S4-90M-R1-V3

8-port Planar Array Antenna, 3300–3800 MHz, 90° HPBW, 1x RET, with M-LOC connectors

- Planar array antenna – 4 columns
- Single internal RET control for all four antenna arrays
- Designed for beamforming, includes calibration port
- Optimized for software defined split six sector applications
- Fits in the CommScope AEKT solution
- Includes M-LOC type cluster connector(s)

Alternative products available:

S4-90M-R1-V5	8-Port Beamforming Antenna, 3300-4200 MHz, 1x RET

General Specifications

Antenna Type	Sector
Band	Single band
Calibration Connector Interface	M-LOC
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
RF Connector Interface	M-LOC
RF Connector Location	Bottom
RF Connector Quantity, high band	8
RF Connector Quantity, total	8

Remote Electrical Tilt (RET) Information

RET Hardware	CommRET v1
RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	1 female | 1 male

©2024 CommScope, Inc. All rights reserved. CommScope and the CommScope logo are registered trademarks of CommScope and/or its affiliates in the U.S. and other countries. For additional trademark information see https://www.commscope.com/trademarks. All product names, trademarks and registered trademarks are property of their respective owners. Revised: September 9, 2024

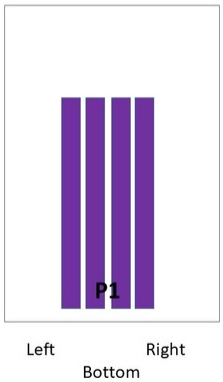
S4-90M-R1-V3

Internal RET	High band (1)
Power Consumption, idle state, maximum	1 W
Power Consumption, normal conditions, maximum	8 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, without mounting kit	8.8 kg | 19.401 lb
TDD Column Spacing	42 mm | 1.654 in

Array Layout



Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
P1	3300-3800	1-8	1	CPxxxxxxxxxxxxxxxP1

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

Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	3300 – 3800 MHz
Polarization	±45°
Total Input Power, maximum	400 W @ 50 °C

Electrical Specifications

Frequency Band, MHz	**3300–3600**	**3600–3800**

©2024 CommScope, Inc. All rights reserved. CommScope and the CommScope logo are registered trademarks of CommScope and/or its affiliates in the U.S. and other countries. For additional trademark information see https://www.commscope.com/trademarks. All product names, trademarks and registered trademarks are property of their respective owners. Revised: September 9, 2024

Gain, dBi	15.4	15.7
Beamwidth, Horizontal, degrees	96	84
Beamwidth, Vertical, degrees	6.7	6.3
Beam Tilt, degrees	2–12	2–12
USLS (First Lobe), dB	18	17
Front-to-Back Ratio at 180°, dB	28	27
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
Isolation, Inter-band, dB	19	19
VSWR | Return loss, dB	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-140	-140
Input Power per Port at 50°C, maximum, watts	75	75

Electrical Specifications, Broadcast 65°

Frequency Band, MHz	**3300–3600**	**3600–3800**
Gain, dBi	16.3	16.4
Beamwidth, Horizontal, degrees	65	63
Beamwidth, Horizontal Tolerance, degrees	±3.2	±2.8
Beamwidth, Vertical, degrees	6.7	6.3
Front-to-Back Total Power at 180° ± 30°, dB	23	23
USLS (First Lobe), dB	18	18

Electrical Specifications, Service Beam

Frequency Band, MHz	**3300–3600**	**3600–3800**
Steered 0° Gain, dBi	20.5	20.8
Steered 0° Beamwidth, Horizontal, degrees	26	24
Steered 0° Front-to-Back Total Power at 180° ± 30°, dB	31	28
Steered 0° Horizontal Sidelobe, dB	28	27
Steered 30° Gain, dBi	19.7	19.8
Steered 30° Beamwidth, Horizontal, degrees	28	26

Electrical Specifications, Soft Split

Frequency Band, MHz	**3300–3600**	**3600–3800**

©2024 CommScope, Inc. All rights reserved. CommScope and the CommScope logo are registered trademarks of CommScope and/or its affiliates in the U.S. and other countries. For additional trademark information see https://www.commscope.com/trademarks. All product names, trademarks and registered trademarks are property of their respective owners. Revised: September 9, 2024

Gain, dBi	19.6	19.9
Beamwidth, Horizontal, degrees	31	28
CPR at Beampeak, dB	17	17
Front-to-Back Total Power at 180° ± 30°, dB	27	27
Horizontal Sidelobe, dB	18	17

Mechanical Specifications

Effective Projective Area (EPA), frontal	0.27 m² | 2.906 ft²
Effective Projective Area (EPA), lateral	0.05 m² | 0.538 ft²
Mechanical Tilt Range	0°–25°
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, rear	342.0 N @ 150 km/h (76.9 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	19.7 kg | 43.431 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.

* Footnotes

©2024 CommScope, Inc. All rights reserved. CommScope and the CommScope logo are registered trademarks of CommScope and/or its affiliates in the U.S. and other countries. For additional trademark information see https://www.commscope.com/trademarks. All product names, trademarks and registered trademarks are property of their respective owners. Revised: September 9, 2024

Performance Note	Severe environmental conditions may degrade optimum performance

©2024 CommScope, Inc. All rights reserved. CommScope and the CommScope logo are registered trademarks of CommScope and/or its affiliates in the U.S. and other countries. For additional trademark information see https://www.commscope.com/trademarks. All product names, trademarks and registered trademarks are property of their respective owners. Revised: September 9, 2024