# 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

#### Alternative products available:

NNHH-65A-R4-V2 8-port sector antenna, 4x 698-896 and 4x 1695-2360 MHz, 65° HPBW, 4x RETs

#### General Specifications

RF Connector Quantity, low band

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, mid band 0

RF Connector Quantity, total

#### Remote Electrical Tilt (RET) Information

**RET Hardware** CommRET v2

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

ANDREW® an Amphenol company

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**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

Protocol 3GPP/AISG 2.0 (Multi-RET)

**Dimensions** 

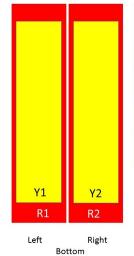
 Width
 498 mm | 19.606 in

 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	CPxxxxxxxxxxxxxxxmm.3
Y2	1695-2360	7-8	4	CPxxxxxxxxxxxxxxxmm.4

(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	13.4	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

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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	250	250	250	200
maximum, watts						

#### Mechanical Specifications

Effective Projective Area (EPA), frontal  $0.48 \text{ m}^2 \mid 5.167 \text{ ft}^2$ Effective Projective Area (EPA), lateral  $0.16 \text{ m}^2 \mid 1.722 \text{ ft}^2$ 

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

 Weight, gross
 41 kg | 90.389 lb

### Regulatory Compliance/Certifications

Compliant

# AgencyClassificationCHINA-ROHSBelow maximum concentration valueISO 9001:2015Designed, manufactured and/or distributed under this quality management systemROHSCompliant



#### 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

