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

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
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 RET	High band (1)
Power Consumption, active state, maximum	10 W
Power Consumption, idle state, maximum	2 W
Protocol	3GPP/AISG 2.0 (Single RET)

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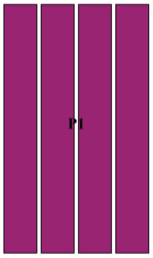
Dimensions

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 (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

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

Electrical Specifications

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

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

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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

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 m² | 2.906 ft²
Effective Projective Area (EPA), lateral	0.05 m² | 0.538 ft²
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)

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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.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

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