

# T4S4-90A-R2



16-port Planar Array Antenna, 8x 2300–2690 and 8x 3300–3800 MHz, 90° HPBW, 2x RET

- For use in beamforming systems includes one calibration port per band

## General Specifications

<b>Antenna Type</b>	Sector
<b>Band</b>	Multiband
<b>Calibration Connector Interface</b>	4.3-10 Female
<b>Calibration Connector Quantity</b>	2
<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   Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN
<b>Radome Material</b>	Fiberglass, UV resistant
<b>Radiator Material</b>	Low loss circuit board
<b>RF Connector Interface</b>	4.3-10 Female
<b>RF Connector Location</b>	Bottom
<b>RF Connector Quantity, high band</b>	16
<b>RF Connector Quantity, total</b>	16

## 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>Internal RET</b>	High band (2)
<b>Power Consumption, idle state, maximum</b>	1 W
<b>Power Consumption, normal conditions, maximum</b>	8 W
<b>Protocol</b>	3GPP/AISG 2.0 (Single RET)

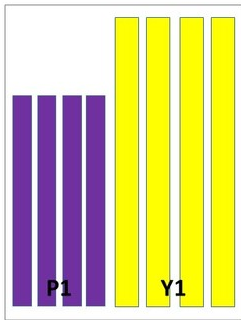
## Dimensions

<b>Width</b>	498 mm   19.606 in
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# T4S4-90A-R2

<b>Depth</b>	197 mm   7.756 in
<b>Length</b>	1499 mm   59.016 in
<b>Net Weight, without mounting kit</b>	31.5 kg   69.446 lb

## Array Layout



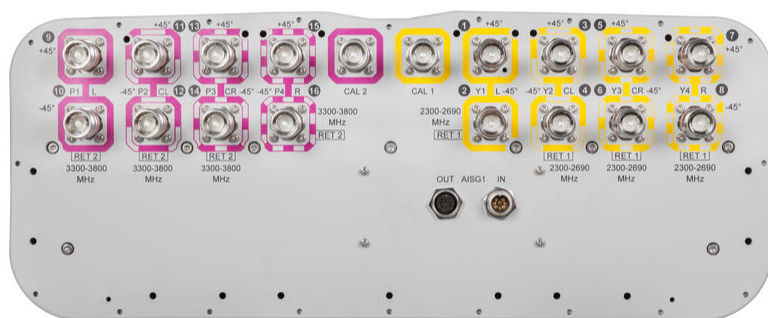
Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
Y1	2300-2690	1-8	1	CPxxxxxxxxxxxxxxxxY1
P1	3300-3800	9-16	2	CPxxxxxxxxxxxxxxxxP1

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

Left Bottom Right

## Port Configuration

# T4S4-90A-R2



## Electrical Specifications

<b>Impedance</b>	50 ohm
<b>Operating Frequency Band</b>	2300 – 2690 MHz   3300 – 3800 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	900 W @ 50 °C

## Electrical Specifications

	Y1	Y1	P1	P1
<b>Frequency Band, MHz</b>	<b>2300–2500</b>	<b>2500–2690</b>	<b>3300–3600</b>	<b>3600–3800</b>
<b>Gain, dBi</b>	16.5	16.5	15.7	16.1
<b>Beamwidth, Horizontal, degrees</b>	102.5	96.5	98.8	92
<b>Beamwidth, Vertical, degrees</b>	5.2	5	6.7	6.3

# T4S4-90A-R2

Beam Tilt, degrees	2-12	2-12	2-12	2-12
USLS (First Lobe), dB	18	20	15	14
Front-to-Back Ratio at 180°, dB	35	35	30	29
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	0.9	0.9	0.9	0.9
Coupler, max Phase Δ, Antenna port to Cal port, degrees	7	7	7	7
Isolation, Inter-band, dB	18	18	18	18
Isolation, Cross Polarization, port to port, dB	25	25	25	25
Isolation, Cross Polarization, port to port, between two columns, dB	30	30	30	30
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	-140	-140	-140	-140
Input Power per Port at 50°C, maximum, watts	150	150	75	75

## Electrical Specifications, BASTA

Frequency Band, MHz	2300-2500	2500-2690	3300-3600	3600-3800
Gain by all Beam Tilts, average, dBi	16	16.1	15	15.3
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.6	±0.6	±0.8
Beamwidth, Horizontal Tolerance, degrees	±13.1	±6.2	±14.9	±18
Beamwidth, Vertical Tolerance, degrees	±0.3	±0.2	±0.4	±0.5
USLS, beampeak to 20° above beampeak, dB	17	17	14	13
Front-to-Back Total Power at 180° ± 30°, dB	26	26	20	21
CPR at Boresight, dB	15	15	17	14
CPR at Sector, dB	11	8	9	8

## Electrical Specifications, Broadcast 65°

Frequency Band, MHz	2300-2500	2500-2690	3300-3600	3600-3800
Gain, dBi	17.9	17.9	16.2	16.3

# T4S4-90A-R2

<b>Beamwidth, Horizontal, degrees</b>	63	62	67	65
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±4.9	±3.2	±7.8	±4.9
<b>Beamwidth, Vertical, degrees</b>	5.2	4.9	6.7	6.3
<b>Beamwidth, Vertical Tolerance, degrees</b>	±0.2	±0.2	±0.4	±0.4

## Electrical Specifications, Service Beam

<b>Frequency Band, MHz</b>	<b>2300–2500</b>	<b>2500–2690</b>	<b>3300–3600</b>	<b>3600–3800</b>
<b>Steered 0° Gain, dBi</b>	21.6	21.8	20.6	20.8
<b>Steered 0° Gain Tolerance, dBi</b>	±0.3	±0.4	±0.4	±0.6
<b>Steered 0° Beamwidth, Horizontal, degrees</b>	27	25	25	23
<b>Steered 0° CPR at Beampeak, dB</b>	16	16	20	15
<b>Steered 0° Horizontal Sidelobe, dB</b>	12	11	12	12
<b>Steered 13° USLS (First Lobe), dB</b>	3	4	4	6
<b>Steered 30° Gain, dBi</b>	21.2	21.2	19.8	19.9
<b>Steered 30° Gain Tolerance, dBi</b>	±0.3	±0.5	±0.4	±0.5
<b>Steered 30° Beamwidth, Horizontal, degrees</b>	29	27	29	27
<b>Steered 30° Horizontal Sidelobe, dB</b>	10	9	10	9
<b>Steered 42° Front-to-Back Total Power at 180° ± 30°, dB</b>	3	5	4	5

## Electrical Specifications, Soft Split

<b>Frequency Band, MHz</b>	<b>2300–2500</b>	<b>2500–2690</b>	<b>3300–3600</b>	<b>3600–3800</b>
<b>Gain, dBi</b>	21.1	21.1	19.7	19.9
<b>Beamwidth, Horizontal, degrees</b>	32	31	32	30
<b>CPR at Beampeak, dB</b>	16	15	18	16
<b>Horizontal Sidelobe, dB</b>	18	17	18	17

## Mechanical Specifications

<b>Mechanical Tilt Range</b>	0°–15°
<b>Wind Loading @ Velocity, frontal</b>	549.0 N @ 150 km/h (123.4 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	183.0 N @ 150 km/h (41.1 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	712.0 N @ 150 km/h (160.1 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	452.0 N @ 150 km/h (101.6 lbf @ 150 km/h)

# T4S4-90A-R2

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**Wind Speed, maximum** 241 km/h (150 mph)

## Packaging and Weights

**Width, packed** 608 mm | 23.937 in

**Depth, packed** 352 mm | 13.858 in

**Length, packed** 1682 mm | 66.221 in

**Weight, gross** 44 kg | 97.003 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