

2HH-33A-R4



8-port multibeam antenna, 8x 1695–2400 MHz, 4x 38° HPBW, 4x RET with retractable tilt rods

- Enhances network capacity through six sectors site application with only three antenna faces
- Maximizes frequency spectrum utilization to increase Average Revenue Per User (ARPU)
- Reduces antenna count to minimize Cap-Ex and Op-Ex costs
- High gain with excellent sector edge roll-off and azimuth sidelobe suppression
- Each antenna downtilt can be independently adjusted for greater flexibility in network optimization
- Supports re-configurable antenna sharing capability enabling control of the internal RET system using up to two separate RET compatible OEM radios

OBSOLETE

This product was discontinued on: **March 31, 2023**

Replaced By:

2HH-38A-R4-V2

8-port multibeam antenna, 8x 1695–2200 MHz, 4x 38° HPBW, 4x RET

General Specifications

Antenna Type	Multibeam
Band	Single band
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	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	0
RF Connector Quantity, low band	0
RF Connector Quantity, total	8

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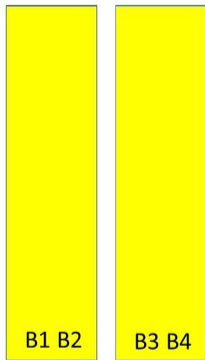
Remote Electrical Tilt (RET) Information

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 (4)
Power Consumption, idle state, maximum	1 W
Power Consumption, normal conditions, maximum	8 W
Protocol	3GPP/AISG 2.0 (Single RET)

Dimensions

Width	640 mm 25.197 in
Depth	235 mm 9.252 in
Length	1350 mm 53.15 in
Net Weight, without mounting kit	30.8 kg 67.902 lb

Array Layout



Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
B1	1695-2400	1-2	1	CPxxxxxxxxxxxxxxxxxB1
B2	1695-2400	3-4	2	CPxxxxxxxxxxxxxxxxxB2
B3	1695-2400	5-6	3	CPxxxxxxxxxxxxxxxxxB3
B4	1695-2400	7-8	4	CPxxxxxxxxxxxxxxxxxB4

Left Bottom Right

(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 – 2400 MHz
Polarization	±45°
Total Input Power, maximum	400 W @ 50 °C

Electrical Specifications

Frequency Band, MHz	1695–1880	1850–1990	1920–2180	2300–2400
Gain, dBi	19.1	19.7	19.9	19.4
Beam Centers, Horizontal, degrees	±27	±27	±27	±27
Beamwidth, Horizontal, degrees	38	35.8	33	29
Beamwidth, Vertical, degrees	7.4	7	6.6	5.9
Beam Tilt, degrees	2–12	2–12	2–12	2–12
USLS (First Lobe), dB	19	20	19	17
Front-to-Back Ratio at 180°, dB	37	37	35	33
Isolation, Cross Polarization, dB	28	28	28	28
Isolation, Inter-band, dB	16	16	16	16
VSWR Return loss, dB	1.46 14.5	1.46 14.5	1.46 14.5	1.46 14.5
PIM, 3rd Order, 2 x 20 W, dBc	-150	-150	-150	-150

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Input Power per Port at 50°C, maximum, watts	200	200	200	200
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Mechanical Specifications

Mechanical Tilt Range	0°–24°
Wind Loading @ Velocity, frontal	557.0 N @ 150 km/h (125.2 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	175.0 N @ 150 km/h (39.3 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	759.0 N @ 150 km/h (170.6 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	574.0 N @ 150 km/h (129.0 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h (150 mph)

Packaging and Weights

Width, packed	797 mm 31.378 in
Depth, packed	402 mm 15.827 in
Length, packed	1501 mm 59.095 in
Weight, gross	41.7 kg 91.933 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
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.
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* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance
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