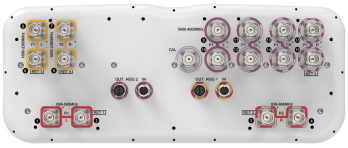
NNHHS4-65A-R5



16-port sector antenna, 4x 698-896 MHz and 4x 1695-2360 MHz, 65° HPBW, and 8 x 3400-4000 MHz, 90° HPBW, 5 x RETs

- Multi-band FDD antenna featuring C-Band 8T8R functionality
- The C-band RET is factory set to AISG2. All other RET are assigned to AISG1
- Feature the same dimensions as existing 8 and 12-port FDD capable antennas
- New endcap designs provide improved wind loading performance

General Specifications

Antenna Type	Sector and beamforming
Band	Multiband
Calibration Connector Interface	4.3-10 Female
Calibration Connector Quantity	1
Color	Light Gray (RAL 7035)
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Performance Note	Outdoor usage
Radome Material	Fiberglass, UV resistant
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	4
RF Connector Quantity, low band	4
RF Connector Quantity, total	16

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
Input Voltage	10–30 Vdc
Internal RET	High band (1) | Low band (2) | Mid band (2)
Power Consumption, active state, maximum	8 W

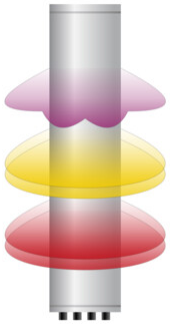
NNHHS4-65A-R5

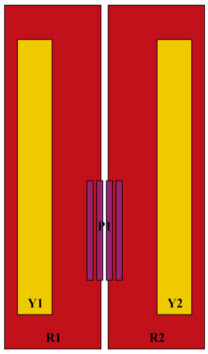
Power Consumption, idle state, maximum	1 W
Protocol	3GPP/AISG 2.0

Dimensions

Width	498 mm | 19.606 in
Depth	197 mm | 7.756 in
Length	1499 mm | 59.016 in
Net Weight, antenna only	33 kg | 72.752 lb
TDD Column Spacing	41 mm | 1.614 in

Array Layout

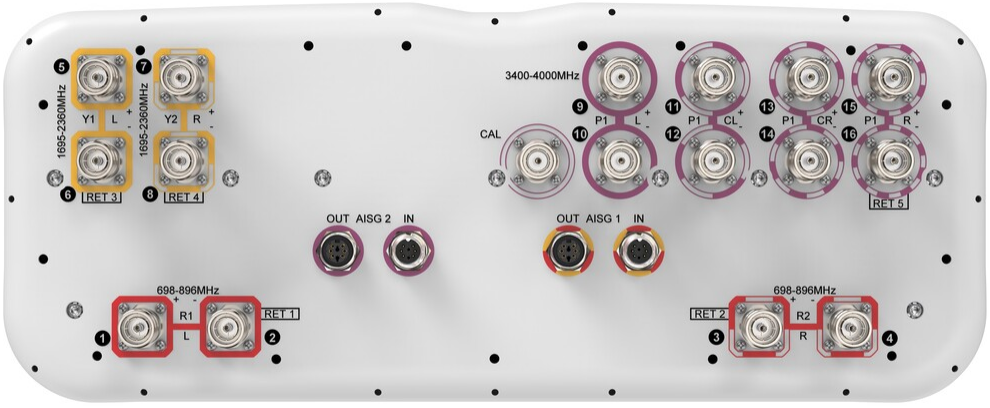




Array ID	Frequency (MHz)	RF Connector	RET (MRET)	AISG No.	AISG RET UID
R1	694-896	1 - 2	1	AISG1	CPxxxxxxxxxxxxMM.1
R2	694-896	3 - 4	2	AISG1	CPxxxxxxxxxxxxMM.2
Y1	1695-2360	5 - 6	3	AISG1	CPxxxxxxxxxxxxMM.3
Y2	1695-2360	7 - 8	4	AISG1	CPxxxxxxxxxxxxMM.4
P1	3400-4000	9 - 16	5	AISG2	CPxxxxxxxxxxxxMM.1

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

Port Configuration



Electrical Specifications

NNHHS4-65A-R5

Impedance	50 ohm
Operating Frequency Band	1695 – 2360 MHz | 3400 – 4000 MHz | 698 – 896 MHz
Polarization	±45°
Total Input Power, maximum	1,400 W @ 50 °C

Electrical Specifications

	R1,R2	R1,R2	Y1,Y2	Y1,Y2	Y1,Y2	Y1,Y2	P1	P1
Frequency Band, MHz	**698–806**	**806–896**	**1695–1880**	**1850–1990**	**1920–2180**	**2300–2360**	**3400–3800**	**3700–4000**
RF Port	1-4	1-4	5-8	5-8	5-8	5-8	9-16	9-16
Gain, dBi	13.6	14	16.9	17.4	17.9	18.3	16.4	16.6
Beamwidth, Horizontal, degrees	59	53	60	60	62	62	83	70
Beamwidth, Vertical, degrees	17.1	15.1	6.3	5.8	5.5	5	6.1	5.8
Beam Tilt, degrees	2–16	2–16	2–12	2–12	2–12	2–12	0–10	0–10
USLS (First Lobe), dB	19	14	18	19	19	19	15	14
Front-to-Back Ratio at 180°, dB	29	29	31	34	34	31	29	30
Coupling level, Amp, Antenna port to Cal port, dB							-26	-26
Coupling level, max Amp Δ, Antenna port to Cal port, dB							±2	±2
Coupler, max Amp Δ, Antenna port to Cal port, dB							0.6	0.6
Coupler, max Phase Δ, Antenna port to Cal port, degrees							7	7
CPR at Boresight, dB	22	21	19	20	19	20	15	14
Isolation, Cross Polarization, dB	25	25	25	25	25	25	25	25
Isolation, Inter-band, dB	25	25	25	25	25	25	25	25
Isolation, Co-polarization, dB							19	19
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	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-150	-150	-150	-150	-150	-150	-145	-145
Input Power per Port at 50°C, maximum, watts	300	300	250	250	250	250	75	75

Electrical Specifications, Broadcast 65°

Frequency Band, MHz	**3400–3800**	**3700–4000**

Gain, dBi	18.3	18.9
Beamwidth, Horizontal, degrees	65	65
Beamwidth, Vertical, degrees	6.2	5.9
Front-to-Back Total Power at 180° ± 30°, dB	26	26
USLS (First Lobe), dB	17	17

Electrical Specifications, Envelope Pattern

Frequency Band, MHz	**3400–3800**	**3700–4000**
Gain, dBi	21.1	21.6

Electrical Specifications, Service Beam

Frequency Band, MHz	**3400–3800**	**3700–4000**
Steered 0° Gain, dBi	21.3	21.6
Steered 0° Beamwidth, Horizontal, degrees	24	24
Steered 0° Front-to-Back Total Power at 180° ± 30°, dB	29	29
Steered 0° Horizontal Sidelobe, dB	14	14
Steered 30° Gain, dBi	19.7	20.1
Steered 30° Beamwidth, Horizontal, degrees	29	26
Steered 30° Front-to-Back Total Power at 180° ± 30°, dB	28	27

Electrical Specifications, Soft Split

Frequency Band, MHz	**3400–3800**	**3700–4000**
Gain, dBi	19.6	19.9
Beamwidth, Horizontal, degrees	33	30
Front-to-Back Total Power at 180° ± 30°, dB	28	27
Horizontal Sidelobe, dB	17	16

Mechanical Specifications

Effective Projective Area (EPA), frontal	0.47 m² | 5.059 ft²
Effective Projective Area (EPA), lateral	0.14 m² | 1.507 ft²

NNHHS4-65A-R5

Wind Loading @ Velocity, frontal	498.0 N @ 150 km/h (112.0 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	148.0 N @ 150 km/h (33.3 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	597.0 N @ 150 km/h (134.2 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	342.0 N @ 150 km/h (76.9 lbf @ 150 km/h)
Wind Speed, maximum	241.4 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
Weight, gross	43.3 kg | 95.46 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
REACH-SVHC	Compliant as per SVHC revision on www.commscope.com/ProductCompliance
ROHS	Compliant/Exempted
UK-ROHS	Compliant/Exempted

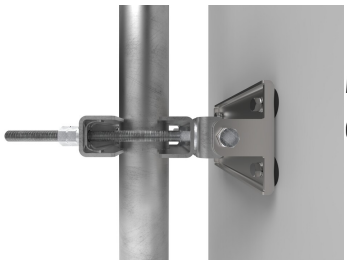
Included Products

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

BSAMNT-2F



Mounting bracket for cylindrical pipe installations (60-115mm pipe diameter) for fix mechanical tilt applications.

Product Classification

Product Type	Fixed tilt mounting kit

General Specifications

Application	Outdoor
Color	Silver

Dimensions

Compatible Diameter, maximum	115 mm | 4.528 in
Compatible Diameter, minimum	60 mm | 2.362 in
Weight, net	3.8 kg | 8.378 lb

Material Specifications

Material Type	Galvanized steel

Packaging and Weights

Included	Brackets | Hardware
Packaging quantity	1
Weight, gross	4 kg | 8.818 lb

Regulatory Compliance/Certifications

Agency	Classification
CE	Compliant with the relevant CE product directives
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.andrew.com/ProductCompliance
ROHS	Compliant
UK-ROHS	Compliant