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

General Specifications

Antenna Type	Sector
Band	Multiband
Color	Light gray
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
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, General

RET Hardware	CommRET v2
RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	1 female | 1 male

Dimensions

Width	498 mm | 19.606 in

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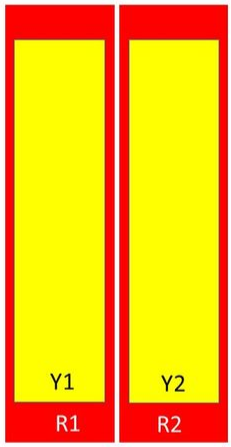
Length	2438 mm | 95.984 in
Depth	197 mm | 7.756 in

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

(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

Remote Electrical Tilt (RET) Information, Electrical

Protocol	3GPP/AISG 2.0 (Multi-RET)
Power Consumption, idle state, maximum	1 W
Power Consumption, normal conditions, maximum	8 W
Input Voltage	10–30 Vdc
Internal RET	High band (2) | Low band (2)

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Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360
Gain, dBi	15.7	16.1	18.3	18.8	19.1	19.3
Beamwidth, Horizontal, degrees	73	71	58	59	61	59
Beamwidth, Vertical, degrees	9.8	8.6	5.4	5	4.7	4.2
Beam Tilt, degrees	2–12	2–12	2–12	2–12	2–12	2–12
USLS (First Lobe), dB	20	20	19	19	20	20
Front-to-Back Ratio at 180°, dB	28	32	37	38	39	36
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
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	15.9	17.9	18.6	18.8	19
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.5	±0.8	±0.3	±0.4	±0.4
Gain by Beam Tilt, average, dBi	2 ° | 15.2 7 ° | 15.4 12 ° | 15.2	2 ° | 15.7 7 ° | 16.0 12 ° | 15.8	2 ° | 17.6 7 ° | 18.0 12 ° | 17.8	2 ° | 18.4 7 ° | 18.7 12 ° | 18.5	2 ° | 18.5 7 ° | 19.0 12 ° | 18.7	2 ° | 18.8 7 ° | 19.1 12 ° | 18.8
Beamwidth, Horizontal Tolerance, degrees	±3	±3.3	±4.4	±2.8	±3.6	±4.9
Beamwidth, Vertical Tolerance, degrees	±0.7	±0.6	±0.3	±0.2	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	16	16	16	17	18	17
Front-to-Back Total Power at 180° ± 30°, dB	23	22	30	33	30	29
CPR at Boresight, dB	22	24	19	23	22	18
CPR at Sector, dB	10	7	8	9	8	7

Mechanical Specifications

Wind Loading at Velocity, frontal	214.5 lbf @ 150 km/h | 954.0 N @ 150 km/h

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Wind Loading at Velocity, lateral	331.0 N @ 150 km/h | 74.4 lbf @ 150 km/h
Wind Loading at Velocity, maximum	1,235.0 N @ 0 km/h | 277.6 lbf @ 0 km/h
Wind Speed, maximum	241 km/h | 149.75 mph

Packaging and Weights

Width, packed	608 mm | 23.937 in
Depth, packed	352 mm | 13.858 in
Length, packed	2630 mm | 103.543 in
Net Weight, without mounting kit	45.5 kg | 100.31 lb
Weight, gross	64.9 kg | 143.08 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

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.

BSAMNT-M — 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

Performance Note Severe environmental conditions may degrade optimum performance

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