

# S4-90M-R1-V5



## 8-Port Beamforming Antenna, 3300-4200 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

## 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>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, total</b>	8

## Remote Electrical Tilt (RET) Information

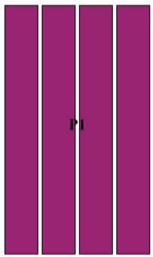
<b>RET Hardware</b>	CommRET v2
<b>RET Interface</b>	8-pin DIN Female   8-pin DIN Male
<b>RET Interface, quantity</b>	1 female   1 male
<b>Input Voltage</b>	10-30 Vdc
<b>Internal RET</b>	High band (1)
<b>Power Consumption, active state, maximum</b>	10 W
<b>Power Consumption, idle state, maximum</b>	2 W
<b>Protocol</b>	3GPP/AISG 2.0 (Single RET)

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## 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 (MRET)	AISG RET UID
P1	3300-4200	1 - 8	1	CPxxxxxxxxxxxxMM.1

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

## Port Configuration



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## Electrical Specifications

<b>Impedance</b>	50 ohm
<b>Operating Frequency Band</b>	3300 – 4200 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	400 W @ 50 °C

## Electrical Specifications

	<b>P1</b>	<b>P1</b>	<b>P1</b>	<b>P1</b>
<b>Frequency Band, MHz</b>	<b>3300–3400</b>	<b>3400–3700</b>	<b>3700–4000</b>	<b>4000–4200</b>
<b>RF Port</b>	1-8	1-8	1-8	1-8
<b>Gain, dBi</b>	16	16.7	17.6	17
<b>Beamwidth, Horizontal, degrees</b>	92	87	81	75
<b>Beamwidth, Vertical, degrees</b>	6.5	6.1	5.8	5.5
<b>Beam Tilt, degrees</b>	0–10	0–10	0–10	0–10
<b>Front-to-Back Ratio at 180°, dB</b>	31	31	31	30
<b>Coupling level, Amp, Antenna port to Cal port, dB</b>	26	26	26	26
<b>Coupling level, max Amp Δ, Antenna port to Cal port, dB</b>	±2	±2	±2	±2
<b>Coupler, max Amp Δ, Antenna port to Cal port, dB</b>	0.6	0.6	0.6	0.6
<b>Coupler, max Phase Δ, Antenna port to Cal port, degrees</b>	5	5	5	5
<b>Isolation, Cross Polarization, dB</b>	25	25	25	25
<b>VSWR   Return loss, dB</b>	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0
<b>PIM, 3rd Order, 2 x 20 W, dBc</b>	-150	-150	-150	-150
<b>Input Power per Port at 50°C, maximum, watts</b>	75	75	75	75

## Electrical Specifications, BASTA

<b>Frequency Band, MHz</b>	<b>3300–3400</b>	<b>3400–3700</b>	<b>3700–4000</b>	<b>4000–4200</b>
<b>Gain by all Beam Tilts, average, dBi</b>	15.4	15.9	16.8	16.4
<b>Gain by all Beam Tilts Tolerance, dB</b>	±1	±1.1	±1.2	±1
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±21	±20	±17	±15
<b>Beamwidth, Vertical Tolerance, degrees</b>	±0.5	±0.4	±0.3	±0.3

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CPR at Boresight, dB	17	17	16	16
CPR at Sector, dB	12	11	9	9

## Electrical Specifications, Broadcast 65°

Frequency Band, MHz	3300–3400	3400–3700	3700–4000	4000–4200
Gain, dBi	17.3	17.7	17.8	18
Beamwidth, Horizontal at 10 dB, degrees	129	120	112	95
Beamwidth, Vertical, degrees	6.5	6.1	5.7	5.4
Beamwidth, Vertical Tolerance, degrees	±0.3	±0.3	±0.3	±0.2
Front-to-Back Total Power at 180° ± 30°, dB	28	27	25	26
USLS (First Lobe), dB	18	17	17	18

## Electrical Specifications, Envelope Pattern

Frequency Band, MHz	3300–3400	3400–3700	3700–4000	4000–4200
Gain, dBi	21.1	21.5	22	21.6
Beamwidth, Horizontal at 10 dB, degrees	129	121	119	118
Beamwidth, Vertical at 3 dB, degrees	6.5	6.2	5.7	5.5
Front-to-Back Total Power at 180° ± 30°, dB	29	28	28	26
USLS (First Lobe), dB	18	18	19	20

## Electrical Specifications, Service Beam

Frequency Band, MHz	3300–3400	3400–3700	3700–4000	4000–4200
Steered 0° Gain, dBi	21.1	21.5	22.3	21.9
Steered 0° Beamwidth, Horizontal, degrees	26	25	23	21
Steered 0° Front-to-Back Total Power at 180° ± 30°, dB	31	31	31	30
Steered 0° Horizontal Sidelobe, dB	15	15	14	14
Steered 30° Gain, dBi	19.9	20.4	21.3	20.9
Steered 30° Beamwidth, Horizontal, degrees	30	29	26	23
Steered 30° Front-to-Back Total Power at 180° ± 30°, dB	30	29	29	28

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## Electrical Specifications, Soft Split

Frequency Band, MHz	3300–3400	3400–3700	3700–4000	4000–4200
Gain, dBi	20	20.4	20.8	20.3

## Mechanical Specifications

Effective Projective Area (EPA), frontal	0.27 m <sup>2</sup>   2.906 ft <sup>2</sup>
Effective Projective Area (EPA), lateral	0.05 m <sup>2</sup>   0.538 ft <sup>2</sup>
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
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

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