

NNHH-65C-R4



8-port sector antenna, 4x 698–896 and 4x 1695–2360 MHz, 65° HPBW, 4x RETs

- Array configuration provides capability for 4T4R (4x MIMO) on Low band and High band
- Optimized SPR performance across all operating bands
- Excellent wind loading characteristics
- The antenna is supplied with mounting kits that provide 0 degree of mechanical downtilt; optional downtilt mounting kits are available

General Specifications

Antenna Type	Sector
Band	Multiband
Color	Light Gray (RAL 7035)
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Performance Note	Outdoor usage Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN
Radome Material	Fiberglass, UV resistant
Radiator Material	Aluminum Low loss circuit board
Reflector Material	Aluminum
RF Connector Interface	4.3-10 Female
RF Connector Location	Bottom
RF Connector Quantity, high band	4
RF Connector Quantity, low band	4
RF Connector Quantity, total	8

Remote Electrical Tilt (RET) Information

RET Hardware	CommRET v2
RET Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	1 female 1 male
Input Voltage	10–30 Vdc
Internal RET	High band (2) Low band (2)
Power Consumption, idle state, maximum	1 W
Power Consumption, normal conditions, maximum	8 W

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Protocol 3GPP/AISG 2.0 (Multi-RET)

Dimensions

Width 498 mm | 19.606 in

Depth 197 mm | 7.756 in

Length 2438 mm | 95.984 in

Net Weight, without mounting kit 39.3 kg | 86.642 lb

Array Layout



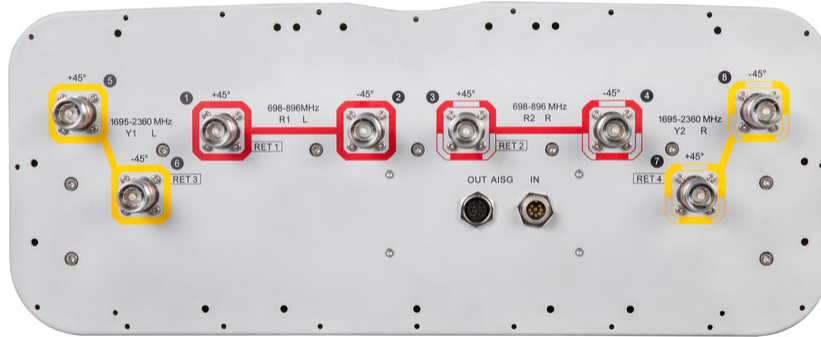
Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
R1	698-896	1-2	1	CPxxxxxxxxxxxxxxxxmm.1
R2	698-896	3-4	2	CPxxxxxxxxxxxxxxxxmm.2
Y1	1695-2360	5-6	3	CPxxxxxxxxxxxxxxxxmm.3
Y2	1695-2360	7-8	4	CPxxxxxxxxxxxxxxxxmm.4

Left Right
Bottom

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

Port Configuration

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Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1695 – 2360 MHz 698 – 896 MHz
Polarization	±45°
Total Input Power, maximum	900 W @ 50 °C

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360
Gain, dBi	15.6	16.1	18.3	19	19.2	19.1
Beamwidth, Horizontal, degrees	75	69	63	56	58	62
Beamwidth, Vertical, degrees	9.9	8.7	5.4	5	4.8	4.3
Beam Tilt, degrees	2–12	2–12	2–12	2–12	2–12	2–12
USLS (First Lobe), dB	21	18	17	18	20	20
Front-to-Back Ratio at 180°, dB	29	28	36	40	38	35
Isolation, Cross Polarization, dB	25	25	25	25	25	25
Isolation, Inter-band, dB	25	25	25	25	25	25
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

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PIM, 3rd Order, 2 x 20 W, dBc	-150	-150	-150	-150	-150	-150
Input Power per Port at 50°C, maximum, watts	300	300	250	250	250	200

Electrical Specifications, BASTA

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360
Gain by all Beam Tilts, average, dBi	15.3	15.8	17.8	18.7	18.9	18.9
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.3	±0.5	±0.4	±0.3	±0.3
Gain by Beam Tilt, average, dBi	2° 15.2 7° 15.4 12° 15.2	2° 15.9 7° 15.9 12° 15.6	2° 17.8 7° 18.0 12° 17.7	2° 18.6 7° 18.9 12° 18.6	2° 18.8 7° 19.1 12° 18.7	2° 18.7 7° 19.0 12° 18.8
Beamwidth, Horizontal Tolerance, degrees	±3	±2.8	±4.6	±4.1	±6.3	±2.3
Beamwidth, Vertical Tolerance, degrees	±0.6	±0.6	±0.3	±0.2	±0.3	±0.1
USLS, beampeak to 20° above beampeak, dB	18	14	16	17	18	17
Front-to-Back Total Power at 180° ± 30°, dB	20	21	29	32	31	28
CPR at Boresight, dB	21	21	19	23	23	22
CPR at Sector, dB	10	6	6	8	7	8

Mechanical Specifications

Effective Projective Area (EPA), frontal	0.9 m ² 9.688 ft ²
Effective Projective Area (EPA), lateral	0.31 m ² 3.337 ft ²
Mechanical Tilt Range	0°–10°
Wind Loading @ Velocity, frontal	954.0 N @ 150 km/h (214.5 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	331.0 N @ 150 km/h (74.4 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	1,235.0 N @ 150 km/h (277.6 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	785.0 N @ 150 km/h (176.5 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h (150 mph)

Packaging and Weights

Width, packed	565 mm 22.244 in
Depth, packed	309 mm 12.165 in
Length, packed	2625 mm 103.347 in

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Weight, gross

53.8 kg | 118.609 lb

Regulatory Compliance/Certifications

Agency	Classification
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



Included Products

- BSAMNT-3F – 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