NNHH-65A-R4-V2

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
- Optimized for rooftop applications – Heavily suppressed lower sidelobes for elevation pattern
- 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

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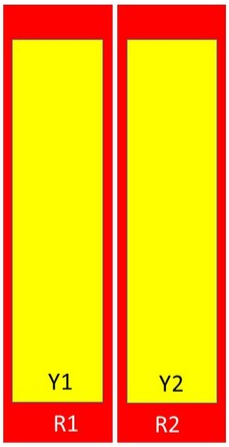
Power Consumption, normal conditions, maximum	8 W
Protocol	3GPP/AISG 2.0 (Multi-RET)

Dimensions

Width	498 mm | 19.606 in
Depth	197 mm | 7.756 in
Length	1499 mm | 59.016 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

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

Port Configuration

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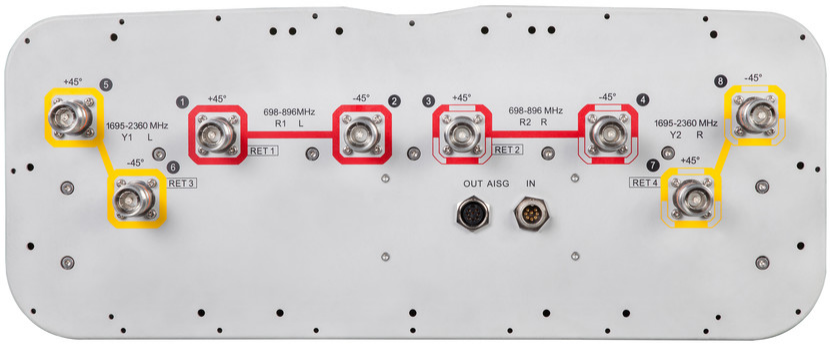

Electrical Specifications

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	13.3	13.7	16.7	17.1	17.4	18.2
Beamwidth, Horizontal, degrees	70	66	62	63	63	61
Beamwidth, Vertical, degrees	16.7	14.9	7.4	6.9	6.5	5.8
Beam Tilt, degrees	2–16	2–16	2–12	2–12	2–12	2–12
USLS (First Lobe), dB	14	12	14	16	17	20
Front-to-Back Ratio at 180°, dB	33	36	33	36	35	33
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	300	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	13.5	16.2	16.8	17.1	17.9
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.3	±0.7	±0.5	±0.4	±0.5
Gain by Beam Tilt, average, dBi	2 ° | 13.1 9 ° | 13.1 16 ° | 12.9	2 ° | 13.4 9 ° | 13.5 16 ° | 13.4	2 ° | 16.0 7 ° | 16.3 12 ° | 16.2	2 ° | 16.5 7 ° | 16.9 12 ° | 16.8	2 ° | 16.8 7 ° | 17.2 12 ° | 17.0	2 ° | 17.7 7 ° | 18.0 12 ° | 17.7
Beamwidth, Horizontal Tolerance, degrees	±5.3	±3.6	±9.7	±2.8	±2.6	±5.4
Beamwidth, Vertical Tolerance, degrees	±1.1	±0.9	±0.5	±0.3	±0.5	±0.2
USLS, beampeak to 20° above beampeak, dB	15	12	14	16	17	17
Front-to-Back Total Power at 180° ± 30°, dB	23	23	29	29	27	28
CPR at Boresight, dB	24	25	17	22	22	17
CPR at Sector, dB	13	9	8	6	7	8

Mechanical Specifications

Effective Projective Area (EPA), frontal	0.52 m² | 5.597 ft²
Effective Projective Area (EPA), lateral	0.17 m² | 1.83 ft²
Mechanical Tilt Range	0°–15°
Wind Loading @ Velocity, frontal	549.0 N @ 150 km/h (123.4 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	183.0 N @ 150 km/h (41.1 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	712.0 N @ 150 km/h (160.1 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	452.0 N @ 150 km/h (101.6 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	1686 mm | 66.378 in

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Weight, gross	41.3 kg | 91.051 lb

Regulatory Compliance/Certifications

Agency	Classification
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 www.commscope.com/ProductCompliance
ROHS	Compliant
UK-ROHS	Compliant

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