

# RRZZVVT4S4-65BR8V4



28-port sector antenna, 4x 694-960, 4x 1427-2690 and 4x 1695-2690 MHz 65° HPBW, 8x 2300-2690 and 8x 3300-3800MHz, 90° HPBW, 8x RET

- 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
- Includes eight Internal RET's
- Supports re-configurable antenna sharing capability enabling control of the internal RET system using up to two separate RET compatible OEM radios
- New end cap shape for additional wind load reduction
- 2x MQ4 and 2x MQ5 cluster connectors (comprising 16 RF ports + 2 calibration ports in total) are provided for the beam-forming arrays

## General Specifications

<b>Antenna Type</b>	Sector- and beamforming
<b>Band</b>	Multiband
<b>Calibration Connector Interface</b>	MQ5
<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
<b>Radome Material</b>	Fiberglass, UV resistant
<b>Reflector Material</b>	Aluminum
<b>RF Connector Interface</b>	4.3-10 Female   MQ4   MQ5
<b>RF Connector Location</b>	Bottom
<b>RF Connector Quantity, high band</b>	16
<b>RF Connector Quantity, mid band</b>	8
<b>RF Connector Quantity, low band</b>	4
<b>RF Connector Quantity, total</b>	28

## 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

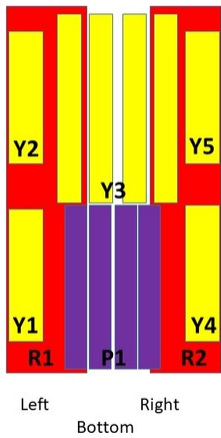
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<b>Input Voltage</b>	10–30 Vdc
<b>Internal RET</b>	High band (2)   Low band (2)   Mid band (4)
<b>Power Consumption, active state, maximum</b>	8 W
<b>Power Consumption, idle state, maximum</b>	1 W
<b>Protocol</b>	3GPP/AISG 2.0 (Single RET)

## Dimensions

<b>Width</b>	498 mm   19.606 in
<b>Depth</b>	197 mm   7.756 in
<b>Length</b>	2180 mm   85.827 in
<b>Net Weight, without mounting kit</b>	48 kg   105.822 lb

## Array Layout



Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	694-960	1-2	1	CPxxxxxxxxxxxxxxxxR1
R2	694-960	3-4	2	CPxxxxxxxxxxxxxxxxR2
Y1	1427-2690	5-6	3	CPxxxxxxxxxxxxxxxxY1
Y2	1695-2690	7-8	4	CPxxxxxxxxxxxxxxxxY2
Y3	2300-2690	9-16	5	CPxxxxxxxxxxxxxxxxY3
Y4	1427-2690	17-18	6	CPxxxxxxxxxxxxxxxxY4
Y5	1695-2690	19-20	7	CPxxxxxxxxxxxxxxxxY5
P1	3300-3800	21-28	8	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   1695 – 2690 MHz   2300 – 2690 MHz   3300 – 3800 MHz   694 – 960 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	1,900 W @ 50 °C

## Electrical Specifications

Frequency Band, MHz	694–790	790–890	890–960	1427–1518	1695–2180	2300–2690	1695–2180	2300–2690	2300–2690	3300–3800
<b>Gain, dBi</b>	15.1	15.5	15.7	14.7	16.3	17.2	15.7	16.8	15.2	16
<b>Beamwidth, Horizontal, degrees</b>	70	63	61	82	68	63	73	58	91	90
<b>Beamwidth, Vertical, degrees</b>	10.3	9.4	8.6	10.1	7.9	5.9	8.9	7	5.6	6.1
<b>Beam Tilt, degrees</b>	2–12	2–12	2–12	2–12	2–12	2–12	2–12	2–12	2–12	2–12
<b>USLS (First Lobe), dB</b>	17	18	20	15	16	17	16	18	17	17
<b>Front-to-Back Ratio at 180°, dB</b>	31	29	29	31	29	33	31	30	31	30
<b>Coupling level, Amp, Antenna port to Cal port, dB</b>									26	26

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<b>Coupling level, max Amp <math>\Delta</math>, Antenna port to Cal port, dB</b>									$\pm 2$	$\pm 2$
<b>Coupler, max Amp <math>\Delta</math>, Antenna port to Cal port, dB</b>									0.9	0.9
<b>Coupler, max Phase <math>\Delta</math>, Antenna port to Cal port, degrees</b>									7	7
<b>Isolation, Cross Polarization, dB</b>	28	28	28	25	25	25	25	25	25	25
<b>Isolation, Inter-band, dB</b>	28	28	28	25	25	25	25	25	25	25
<b>Isolation, Co-polarization, dB</b>									20	20
<b>VSWR   Return loss, dB</b>	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	1.5 14.0	1.5 14.0
<b>PIM, 3rd Order, 2 x 20 W, dBc</b>	-150	-150	-150	-150	-150	-150	-150	-150	-130	-130
<b>Input Power per Port at 50°C, maximum, watts</b>	300	300	300	250	250	200	250	200	150	75

## Electrical Specifications, BASTA

<b>Frequency Band, MHz</b>	<b>694–790</b>	<b>790–890</b>	<b>890–960</b>	<b>1427–1518</b>	<b>1695–2180</b>	<b>2300–2690</b>	<b>1695–2180</b>	<b>2300–2690</b>	<b>2300–2690</b>	<b>3300–3800</b>
<b>Gain by all Beam Tilts, average, dBi</b>	14.8	15.2	15.4	14.2	15.8	16.8	14.8	16.3	14.6	15.2
<b>Gain by all Beam Tilts Tolerance, dB</b>	$\pm 0.4$	$\pm 0.4$	$\pm 0.4$	$\pm 0.8$	$\pm 0.7$	$\pm 0.5$	$\pm 1$	$\pm 0.5$	$\pm 0.6$	$\pm 0.7$
<b>Beamwidth, Horizontal Tolerance, degrees</b>	$\pm 4.1$	$\pm 4.5$	$\pm 2.7$	$\pm 9.4$	$\pm 6.2$	$\pm 4.9$	$\pm 9.5$	$\pm 2.8$	$\pm 17.3$	$\pm 14.9$
<b>Beamwidth, Vertical Tolerance, degrees</b>	$\pm 0.7$	$\pm 0.7$	$\pm 0.6$	$\pm 0.8$	$\pm 1$	$\pm 0.6$	$\pm 1.1$	$\pm 0.6$	$\pm 0.4$	$\pm 0.5$
<b>USLS, beampeak to 20° above beampeak, dB</b>	17	18	18	15	16	16	14	15	12	14
<b>Front-to-Back Total Power at 180° <math>\pm</math> 30°, dB</b>	21	21	23	25	23	25	23	24	22	23
<b>CPR at Boresight, dB</b>	20	20	21	18	18	14	17	19	16	17

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CPR at Sector, dB      12      9      12      9      4      2      6      5      10      7

## Electrical Specifications, Broadcast 65°

<b>Frequency Band, MHz</b>	<b>2300–2690</b>	<b>3300–3800</b>
<b>Gain, dBi</b>	17.6	18
<b>Beamwidth, Horizontal, degrees</b>	65	65
<b>Beamwidth, Vertical, degrees</b>	5.7	6.3
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	27	27
<b>USLS (First Lobe), dB</b>	18	21

## Electrical Specifications, Service Beam

<b>Frequency Band, MHz</b>	<b>2300–2690</b>	<b>3300–3800</b>
<b>Steered 0° Gain, dBi</b>	20.3	20.8
<b>Steered 0° Beamwidth, Horizontal, degrees</b>	25	24
<b>Steered 0° Front-to-Back Total Power at 180° ± 30°, dB</b>	31	30
<b>Steered 0° Horizontal Sidelobe, dB</b>	14	13
<b>Steered 30° Gain, dBi</b>	19.3	20.1
<b>Steered 30° Beamwidth, Horizontal, degrees</b>	29	27
<b>Steered 30° Front-to-Back Total Power at 180° ± 30°, dB</b>	28	28

## Electrical Specifications, Soft Split

<b>Frequency Band, MHz</b>	<b>2300–2690</b>	<b>3300–3800</b>
<b>Gain, dBi</b>	19.2	20

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<b>Beamwidth, Horizontal, degrees</b>	33	31
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	30	28
<b>Horizontal Sidelobe, dB</b>	17	17

## Mechanical Specifications

<b>Wind Loading @ Velocity, frontal</b>	760.0 N @ 150 km/h (170.9 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	233.0 N @ 150 km/h (52.4 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	911.0 N @ 150 km/h (204.8 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	523.0 N @ 150 km/h (117.6 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>	368 mm   14.488 in
<b>Length, packed</b>	2359 mm   92.874 in
<b>Weight, gross</b>	61.9 kg   136.466 lb

## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system



## 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.
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## \* Footnotes

<b>Performance Note</b>	Severe environmental conditions may degrade optimum performance
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