## NNH4-65A-R6H4



12-port sector antenna, 4x 698–896 and 8x 1695–2360 MHz, 65° HPBW, 6x RET.

- Features broadband Low Band (698-896 MHz) and High Band (1695-2360 MHz) arrays for 4T4R (4X MIMO) capability for Band 14, AWS, PCS and WCS applications
- Non-stacked high band array design provides higher gain and narrower vertical beamwidth than traditional antenna designs
- Independent tilt for all arrays
- Array configuration provides capability for 4T4R (4x MIMO) on Low band and Dual 4T4R (4x MIMO) on High band
- Optimized SPR performance across all operating bands
- Excellent wind loading characteristics
- Supports re-configurable antenna sharing capability enabling control of the internal RET system using up to two separate RET compatible OEM radios

#### General Specifications

Antenna Type Sector

Band Multiband

Color Light Gray (RAL 7035)

**Grounding Type**RF connector 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 8

RF Connector Quantity, mid band

RF Connector Quantity, low band 4

RF Connector Quantity, total 12

### Remote Electrical Tilt (RET) Information

**RET Hardware** CommRET v2

RET Interface 8-pin DIN Female | 8-pin DIN Male

**RET Interface, quantity** 2 female | 2 male

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Input Voltage 10-30 Vdc

Internal RET High band (4) | Low band (2)

Power Consumption, idle state, maximum 1 W Power Consumption, normal conditions, maximum 8 W

Protocol 3GPP/AISG 2.0 (Multi-RET)

**Dimensions** 

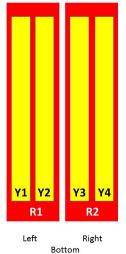
 Width
 498 mm | 19.606 in

 Depth
 197 mm | 7.756 in

 Length
 1499 mm | 59.016 in

 Net Weight, without mounting kit
 33.5 kg | 73.855 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	CPxxxxxxxxxxxxxxxmm.3
Y2	1695-2360	7-8	4	CPxxxxxxxxxxxxxxxmm.4
Y3	1695-2360	9-10	5	CPxxxxxxxxxxxxxxxmm.5
Y4	1695-2360	11-12	6	CPxxxxxxxxxxxxxxxmm.6

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

### Port Configuration



### **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**

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Frequency Band, MHz	698-806	806-896	1695-1880	1850-1990	1920-2180	2300-2360
Gain, dBi	13.2	13.7	16.1	17	17.6	18.2
Beamwidth, Horizontal, degrees	69	66	71	67	61	57
Beamwidth, Vertical, degrees	17.1	15.4	7.5	6.9	6.4	5.7
Beam Tilt, degrees	2-16	2-16	2-12	2-12	2-12	2-12
USLS (First Lobe), dB	19	19	15	17	18	21
Front-to-Back Ratio at 180°, dB	32	31	33	33	34	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

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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,	300	300	300	250	250	200

maximum, watts

#### Mechanical Specifications

Effective Projective Area (EPA), frontal 0.52 m<sup>2</sup> | 5.597 ft<sup>2</sup> Effective Projective Area (EPA), lateral 0.17 m<sup>2</sup> | 1.83 ft<sup>2</sup>

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
 608 mm | 23.937 in

 Depth, packed
 352 mm | 13.858 in

 Length, packed
 1682 mm | 66.221 in

 Weight, gross
 43.8 kg | 96.562 lb

### Regulatory Compliance/Certifications

# AgencyClassificationCHINA-ROHSAbove 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

