

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

| | |
|---|--|
| Antenna Type | Sector |
| Band | Multiband |
| Calibration Connector Interface | 4.3-10 Female |
| Calibration Connector Quantity | 2 |
| Color | Light Gray (RAL 7035) |
| Grounding Type | RF connector inner conductor and body grounded to reflector and mounting bracket |
| Performance Note | Outdoor usage Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN |
| Radome Material | Fiberglass, UV resistant |
| Radiator Material | Low loss circuit board |
| RF Connector Interface | 4.3-10 Female |
| RF Connector Location | Bottom |
| RF Connector Quantity, high band | 16 |
| RF Connector Quantity, mid band | 0 |
| RF Connector Quantity, low band | 0 |
| RF Connector Quantity, total | 16 |

Remote Electrical Tilt (RET) Information

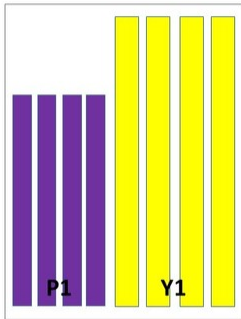
| | |
|--|-----------------------------------|
| RET Hardware | CommRET v2 |
| RET Interface | 8-pin DIN Female 8-pin DIN Male |
| RET Interface, quantity | 1 female 1 male |
| Internal RET | High band (2) |
| Power Consumption, idle state, maximum | 1 W |
| Power Consumption, normal conditions, maximum | 8 W |
| Protocol | 3GPP/AISG 2.0 (Single RET) |

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Dimensions

| | |
|---|---------------------|
| Width | 498 mm 19.606 in |
| Depth | 197 mm 7.756 in |
| Length | 1499 mm 59.016 in |
| Net Weight, without mounting kit | 31.5 kg 69.446 lb |

Array Layout



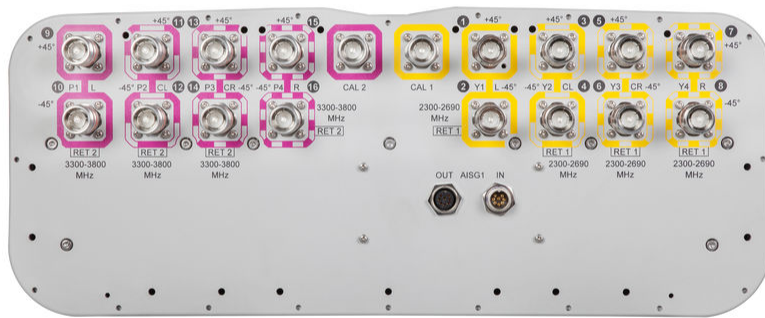
| Array | Freq (MHz) | Conns | RET (SRET) | AISG RET UID |
|-------|------------|-------|------------|--------------------|
| Y1 | 2300-2690 | 1-8 | 1 | CPxxxxxxxxxxxxxxY1 |
| P1 | 3300-3800 | 9-16 | 2 | CPxxxxxxxxxxxxxxP1 |

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

Left Right
Bottom

Port Configuration

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Electrical Specifications

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

Electrical Specifications

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

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| | | | | |
|--|----------|----------|----------|----------|
| 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, Broadcast 65°

| Frequency Band, MHz | 2300-2500 | 2500-2690 | 3300-3600 | 3600-3800 |
|--|-----------|-----------|-----------|-----------|
| Gain, dBi | 17.9 | 17.9 | 16.2 | 16.3 |
| Beamwidth, Horizontal, degrees | 63 | 62 | 67 | 65 |
| Beamwidth, Horizontal Tolerance, degrees | ±4.9 | ±3.2 | ±7.8 | ±4.9 |
| Beamwidth, Vertical, degrees | 5.2 | 4.9 | 6.7 | 6.3 |
| Beamwidth, Vertical Tolerance, degrees | ±0.2 | ±0.2 | ±0.4 | ±0.4 |

Electrical Specifications, Service Beam

| Frequency Band, MHz | 2300-2500 | 2500-2690 | 3300-3600 | 3600-3800 |
|---|-----------|-----------|-----------|-----------|
| Steered 0° Gain, dBi | 21.6 | 21.8 | 20.6 | 20.8 |
| Steered 0° Gain Tolerance, dBi | ±0.3 | ±0.4 | ±0.4 | ±0.6 |
| Steered 0° Beamwidth, Horizontal, degrees | 27 | 25 | 25 | 23 |
| Steered 0° CPR at Beampeak, dB | 16 | 16 | 20 | 15 |
| Steered 0° Horizontal Sidelobe, dB | 12 | 11 | 12 | 12 |

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| | | | | |
|--|------|------|------|------|
| Steered 13° USLS (First Lobe), dB | 3 | 4 | 4 | 6 |
| Steered 30° Gain, dBi | 21.2 | 21.2 | 19.8 | 19.9 |
| Steered 30° Gain Tolerance, dBi | ±0.3 | ±0.5 | ±0.4 | ±0.5 |
| Steered 30° Beamwidth, Horizontal, degrees | 29 | 27 | 29 | 27 |
| Steered 30° Horizontal Sidelobe, dB | 10 | 9 | 10 | 9 |
| Steered 42° Front-to-Back Total Power at 180° ± 30°, dB | 3 | 5 | 4 | 5 |

Electrical Specifications, Soft Split

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

Mechanical Specifications

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

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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