

T4-90A-R1

Planar Array Antenna, 2300–2690 MHz, 90° HPBW, 1xIntRET



- For use in beamforming system, includes a calibration port
- Planar array antenna – 4 columns
- Single internal RET control for all four antenna arrays

OBSOLETE

This product was discontinued on: **March 31, 2021**

Replaced By:

T4-90A-R1-V2

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General Specifications

Antenna Type	Sector
Band	Single band
Calibration Connector Interface	N 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
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 Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	1 female 1 male

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Input Voltage	10–30 Vdc
Internal Bias Tee	Cal Port
Internal RET	High band (1)
Power Consumption, idle state, maximum	1 W
Power Consumption, normal conditions, maximum	10 W
Protocol	3GPP/AISG 2.0 (Single RET)

Dimensions

Width	307 mm 12.087 in
Depth	118 mm 4.646 in
Length	1610 mm 63.386 in
Net Weight, without mounting kit	15.6 kg 34.392 lb
TDD Column Spacing	58 mm 2.283 in

Port Configuration



Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	2300 – 2690 MHz
Polarization	±45°

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Beam Forming Weights

			Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
P0	Broadcast_65deg for tilt2-12	Amp(voltage)	1	1	1	1	0	0	0	0
		PHz	0	-22	66	-88	0	0	0	0
P1	Broadcast_65deg for tilt2-12	Amp(voltage)	0	0	0	0	1	1	1	1
		PHz	0	0	0	0	0	158	66	92
+45	Service Beam_0deg for tilt2-12	Amp(voltage)	1	0	1	0	1	0	1	0
		PHz	0	0	0	0	0	0	0	0
-45	Service Beam_0deg for tilt2-12	Amp(voltage)	0	1	0	1	0	1	0	1
		PHz	0	0	0	0	0	0	0	0
+45	Service Beam_30deg for tilt2-12	Amp(voltage)	1	0	1	0	1	0	1	0
		PHz	-142	0	-47	0	48	0	143	0
-45	Service Beam_30deg for tilt2-12	Amp(voltage)	0	1	0	1	0	1	0	1
		PHz	0	-142	0	-47	0	48	0	143
+45	Service Beam_-30deg for tilt2-12	Amp(voltage)	1	0	1	0	1	0	1	0
		PHz	142	0	47	0	-48	0	-143	0
-45	Service Beam_-30deg for tilt2-12	Amp(voltage)	0	1	0	1	0	1	0	1
		PHz	0	142	0	47	0	-48	0	-143

Electrical Specifications

Frequency Band, MHz	2300–2400	2496–2690
Beam Tilt, degrees	2–12	2–12
Beam Tilt Tolerance, degrees	±0.9	±0.9
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	18	18
Isolation, Cross Polarization, port to port, dB	24	24
Isolation, Cross Polarization, port to port, between two columns, dB	24	24
VSWR Return loss, dB	1.5 14.0	1.5 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-150	-150
Input Power per Port, maximum, watts	250	250

Electrical Specifications, Broadcast 65°

Frequency Band, MHz	2300–2400	2496–2690
Gain, dBi	18	18.6
Beamwidth, Horizontal, degrees	70	67

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Beamwidth, Horizontal Tolerance, degrees	±7.2	±5.9
Beamwidth, Vertical, degrees	5.1	4.8
Beamwidth, Vertical Tolerance, degrees	±0.3	±0.4
CPR at Boresight, dB	20	17
Null Fill, dB	30	30

Electrical Specifications, Service Beam

Frequency Band, MHz	2300–2400	2496–2690
Steered 0° Gain, dBi	22.2	22.3
Steered 0° Gain Tolerance, dBi	±0.5	±0.8
Steered 0° Beamwidth, Horizontal, degrees	27	26
Steered 0° CPR at Beampeak, dB	21	16
Steered 0° Front-to-Back Total Power at 180° ± 30°, dB	33	33
Steered 13° USLS (First Lobe), dB	5	8
Steered 30° Gain, dBi	21.6	21.6
Steered 30° Gain Tolerance, dBi	±0.6	±0.9
Steered 30° CPR at Beampeak, dB	21	16
Steered 30° Front-to-Back Total Power at 180° ± 30°, dB	31	31
Steered 42° Front-to-Back Total Power at 180° ± 30°, dB	6	9

Electrical Specifications, Single Column

Frequency Band, MHz	2300–2400	2496–2690
Gain, dBi	16.8	16.9
Beamwidth, Horizontal, degrees	99	95
Beamwidth, Horizontal Tolerance, degrees	±16.2	±14.3
Beamwidth, Vertical, degrees	5.1	4.8
Beamwidth, Vertical Tolerance, degrees	±0.3	±0.4
CPR at Sector, dB	11	7
Input Power per Port, maximum, watts	250	250

Mechanical Specifications

Mechanical Tilt Range	0°–17°
Wind Loading @ Velocity, frontal	586.0 N @ 150 km/h (131.7 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	123.0 N @ 150 km/h (27.7 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	709.0 N @ 150 km/h (159.4 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h (150 mph)

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Packaging and Weights

Width, packed	413 mm 16.26 in
Depth, packed	257 mm 10.118 in
Length, packed	1740 mm 68.504 in
Weight, gross	25.5 kg 56.218 lb

Regulatory Compliance/Certifications

Agency

ISO 9001:2015



Classification

Designed, manufactured and/or distributed under this quality management system

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