

NHHS4-45C-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 and one HB RET. Both high 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

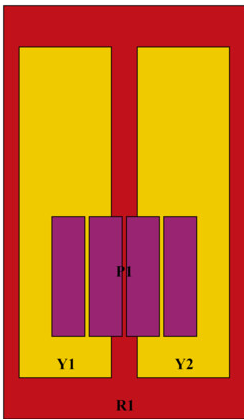
NHHS4-45C-R3B

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 (Single RET)

Dimensions

Width	457 mm 17.992 in
Depth	178 mm 7.008 in
Length	2437 mm 95.945 in
Net Weight, antenna only	44.5 kg 98.106 lb

Array Layout

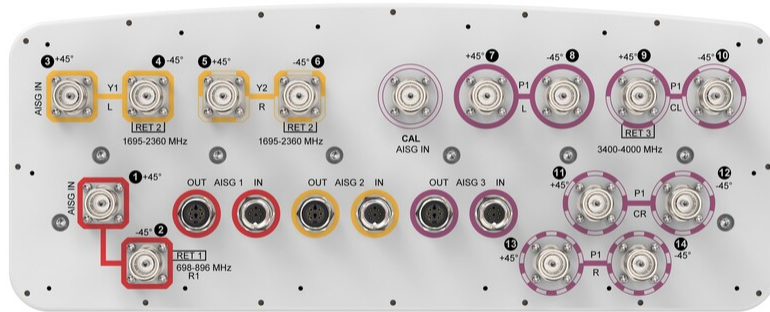


Array ID	Frequency (MHz)	RF Connector	HPBW	RET (SRET)	AISG No.	RET UID
R1	698-896	1 - 2	45°	1	AISG1	CPxxxxxxxxxxxxR1
Y1	1695-2360	3 - 4	45°	2	AISG2	CPxxxxxxxxxxxxY1
Y2	1695-2360	5 - 6	45°			
P1	3400-4000	7 - 14	BF°	3	AISG3	CPxxxxxxxxxxxxP1

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

Port Configuration

NHHS4-45C-R3B



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	18	18.6	19.2	19.7	20.1	20.5	15.7	15.9
Beamwidth, Horizontal, degrees	45	40	44	43	42	39	92	87
Beamwidth, Vertical, degrees	9.7	8.7	5.9	5.5	5.2	4.7	6.5	6.2
Beam Tilt, degrees	0–10	0–10	0–8	0–8	0–8	0–8	0–10	0–10
USLS (First Lobe), dB	20	16	21	22	23	26	19	16
Front-to-Back Ratio at 180°, dB	31	35	36	36	34	35	27	27

NHHS4-45C-R3B

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	28	28	28	28	28	28	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	50	50

Electrical Specifications, BASTA

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360	3400–3550	3700–4000
Gain by all Beam Tilts, average, dBi	17.6	18.4	18.8	19.4	19.9	20.3	15.3	15.5
Gain by all Beam Tilts Tolerance, dB	± 0.6	± 0.2	± 0.6	± 0.4	± 0.5	± 0.4	± 0.6	± 0.5
Beamwidth, Horizontal Tolerance, degrees	± 2	± 1	± 2	± 2	± 2	± 2	± 21	± 10
Beamwidth, Vertical Tolerance, degrees	± 0.5	± 0.4	± 0.3	± 0.3	± 0.3	± 0.1	± 0.4	± 0.5
USLS, beampeak to 20° above beampeak, dB	19	16	16	16	17	16	15	14
Front-to-Back Total Power at 180° \pm 30°, dB	22	23	27	28	28	29	20	21
CPR at Boresight, dB	18	18	20	21	21	22	15	16
CPR at Sector, dB							8	6
CPR at 10 dB Horizontal Beamwidth, dB	12	17	9	9	9	12		

Electrical Specifications, Broadcast 65°

Frequency Band, MHz	3400–3550	3700–4000
Gain, dBi	17.8	18.7

NHHS4-45C-R3B

Beamwidth, Horizontal, degrees	65	65
Beamwidth, Vertical, degrees	6.6	6.3
Front-to-Back Total Power at 180° ± 30°, dB	24	26
USLS (First Lobe), dB	21	19

Electrical Specifications, Broadcast 45°

Frequency Band, MHz	3400–3550	3700–4000
Beamwidth, Vertical, degrees	6.6	6.3
Front-to-Back Total Power at 180° ± 30°, dB	25	25
USLS (First Lobe), dB	20	18

Electrical Specifications, Service Beam

Frequency Band, MHz	3400–3550	3700–4000
Steered 0° Gain, dBi	20.8	21.2
Steered 0° Beamwidth, Horizontal, degrees	25	25
Steered 0° Front-to-Back Total Power at 180° ± 30°, dB	29	29
Steered 0° Horizontal Sidelobe, dB	15	14
Steered 0° USLS (First Lobe), dB	23	21
Steered 30° Gain, dBi	19.7	20.7
Steered 30° Beamwidth, Horizontal, degrees	31	25
Steered 30° Front-to-Back Total Power at 180° ± 30°, dB	26	27

Electrical Specifications, Soft Split

Frequency Band, MHz	3400–3550	3700–4000
Gain, dBi	20.1	20.6
Front-to-Back Total Power at 180° ± 30°, dB	27	28
Horizontal Sidelobe, dB	17	
USLS (First Lobe), dB	23	21

Mechanical Specifications

NHHS4-45C-R3B

Wind Loading @ Velocity, frontal	1,485.0 N @ 150 km/h (333.8 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	315.0 N @ 150 km/h (70.8 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	1,485.0 N @ 150 km/h (333.8 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	1,304.0 N @ 150 km/h (293.2 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h (150 mph)

Packaging and Weights

Width, packed	563 mm 22.165 in
Depth, packed	355 mm 13.976 in
Length, packed	2610 mm 102.756 in
Weight, gross	64.3 kg 141.757 lb

Regulatory Compliance/Certifications

Agency	Classification
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. |
| BSAMNT-M | - | Middle Downtilt Mounting Kit for Long Antennas for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor bracket set. |

* Footnotes

Performance Note Severe environmental conditions may degrade optimum performance