

NNHH-65A-R4



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

- Ideal for 4T4R applications
- Excellent wind loading characteristics
- Array configuration provides capability for 4T4R (4x MIMO) on Low band and High band
- Optimized SPR performance across all operating bands
- 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

NNHH-65A-R4

Power Consumption, normal conditions, maximum 8 W
Protocol 3GPP/AISG 2.0 (Multi-RET)

Dimensions

Width 498 mm | 19.606 in
Depth 197 mm | 7.756 in
Length 1400 mm | 55.118 in
Net Weight, without mounting kit 31 kg | 68.343 lb

Array Layout



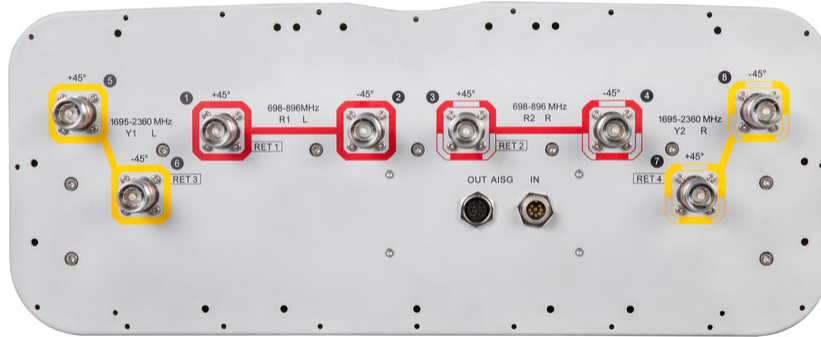
Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
R1	698-896	1-2	1	CPxxxxxxxxxxxxxxxxmm.1
R2	698-896	3-4	2	CPxxxxxxxxxxxxxxxxmm.2
Y1	1695-2360	5-6	3	CPxxxxxxxxxxxxxxxxmm.3
Y2	1695-2360	7-8	4	CPxxxxxxxxxxxxxxxxmm.4

Left Right
Bottom

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

Port Configuration

NNHH-65A-R4



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	13.4	13.9	17.2	17.7	17.8	18.3
Beamwidth, Horizontal, degrees	71	63	59	60	62	60
Beamwidth, Vertical, degrees	16.6	14.7	7.3	6.9	6.5	5.9
Beam Tilt, degrees	2–16	2–16	2–12	2–12	2–12	2–12
USLS (First Lobe), dB	18	19	16	17	18	20
Front-to-Back Ratio at 180°, dB	27	29	35	36	37	37
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

NNHH-65A-R4

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	13.1	13.6	16.8	17.5	17.6	18
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.5	±0.7	±0.4	±0.3	±0.5
Gain by Beam Tilt, average, dBi	2° 13.2 9° 13.1 16° 13.0	2° 13.7 9° 13.7 16° 13.3	2° 16.8 7° 16.9 12° 16.6	2° 17.7 7° 17.6 12° 17.3	2° 17.5 7° 17.8 12° 17.4	2° 17.9 7° 18.2 12° 17.5
Beamwidth, Horizontal Tolerance, degrees	±4.7	±4.4	±3.6	±1.7	±3.4	±4.8
Beamwidth, Vertical Tolerance, degrees	±1.3	±0.9	±0.5	±0.4	±0.4	±0.3
USLS, beampeak to 20° above beampeak, dB	20	19	14	14	16	14
Front-to-Back Total Power at 180° ± 30°, dB	22	20	29	31	29	29
CPR at Boresight, dB	21	23	17	20	20	17
CPR at Sector, dB	10	4	9	10	8	9

Mechanical Specifications

Effective Projective Area (EPA), frontal	0.48 m ² 5.167 ft ²
Effective Projective Area (EPA), lateral	0.16 m ² 1.722 ft ²
Mechanical Tilt Range	0°–15°
Wind Loading @ Velocity, frontal	509.0 N @ 150 km/h (114.4 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	169.0 N @ 150 km/h (38.0 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	660.0 N @ 150 km/h (148.4 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	419.0 N @ 150 km/h (94.2 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h (150 mph)

Packaging and Weights

Width, packed	608 mm 23.937 in
Depth, packed	352 mm 13.858 in
Length, packed	1582 mm 62.283 in

NNHH-65A-R4

Weight, gross

41 kg | 90.389 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-2F

- 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