

# 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 ANDREW AEKT solution
- Internal SBT on the calibration port allow remote RET control from the radio over the RF jumper cable

## General Specifications

<b>Antenna Type</b>	Sector and beamforming
<b>Band</b>	Single band
<b>Calibration Connector Interface</b>	4.3-10 Female
<b>Calibration Connector Quantity</b>	1
<b>Color</b>	Light Gray (RAL 7035)
<b>Grounding Type</b>	RF connector inner conductor and body grounded to reflector and mounting bracket
<b>Performance Note</b>	Outdoor usage
<b>Radome Material</b>	PVC, UV resistant
<b>Radiator Material</b>	Low loss circuit board
<b>Reflector Material</b>	Aluminum
<b>RF Connector Interface</b>	4.3-10 Female
<b>RF Connector Location</b>	Bottom
<b>RF Connector Quantity, high band</b>	8
<b>RF Connector Quantity, mid band</b>	0
<b>RF Connector Quantity, low band</b>	0
<b>RF Connector Quantity, total</b>	8

## Remote Electrical Tilt (RET) Information

<b>RET Hardware</b>	CommRET v2
<b>RET Interface</b>	8-pin DIN Female   8-pin DIN Male
<b>RET Interface, quantity</b>	1 female   1 male
<b>Input Voltage</b>	10–30 Vdc

# S4-90M-R1B

<b>Internal Bias Tee</b>	Cal Port
<b>Internal RET</b>	High band (1)
<b>Power Consumption, active state, maximum</b>	10 W
<b>Power Consumption, idle state, maximum</b>	2 W
<b>Protocol</b>	3GPP/AISG 2.0 (Single RET)

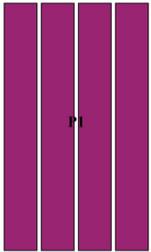
## Dimensions

<b>Width</b>	307 mm   12.087 in
<b>Depth</b>	118 mm   4.646 in
<b>Length</b>	850 mm   33.465 in
<b>Net Weight, antenna only</b>	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

# S4-90M-R1B



## Electrical Specifications

<b>Impedance</b>	50 ohm
<b>Operating Frequency Band</b>	3.7 – 4.2 GHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	400 W @ 50 °C

## Electrical Specifications

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

# S4-90M-R1B

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, Broadcast 65°

Frequency Band, MHz	<b>3700–4000</b>	<b>4000–4200</b>
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	<b>3700–4000</b>	<b>4000–4200</b>
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	<b>3700–4000</b>	<b>4000–4200</b>
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

# S4-90M-R1B

---

<b>Frequency Band, MHz</b>	<b>3700–4000</b>	<b>4000–4200</b>
<b>Gain, dBi</b>	20.8	20.3

## Mechanical Specifications

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

## Packaging and Weights

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

## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
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

<b>Performance Note</b>	Severe environmental conditions may degrade optimum performance
-------------------------	---