S4-90M-R1-V2

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

- 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

General Specifications

Antenna Type	Sector
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
Radiator Material	Low loss circuit board
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 v1
RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	1 female | 1 male
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

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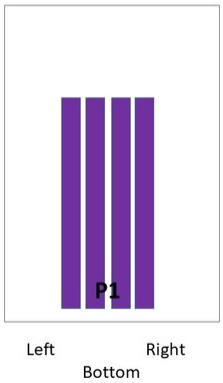
S4-90M-R1-V2

Width	307 mm | 12.087 in
Depth	118 mm | 4.646 in
Length	850 mm | 33.465 in
Net Weight, without mounting kit	8.64 kg | 19.048 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)

Port Configuration

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S4-90M-R1-V2

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**
Gain, dBi	15.5	16
Beamwidth, Horizontal, degrees	96	86
Beamwidth, Vertical, degrees	6.7	6.3
Beam Tilt, degrees	2–12	2–12
Beam Tilt Tolerance, degrees	±0.5	±0.5
USLS (First Lobe), dB	20	19
Front-to-Back Ratio at 180°, dB	29	29
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, Inter-band, dB	19	19
Isolation, Cross Polarization, port to port, dB	25	25
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	50	50

Electrical Specifications, Broadcast 65°

Frequency Band, MHz	**3300–3600**	**3600–3800**
Gain, dBi	16.4	16.4
Beamwidth, Horizontal, degrees	66	65
Beamwidth, Horizontal Tolerance, degrees	±4.0	±4.0
Beamwidth, Vertical, degrees	6.7	6.4
Beamwidth, Vertical Tolerance, degrees	±0.3	±0.3
USLS (First Lobe), dB	20	19

Electrical Specifications, Service Beam

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S4-90M-R1-V2

Frequency Band, MHz	3300–3600	3600–3800
Steered 0° Gain, dBi	20.7	21.1
Steered 0° Gain Tolerance, dBi	±0.6	±0.3
Steered 0° Beamwidth, Horizontal, degrees	25	24
Steered 0° CPR at Beampeak, dB	19	16
Steered 0° Horizontal Sidelobe, dB	12	12
Steered 13° USLS (First Lobe), dB	6	3
Steered 30° Gain, dBi	19.9	20.1
Steered 30° Gain Tolerance, dBi	±0.5	±0.5
Steered 30° Beamwidth, Horizontal, degrees	28	26
Steered 30° CPR at Beampeak, dB	19	17
Steered 30° CPR over 10 dB Beamwidth, dB	14	14
Steered 30° Horizontal Sidelobe, dB	9	9
Steered 42° Front-to-Back Total Power at 180° ± 30°, dB	5	5

Electrical Specifications, Soft Split

Frequency Band, MHz	3300–3600	3600–3800
Gain, dBi	19.8	20.2
Beamwidth, Horizontal, degrees	31	29
CPR at Beampeak, dB	18	16
Horizontal Sidelobe, dB	18	18

Mechanical Specifications

Mechanical Tilt Range	0°–24°
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	19.1 kg | 42.108 lb

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S4-90M-R1-V2

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

Performance Note	Severe environmental conditions may degrade optimum performance

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