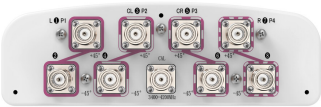
S4-90T-F-V2



8-port Planar Array Antenna, 3400–4200 MHz, 90° HPBW

- Planar array antenna – 4 columns
- Designed for beamforming, includes calibration port
- Optimized for software defined split six sector applications
- Compact form factor with reduced size and weight

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	ASA
Radiator Material	Low loss circuit board
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

Dimensions

Width	280 mm | 11.024 in
Depth	85 mm | 3.346 in
Length	400 mm | 15.748 in
Net Weight, without mounting kit	4 kg | 8.818 lb

Array Layout

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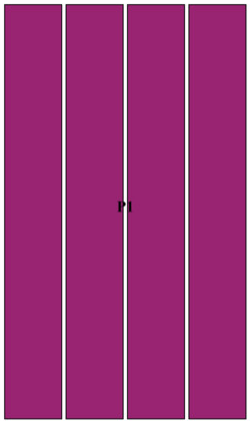
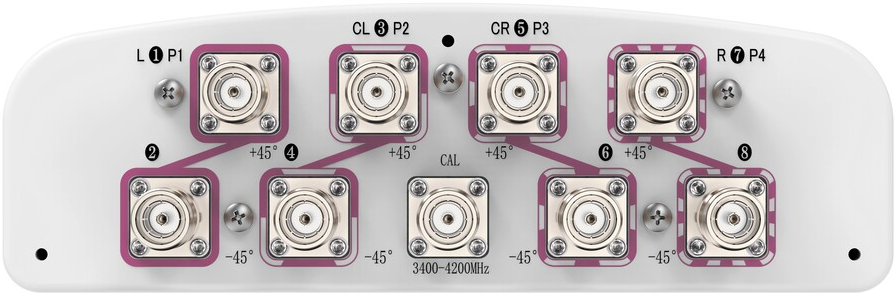


Array ID	Frequency (MHz)	RF Connector	RET (N/A)	AISG RET UID
P1	3400-4200	1 - 8	N/A	N/A

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

Port Configuration



Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	3400 – 4200 MHz
Polarization	±45°
Total Input Power, maximum	400 W

Electrical Specifications

Frequency Band, MHz	**3400–3600**	**3600–3800**	**3800–4200**
Gain, dBi	12.5	12.7	12.9
Beamwidth, Horizontal, degrees	108	102	90

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Beamwidth, Vertical, degrees	15.4	14.7	14.1
Beam Tilt, degrees	6	6	6
USLS (First Lobe), dB	14	16	17
Coupling level, Amp, Antenna port to Cal port, dB	26	26	26
Coupling level, max Amp Δ, Antenna port to Cal port, dB	±2	±2	±2
Coupler, max Amp Δ, Antenna port to Cal port, dB	0.9	0.9	0.9
Coupler, max Phase Δ, Antenna port to Cal port, degrees	7	7	7
Isolation, Cross Polarization, dB	25	25	25
Isolation, Inter-band, dB	25	25	25
Isolation, Cross Polarization, port to port, dB	25	25	25
Isolation, Cross Polarization, port to port, between two columns, dB	25	25	25
Isolation, Co-polarization, port to port, dB	19	19	19
VSWR | Return loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-145	-145	-145
Input Power per Port, maximum, watts	150	150	150

Electrical Specifications, Broadcast 65°

Frequency Band, MHz	**3400–3600**	**3600–3800**	**3800–4200**
Gain, dBi	14	14.5	14.9
Beamwidth, Horizontal, degrees	65	64	61
Beamwidth, Horizontal Tolerance, degrees	±6.7	±6.6	±5.2
Beamwidth, Vertical, degrees	14.8	13.9	12.9
USLS (First Lobe), dB	14	13	16

Electrical Specifications, Service Beam

Frequency Band, MHz	**3400–3600**	**3600–3800**	**3800–4200**
Steered 0° Gain, dBi	18.2	18.8	19.2
Steered 0° Beamwidth, Horizontal, degrees	26	24	22
Steered 0° CPR at Beampeak, dB	20	18	19
Steered 0° CPR over 10 dB Beamwidth, dB	25.8	24.1	22.2
Steered 0° Front-to-Back Total Power at 180° ± 30°, dB	32	30	27
Steered 0° Horizontal Sidelobe, dB	13	13	13
Steered 13° CPR at Beampeak, dB	32	30	27

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Steered 13° CPR over 10 dB Beamwidth, dB	13	13	13
Steered 30° Gain, dBi	17.4	17.8	18.2
Steered 30° CPR at Beampeak, dB	20	18	20

Electrical Specifications, Single Column

Frequency Band, MHz	**3400–3600**	**3600–3800**	**3800–4200**
Gain, dBi	13	13.6	13.9
Beamwidth, Horizontal, degrees	96	89	81
Beamwidth, Horizontal Tolerance, degrees	±8	±5	±8
Beamwidth, Vertical, degrees	14.9	14.1	13.1
CPR at Sector, dB	11	11	10
USLS (First Lobe), dB	14	14	16
Input Power per Port, maximum, watts	100	100	100

Electrical Specifications, Soft Split

Frequency Band, MHz	**3400–3600**	**3600–3800**	**3800–4200**
Gain, dBi	17.3	17.8	18.2
Beamwidth, Horizontal, degrees	32	30	27
CPR at Beampeak, dB	21	18	20
Front-to-Back Total Power at 180° ± 30°, dB	30	29	27
Horizontal Sidelobe, dB	19	18	16

Mechanical Specifications

Wind Loading @ Velocity, frontal	86.0 N @ 150 km/h (19.3 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	27.0 N @ 150 km/h (6.1 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	107.0 N @ 150 km/h (24.1 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h (150 mph)

Packaging and Weights

Width, packed	388 mm | 15.276 in
Depth, packed	189 mm | 7.441 in
Length, packed	629 mm | 24.764 in
Weight, gross	8.3 kg | 18.298 lb
Weight, net	4 kg | 8.818 lb

Regulatory Compliance/Certifications

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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

DB390	–	Pipe Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Use for narrow panel antennas. Includes two pipe mounts.
DB5098	–	Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

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