

# RRZS4-65D-R5

16-port sector antenna, 4x 694–960, 4x 1427–2690 MHz, 65° HPBW and 8x 3300–3800 MHz, 90° HPBW, 5x RET



- Combination of Quad Band antenna and 3.5GHz 8T8R beam forming antenna
- Internal SBT RET support via Calibration Port of 3.5GHz array
- Beam-forming weighting table available upon request
- Optimized for Software Defined Split Six Sector applications on 3.5GHz
- Supports re-configurable antenna sharing capability enabling control of the internal RET system using up to two separate RET compatible OEM radios

## General Specifications

<b>Antenna Type</b>	Sector
<b>Band</b>	Multiband
<b>Calibration Connector Interface</b>	N Female
<b>Calibration Connector Quantity</b>	1
<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>Reflector Material</b>	Aluminum
<b>RF Connector Interface</b>	4.3-10 Female
<b>RF Connector Location</b>	Bottom
<b>RF Connector Quantity, high band</b>	12
<b>RF Connector Quantity, low band</b>	4
<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>	2 female   2 male
<b>Input Voltage</b>	10–30 Vdc

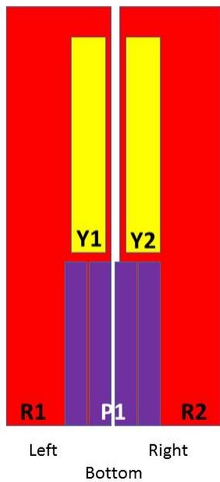
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<b>Internal RET</b>	High band (3)   Low band (2)
<b>Power Consumption, idle state, maximum</b>	1 W
<b>Power Consumption, normal conditions, maximum</b>	8 W
<b>Protocol</b>	3GPP/AISG 2.0 (Single RET)

## Dimensions

<b>Width</b>	498 mm   19.606 in
<b>Depth</b>	197 mm   7.756 in
<b>Length</b>	2688 mm   105.827 in
<b>Net Weight, without mounting kit</b>	47 kg   103.617 lb
<b>TDD Column Spacing</b>	42 mm   1.654 in

## Array Layout

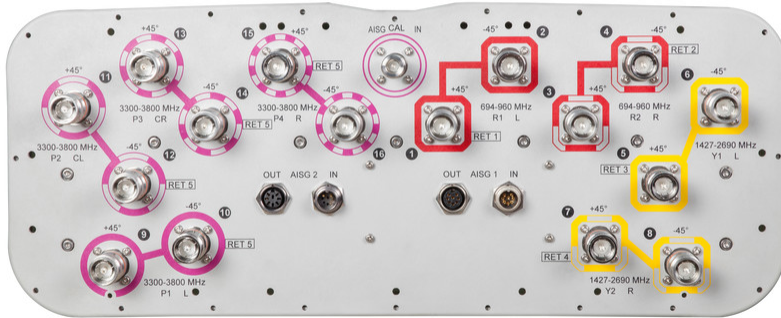


Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	694-960	1-2	1	CPxxxxxxxxxxxxxxxxR1
R2	695-960	3-4	2	CPxxxxxxxxxxxxxxxxR2
Y1	1427-2690	5-6	3	CPxxxxxxxxxxxxxxxxY1
Y2	1427-2690	7-8	4	CPxxxxxxxxxxxxxxxxY2
P1	3300-3800	9-16	5	CPxxxxxxxxxxxxxxxxP1

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

## Port Configuration

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## Electrical Specifications

<b>Impedance</b>	50 ohm
<b>Operating Frequency Band</b>	1427 – 2690 MHz   3300 – 3800 MHz   694 – 960 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	900 W @ 50 °C

## Electrical Specifications

	R1-R2	R1-R2	R1-R2	Y1-Y2	Y1-Y2	Y1-Y2	Y1-Y2	P1
<b>Frequency Band, MHz</b>	<b>694–790</b>	<b>790–862</b>	<b>880–960</b>	<b>1427–1518</b>	<b>1695–1920</b>	<b>1920–2180</b>	<b>2300–2690</b>	<b>3300–3800</b>
<b>Gain, dBi</b>	15.9	16.3	16.8	15.3	17.1	17.6	17.7	16.5
<b>Beamwidth, Horizontal, degrees</b>	70	67	63	68	57	58	62	86
<b>Beamwidth, Vertical, degrees</b>	8.4	7.6	6.9	8.7	7.2	6.5	5.3	6.5
<b>Beam Tilt, degrees</b>	2–12	2–12	2–12	2–12	2–12	2–12	2–12	2–12
<b>USLS (First Lobe), dB</b>	14	17	19	17	18	17	17	16
<b>Front-to-Back Ratio at 180°, dB</b>	31	30	32	33	35	36	33	30
<b>Coupling level, Amp, Antenna port to Cal port, dB</b>								26
<b>Coupling level, max Amp Δ,</b>								±2

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## Antenna port to Cal port, dB

Coupler, max Amp  $\Delta$ , Antenna port to Cal port, dB 1.8

Coupler, max Phase  $\Delta$ , Antenna port to Cal port, degrees 14

Isolation, Cross Polarization, dB 28 28 28 27 28 28 28 25

Isolation, Inter-band, dB 28 28 28 28 28 28 28 19

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 250 250 250 200 200 200 150 75

## Electrical Specifications, BASTA

Frequency Band, MHz	694–790	790–862	880–960	1427–1518	1695–1920	1920–2180	2300–2690	3300–3800
Gain by all Beam Tilts, average, dBi	15.6	16	16.4	14.9	16.4	17.1	17.1	15.5
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.4	±0.5	±0.8	±0.8	±0.5	±0.8	±1
Gain by Beam Tilt, average, dBi	2° 15.5 7° 15.7 12° 15.4	2° 15.9 7° 16.1 12° 15.8	2° 16.4 7° 16.6 12° 16.1	2° 14.6 7° 14.9 12° 14.9	2° 16.1 7° 16.5 12° 16.4	2° 16.7 7° 17.3 12° 17.1	2° 16.4 7° 16.3 12° 17.0	2° 15.2 7° 15.6 12° 15.5
Beamwidth, Horizontal Tolerance, degrees	±4.5	±4.0	±5.4	±3.3	±7.5	±3.7	±8.3	
Beamwidth, Vertical Tolerance, degrees	±0.5	±0.4	±0.4	±0.7	±0.6	±0.6	±0.5	±0.6
USLS, beampeak to 20° above beampeak, dB	14	15	16	14	17	15	14	14
Front-to-Back Total Power at 180° ± 30°, dB	20	20	22	25	29	29	27	21
CPR at Boresight, dB	25	24	24	16	19	20	19	17
CPR at Sector, dB	10	7	9	7	8	6	7	8

## Electrical Specifications, Broadcast 65°

Frequency Band, MHz	3300–3800
Gain, dBi	16.5
Beamwidth, Horizontal, degrees	62
Beamwidth, Vertical, degrees	6.5
USLS (First Lobe), dB	16

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## Electrical Specifications, Service Beam

<b>Frequency Band, MHz</b>	<b>3300–3800</b>
<b>Steered 0° Gain, dBi</b>	20.9
<b>Steered 0° Beamwidth, Horizontal, degrees</b>	24
<b>Steered 0° Horizontal Sidelobe, dB</b>	13
<b>Steered 30° Gain, dBi</b>	19.5
<b>Steered 30° Beamwidth, Horizontal, degrees</b>	31

## Electrical Specifications, Soft Split

<b>Frequency Band, MHz</b>	<b>3300–3800</b>
<b>Gain, dBi</b>	19.8
<b>Beamwidth, Horizontal, degrees</b>	31
<b>Horizontal Sidelobe, dB</b>	18

## Mechanical Specifications

<b>Mechanical Tilt Range</b>	0°–10°
<b>Wind Loading @ Velocity, frontal</b>	1,070.0 N @ 150 km/h (240.5 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	375.0 N @ 150 km/h (84.3 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	1,385.0 N @ 150 km/h (311.4 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	880.0 N @ 150 km/h (197.8 lbf @ 150 km/h)
<b>Wind Speed, maximum</b>	241 km/h (150 mph)

## Packaging and Weights

<b>Width, packed</b>	565 mm   22.244 in
<b>Depth, packed</b>	309 mm   12.165 in
<b>Length, packed</b>	2935 mm   115.551 in
<b>Weight, gross</b>	68 kg   149.914 lb

## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
CHINA-ROHS	Above maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system

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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.
- BSAMNT-M4 – Middle Downtilt Mounting Kit for Long Antennas for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor bracket set.

## \* Footnotes

**Performance Note** Severe environmental conditions may degrade optimum performance