-to-Back Ratio at 180°, dB</b>	29	29	33	34	35	32
<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>	1.46   14.5	1.46   14.5	1.46   14.5	1.46   14.5	1.46   14.5	1.46   14.5
<b>PIM, 3rd Order, 2 x 20 W, dBc</b>	-153	-153	-153	-153	-153	-153
<b>Input Power per Port at 50°C, maximum, watts</b>	200	200	200	200	200	150

## Mechanical Specifications

<b>Effective Projective Area (EPA), frontal</b>	0.99 m <sup>2</sup>   10.656 ft <sup>2</sup>
<b>Effective Projective Area (EPA), lateral</b>	0.33 m <sup>2</sup>   3.552 ft <sup>2</sup>
<b>Wind Loading @ Velocity, frontal</b>	1,055.0 N @ 150 km/h (237.2 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	355.0 N @ 150 km/h (79.8 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	1,433.0 N @ 150 km/h (322.2 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	1,086.0 N @ 150 km/h (244.1 lbf @ 150 km/h)
<b>Wind Speed, maximum</b>	241.4 km/h (150 mph)

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## Packaging and Weights

<b>Width, packed</b>	752 mm   29.606 in
<b>Depth, packed</b>	382 mm   15.039 in
<b>Length, packed</b>	2590 mm   101.969 in
<b>Weight, gross</b>	93.4 kg   205.912 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



## 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.
BSAMNT-M4	-	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

<b>Performance Note</b>	Severe environmental conditions may degrade optimum performance
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