# RRZZT4S4-65B-R6

## 24-port sector antenna, 4x 694–960 and 4x 1427-2690 MHz 65° HPBW, 8x 2300–2690 and 8x 3300-3800MHz, 90° HPBW, 6x RET

- Antenna includes 2x Single Column X-Pol Arrays for 694-960MHz and 2x Single Column X-Pol Arrays for 1427-2690MHz, suitable for 4x MIMO applications
- Also includes 1x 4-Column Array for 2300-2690 MHz and a separate 1x 4-Column Array for 3300-3800MHz. Column spacing optimized to support Soft Split Beamforming
- A calibration port is provided for each 4-Column Array. Six Internal RET's provide independent electrical tilt control for each array

## General Specifications

| | |
|---|---|
| **Antenna Type** | Sector- and beamforming |
| **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 |
| **Reflector Material** | Aluminum |
| **RF Connector Interface** | 4.3-10 Female |
| **RF Connector Location** | Bottom |
| **RF Connector Quantity, high band** | 8 |
| **RF Connector Quantity, mid band** | 12 |
| **RF Connector Quantity, low band** | 4 |
| **RF Connector Quantity, total** | 24 |

## 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 |

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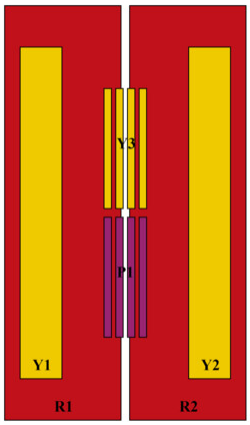
| | |
|---|---|
| **Input Voltage** | 10–30 Vdc |
| **Internal RET** | High band (1) \| Low band (2) \| Mid band (3) |
| **Power Consumption, active state, maximum** | 8 W |
| **Power Consumption, idle state, maximum** | 1 W |
| **Protocol** | 3GPP/AISG 2.0 (Single RET) |

## Dimensions

| | |
|---|---|
| **Width** | 498 mm \| 19.606 in |
| **Depth** | 197 mm \| 7.756 in |
| **Length** | 2100 mm \| 82.677 in |

## Array Layout




| Array ID | Frequency (MHz) | RF Connector | RET (SRET) | AISG No. | AISG RET UID |
|---|---|---|---|---|---|
| R1 | 694-960 | 1 - 2 | 1 | AISG1 | CPxxxxxxxxxxxxxxR1 |
| R2 | 694-960 | 3 - 4 | 2 | AISG1 | CPxxxxxxxxxxxxxxR2 |
| Y1 | 1427-2690 | 5 - 6 | 3 | AISG1 | CPxxxxxxxxxxxxxxY1 |
| Y2 | 1427-2690 | 7 - 8 | 4 | AISG1 | CPxxxxxxxxxxxxxxY2 |
| Y3 | 2300-2690 | 9 - 16 | 5 | AISG1 | CPxxxxxxxxxxxxxxY3 |
| P1 | 3300-3800 | 17 - 24 | 6 | AISG1 | CPxxxxxxxxxxxxxxP1 |

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

## Port Configuration

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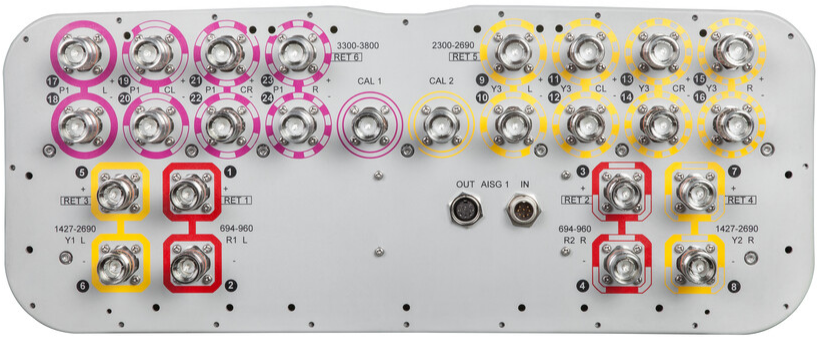


## Electrical Specifications

| | |
|---|---|
| **Impedance** | 50 ohm |
| **Operating Frequency Band** | 1427 – 2690 MHz \| 2300 – 2690 MHz \| 3300 – 3800 MHz \| 694 – 960 MHz |
| **Polarization** | ±45° |
| **Total Input Power, maximum** | 900 W @ 50 °C |

## Electrical Specifications

| **Frequency Band, MHz** | **694–790** | **790–890** | **890–960** | **1427–1518** | **1695–2180** | **2300–2690** | **2300–2690** | **3300–3800** |
|---|---|---|---|---|---|---|---|---|
| **Gain, dBi** | 15.1 | 15.4 | 15.6 | 16 | 17.8 | 18.3 | 15.3 | 15.9 |
| **Beamwidth, Horizontal, degrees** | 71 | 65 | 63 | 77 | 70 | 59 | 94 | 90 |
| **Beamwidth, Vertical, degrees** | 10.4 | 9.4 | 8.4 | 7 | 5.5 | 4.4 | 6.3 | 6.6 |
| **Beam Tilt, degrees** | 2–12 | 2–12 | 2–12 | 2–12 | 2–12 | 2–12 | 2–12 | 2–12 |
| **USLS (First Lobe), dB** | 15 | 17 | 17 | 19 | 16 | 17 | 15 | 15 |
| **Front-to-Back Ratio at 180°, dB** | 32 | 33 | 31 | 31 | 30 | 29 | 31 | 28 |
| **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** | | | | | | | 9 | 9 |
| **Isolation, Cross Polarization, dB** | 28 | 28 | 28 | 25 | 25 | 25 | 25 | 25 |
| **Isolation, Inter-band, dB** | 28 | 28 | 28 | 25 | 25 | 25 | 25 | 25 |
| **Isolation, Co-polarization, dB** | | | | | | | 20 | 20 |
| **VSWR \| Return loss, dB** | 1.5 \| 14.0 | 1.5 \| 14.0 | 1.5 \| 14.0 | 1.5 \| 14.0 | 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 | -150 | -150 | -150 | -145 |
| **Input Power per Port at 50°C, maximum, watts** | 300 | 300 | 300 | 250 | 250 | 200 | 150 | 75 |

## Electrical Specifications, BASTA

| **Frequency Band, MHz** | **694–790** | **790–890** | **890–960** | **1427–1518** | **1695–2180** | **2300–2690** | **2300–2690** | **3300–3800** |
|---|---|---|---|---|---|---|---|---|
| **Gain by all Beam Tilts, average, dBi** | 14.7 | 15.1 | 15.4 | 15.6 | 17 | 18 | 14.7 | 15.2 |
| **Gain by all Beam Tilts Tolerance, dB** | ±0.4 | ±0.3 | ±0.3 | ±0.4 | ±0.8 | ±0.4 | ±0.7 | ±0.7 |
| **Beamwidth, Horizontal Tolerance, degrees** | ±6.2 | ±3.7 | ±3.4 | ±5.4 | ±6.6 | ±6.4 | ±13.9 | ±17.7 |
| **Beamwidth, Vertical Tolerance, degrees** | ±0.6 | ±0.5 | ±0.5 | ±0.2 | ±0.7 | ±0.3 | ±0.5 | ±0.6 |
| **USLS, beampeak to 20° above beampeak, dB** | 14 | 17 | 17 | 17 | 16 | 14 | 14 | 14 |
| **Front-to-Back Total Power at 180° ± 30°, dB** | 21 | 20 | 21 | 25 | 24 | 24 | 23 | 21 |
| **CPR at Boresight, dB** | 20 | 20 | 18 | 16 | 17 | 17 | 15 | 16 |
| **CPR at Sector, dB** | 13 | 9 | 11 | 8 | 4 | 3 | 10 | 8 |

## Electrical Specifications, Broadcast 65°

| **Frequency Band, MHz** | | | | | | | **2300–2690** | **3300–3800** |
|---|---|---|---|---|---|---|---|---|
| **Gain, dBi** | | | | | | | 17.3 | 17.1 |
| **Beamwidth, Horizontal, degrees** | | | | | | | 57 | 56 |
| **Beamwidth, Vertical, degrees** | | | | | | | 6.2 | 6.5 |
| **USLS (First Lobe), dB** | | | | | | | 14 | 16 |

## Electrical Specifications, Service Beam

| Frequency Band, MHz | 2300–2690 | 3300–3800 |
|---|---|---|
| Steered 0° Gain, dBi | 20.6 | 20.9 |
| Steered 0° Beamwidth, Horizontal, degrees | 26 | 24 |
| Steered 0° Front-to-Back Total Power at 180° ± 30°, dB | 33 | 30 |
| Steered 0° Horizontal Sidelobe, dB | 11 | 13 |
| Steered 30° Gain, dBi | 19.8 | 19.7 |
| Steered 30° Beamwidth, Horizontal, degrees | 28 | 28 |

## Electrical Specifications, Soft Split

| Frequency Band, MHz | 2300–2690 | 3300–3800 |
|---|---|---|
| Gain, dBi | 19.5 | 19.6 |
| Beamwidth, Horizontal, degrees | 32 | 32 |
| Front-to-Back Total Power at 180° ± 30°, dB | 33 | 28 |
| Horizontal Sidelobe, dB | 18 | 16 |

## Mechanical Specifications

| | |
|---|---|
| **Wind Loading @ Velocity, frontal** | 803.0 N @ 150 km/h (180.5 lbf @ 150 km/h) |
| **Wind Loading @ Velocity, lateral** | 275.0 N @ 150 km/h (61.8 lbf @ 150 km/h) |
| **Wind Loading @ Velocity, maximum** | 1,040.0 N @ 150 km/h (233.8 lbf @ 150 km/h) |
| **Wind Loading @ Velocity, rear** | 661.0 N @ 150 km/h (148.6 lbf @ 150 km/h) |
| **Wind Speed, maximum** | 241 km/h (150 mph) |

## Packaging and Weights

| | |
|---|---|
| **Width, packed** | 565 mm \| 22.244 in |
| **Depth, packed** | 309 mm \| 12.165 in |
| **Length, packed** | 2287 mm \| 90.039 in |
| **Weight, gross** | 62.1 kg \| 136.907 lb |
| **Weight, net** | 47.6 kg \| 104.94 lb |

## Regulatory Compliance/Certifications

| Agency | Classification |
|---|---|

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| | |
|---|---|
| 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-4 | – | 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 |