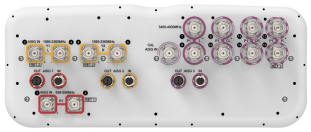
NHHS4-45A-R3B



14 Port Sector Antenna, 2x 698-896 MHz, 4x 1695-2360 MHz 45° HPBW, and 8x 3400-3550/3700-4000 MHz Beamformer, 3x RETs and 3x SBTs

- Narrow beamwidth capacity antenna for higher level of densification and enhanced data throughput
- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- Separate RS-485 RET input/output for low and high band
- One LB RET, one MB RET and one HB RET. Both mid bands are controlled by one RET to ensure same tilt level for 4x Rx or 4x MIMO

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
Radiator Material	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	4
RF Connector Quantity, low band	2
RF Connector Quantity, total	14

Remote Electrical Tilt (RET) Information

RET Hardware	CommRET v2
RET Interface	8-pin DIN Female | 8-pin DIN Male

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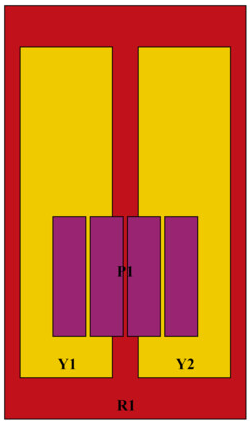
RET Interface, quantity	3 female | 3 male
Input Voltage	10–30 Vdc
Internal Bias Tee	Cal Port | Port 1 | Port 3
Internal RET	High band (1) | Low band (1) | Mid band (1)
Power Consumption, active state, maximum	10 W
Power Consumption, idle state, maximum	2 W
Protocol	3GPP/AISG 2.0

Dimensions

Width	498 mm | 19.606 in
Depth	197 mm | 7.756 in
Length	1399 mm | 55.079 in
Net Weight, antenna only	29 kg | 63.934 lb

Array Layout



Array ID	Frequency (MHz)	RF Connector	HPBW	RET (SRET)	AISG No.	RET UID
R1	698-896	1 - 2	45°	1	AISG1	CPxxxxxxxxxxxxxxR1
Y1	1695-2360	3 - 4	45°	2	AISG2	CPxxxxxxxxxxxxxxY1
Y2	1695-2360	5 - 6	45°			
P1	3400-4000	7 - 14	BF°	3	AISG3	CPxxxxxxxxxxxxxxP1

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

Port Configuration

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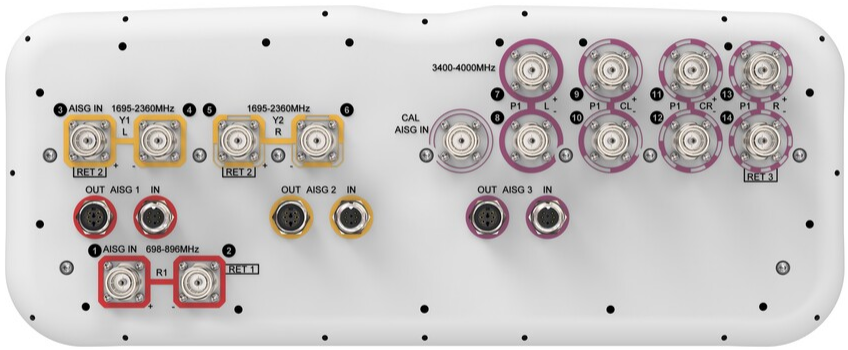

Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1695 – 2360 MHz | 3400 – 4000 MHz | 698 – 896 MHz
Polarization	±45°
Total Input Power, maximum	1,040 W @ 50 °C

Electrical Specifications

	R1	R1	Y1,Y2	Y1,Y2	Y1,Y2	Y1,Y2	P1	P1
Frequency Band, MHz	**698–806**	**806–896**	**1695–1880**	**1850–1990**	**1920–2200**	**2300–2360**	**3400–3550**	**3700–4000**
RF Port	1,2	1,2	3-6	3-6	3-6	3-6	7-14	7-14
Gain, dBi	15.3	15.7	18.1	18.3	19	19.6	16.1	17.5
Beamwidth, Horizontal, degrees	46	41	48	46	44	40	84	71
Beamwidth, Vertical, degrees	19	17	7.6	7.1	6.7	5.9	6.2	5.7
Beam Tilt, degrees	2–18	2–18	1–9	1–9	1–9	1–9	0–10	0–10
USLS (First Lobe), dB	16	17	17	17	17	20	14	15
Front-to-Back Ratio at 180°, dB	34	36	36	35	34	34	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							0.9	0.9
Coupler, max Phase Δ, Antenna port to Cal port, degrees							7	7
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	-153	-153	-153	-153	-153	-153	-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	**3400–3550**	**3700–4000**
Gain, dBi	17.1	18.2
Beamwidth, Horizontal, degrees	65	65
Beamwidth, Vertical, degrees	6.2	5.8
Front-to-Back Total Power at 180° ± 30°, dB	26	24
USLS (First Lobe), dB	17	19

Electrical Specifications, Broadcast 45°

Frequency Band, MHz	**3400–3550**	**3700–4000**
Beamwidth, Vertical, degrees	6.2	5.8
Front-to-Back Total Power at 180° ± 30°, dB	27	25
USLS (First Lobe), dB	17	20

Electrical Specifications, Service Beam

Frequency Band, MHz	**3400–3550**	**3700–4000**
Steered 0° Gain, dBi	20.4	21.6
Steered 0° Beamwidth,	27	23

Horizontal, degrees		
Steered 0° Front-to-Back Total Power at 180° ± 30°, dB	29	29
Steered 0° Horizontal Sidelobe, dB	13	13
Steered 0° USLS (First Lobe), dB	18	21
Steered 30° Gain, dBi	19.4	19.9
Steered 30° Beamwidth, Horizontal, degrees	31	31
Steered 30° Front-to-Back Total Power at 180° ± 30°, dB	27	27

Electrical Specifications, Soft Split

Frequency Band, MHz	**3400–3550**	**3700–4000**
Gain, dBi	19.3	20.2
Beamwidth, Horizontal, degrees	36	32
Front-to-Back Total Power at 180° ± 30°, dB	27	27
Horizontal Sidelobe, dB	15	16
USLS (First Lobe), dB	18	21

Mechanical Specifications

Wind Loading @ Velocity, frontal	461.0 N @ 150 km/h (103.6 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	137.0 N @ 150 km/h (30.8 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	554.0 N @ 150 km/h (124.5 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	318.0 N @ 150 km/h (71.5 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	1587 mm | 62.48 in
Weight, gross	41.4 kg | 91.271 lb

Regulatory Compliance/Certifications

Agency	**Classification**

NHHS4-45A-R3B

CHINA-ROHS	Above maximum concentration value
ROHS	Compliant/Exempted
UK-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.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance