

S4-90M-R1B

8-Port Beamforming Antenna, 3700-4200 MHz, 1x RET



- Planer array antenna - 4 columns
- Single internal RET control for all four antenna arrays
- Designed for beamforming, including calibration port
- Optimized for software defined split six sector applications
- Fits in the CommScope AEKT solution
- Internal SBT on the calibration port allow remote RET control from the radio over the RF jumper cable

General Specifications

Antenna Type	Sector- and beamforming
Band	Single band
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	PVC, 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, total	8

Remote Electrical Tilt (RET) Information

RET Hardware	CommRET v2
RET Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	1 female 1 male
Input Voltage	10–30 Vdc
Internal Bias Tee	Cal Port
Internal RET	High band (1)

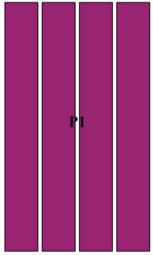
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Power Consumption, active state, maximum	10 W
Power Consumption, idle state, maximum	2 W
Protocol	3GPP/AISG 2.0 (Single RET)

Dimensions

Width	307 mm 12.087 in
Depth	118 mm 4.646 in
Length	850 mm 33.465 in
Net Weight, antenna only	8.5 kg 18.739 lb

Array Layout



Array ID	Frequency (MHz)	RF Connector	RET (SRET)	AISG No.	AISG RET UID
P1	3700-4200	1 - 8	1	AISG1	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	3.7 – 4.2 GHz
Polarization	±45°
Total Input Power, maximum	400 W @ 50 °C

Electrical Specifications

	P1	P1
Frequency Band, MHz	3700–4000	4000–4200
RF Port	1-8	1-8
Gain, dBi	17.6	17
Beamwidth, Horizontal, degrees	81	75

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Beamwidth, Vertical, degrees	5.8	5.5
Beam Tilt, degrees	0–10	0–10
Front-to-Back Ratio at 180°, dB	31	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	5	5
Isolation, Cross Polarization, dB	25	25
VSWR Return loss, dB	1.5 14.0	1.5 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-145	-145
Input Power per Port at 50°C, maximum, watts	75	75

Electrical Specifications, BASTA

Frequency Band, MHz	3700–4000	4000–4200
Gain by all Beam Tilts, average, dBi	16.8	16.4
Gain by all Beam Tilts Tolerance, dB	±1.2	±1
Beamwidth, Horizontal Tolerance, degrees	±17	±15
Beamwidth, Vertical Tolerance, degrees	±0.3	±0.3
CPR at Boresight, dB	16	16
CPR at Sector, dB	9	9

Electrical Specifications, Broadcast 65°

Frequency Band, MHz	3700–4000	4000–4200
Gain, dBi	17.8	17.3
Front-to-Back Total Power at 180° ± 30°, dB	25	25
USLS (First Lobe), dB	17	17

Electrical Specifications, Envelope Pattern

Frequency Band, MHz	3700–4000	4000–4200
Gain, dBi	22.1	21.6
Beamwidth, Horizontal at 10 dB, degrees	119	118
Beamwidth, Vertical at 3 dB, degrees	5.7	5.5
Front-to-Back Total Power at 180° ± 30°, dB	28	26
USLS (First Lobe), dB	19	20

Electrical Specifications, Service Beam

Frequency Band, MHz	3700–4000	4000–4200
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Steered 0° Gain, dBi	22.3	21.9
Steered 0° Beamwidth, Horizontal, degrees	23	21
Steered 0° Front-to-Back Total Power at 180° ± 30°, dB	31	30
Steered 0° Horizontal Sidelobe, dB	14	14
Steered 30° Gain, dBi	21.3	20.9
Steered 30° Beamwidth, Horizontal, degrees	26	23
Steered 30° Front-to-Back Total Power at 180° ± 30°, dB	29	28

Electrical Specifications, Soft Split

Frequency Band, MHz	3700–4000	4000–4200
Gain, dBi	20.8	20.3

Mechanical Specifications

Wind Loading @ Velocity, frontal	284.0 N @ 150 km/h (63.8 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	56.0 N @ 150 km/h (12.6 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	286.0 N @ 150 km/h (64.3 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	343.0 N @ 150 km/h (77.1 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h (150 mph)

Packaging and Weights

Width, packed	413 mm 16.26 in
Depth, packed	257 mm 10.118 in
Length, packed	1035 mm 40.748 in
Weight, gross	19 kg 41.888 lb

Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system



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

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Performance Note Severe environmental conditions may degrade optimum performance