

# RRV4Q4-65A-R7



20-port sector antenna, 4x 694-960 (R1-R2), 8x 1695-2690 MHz (Y1-Y4) 65° HPBW and 8x 2300-3800 MHz (P1), 90° HPBW Beamformer, 7x RET

- Includes 1x 4-Column Array for 2300-3800MHz and calibration port. Column spacing optimized to support Soft Split Beamforming
- Q4 array uses M-LOC cluster connectors
- Seven internal RETs control the antenna arrays
- New aerodynamic endcaps for wind load optimization

## General Specifications

<b>Antenna Type</b>	Sector- and beamforming
<b>Band</b>	Multiband
<b>Calibration Connector Interface</b>	M-LOC
<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
<b>Radome Material</b>	Fiberglass, UV resistant
<b>Reflector Material</b>	Aluminum
<b>RF Connector Interface</b>	4.3-10 Female   M-LOC
<b>RF Connector Location</b>	Bottom
<b>RF Connector Quantity, high band</b>	8
<b>RF Connector Quantity, mid band</b>	8
<b>RF Connector Quantity, low band</b>	4
<b>RF Connector Quantity, total</b>	20

## 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
<b>Internal RET</b>	High band (1)   Low band (2)   Mid band (4)

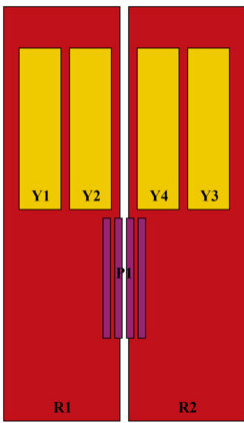
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<b>Power Consumption, active state, maximum</b>	8 W
<b>Power Consumption, idle state, maximum</b>	1 W
<b>Protocol</b>	3GPP/AISG 2.0 (Single RET)

## Dimensions

<b>Width</b>	498 mm   19.606 in
<b>Depth</b>	197 mm   7.756 in
<b>Length</b>	1499 mm   59.016 in
<b>Net Weight, antenna only</b>	32.2 kg   70.989 lb

## Array Layout



Array ID	Frequency (MHz)	RF Connector	RET (SRET)	AISG No.	AISG RET UID
R1	694-960	1 - 2	1	AISG1	CPxxxxxxxxxxxxxxxxR1
R2	694-960	3 - 4	2	AISG1	CPxxxxxxxxxxxxxxxxR2
Y1	1695-2690	5 - 6	3	AISG1	CPxxxxxxxxxxxxxxxxY1
Y2	1695-2690	7 - 8	4	AISG1	CPxxxxxxxxxxxxxxxxY2
Y3	1695-2690	9 - 10	5	AISG1	CPxxxxxxxxxxxxxxxxY3
Y4	1695-2690	11 - 12	6	AISG1	CPxxxxxxxxxxxxxxxxY4
P1	2300-3800	13 - 20	7	AISG1	CPxxxxxxxxxxxxxxxxP1

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

## Port Configuration



## Electrical Specifications

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<b>Impedance</b>	50 ohm
<b>Operating Frequency Band</b>	1695 – 2690 MHz   2300 – 3800 MHz   694 – 960 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	1,400 W @ 50 °C

## Electrical Specifications

	<b>R1,R2</b>	<b>R1,R2</b>	<b>R1,R2</b>	<b>Y1,Y3</b>	<b>Y1,Y3</b>	<b>Y1,Y3</b>	<b>Y2,Y4</b>	<b>Y2,Y4</b>	<b>Y2,Y4</b>
<b>Frequency Band, MHz</b>	<b>694–790</b>	<b>790–890</b>	<b>890–960</b>	<b>1695–1920</b>	<b>1920–2300</b>	<b>2300–2690</b>	<b>1695–1920</b>	<b>1920–2300</b>	<b>2300–2690</b>
<b>RF Port</b>	1-4	1-4	1-4	5,6,9,10	5,6,9,10	5,6,9,10	7,8,11,12	7,8,11,12	7,8,11,12
<b>Gain, dBi</b>	13.4	13.6	13.8	16.4	17.3	17.7	16.2	17	17.1
<b>Beamwidth, Horizontal, degrees</b>	73	68	67	71	64	59	65	58	61
<b>Beamwidth, Vertical, degrees</b>	15.7	14.3	13.1	6.7	6	5	8.7	7.8	6.6
<b>Beam Tilt, degrees</b>	2–16	2–16	2–16	2–12	2–12	2–12	2–12	2–12	2–12
<b>USLS (First Lobe), dB</b>	19	20	18	16	17	20	18	19	18
<b>Front-to-Back Ratio at 180°, dB</b>	30	29	27	33	30	30	35	35	32
<b>Isolation, Cross Polarization, dB</b>	25	25	25	25	25	25	25	25	25
<b>Isolation, Inter-band, dB</b>	25	25	25	25	25	25	25	25	25
<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
<b>PIM, 3rd Order, 2 x 20 W, dBc</b>	-150	-150	-150	-150	-150	-150	-150	-150	-150
<b>Input Power per Port at 50°C, maximum, watts</b>	300	300	300	250	250	200	250	250	200

## Electrical Specifications, BASTA

	<b>694–790</b>	<b>790–890</b>	<b>890–960</b>	<b>1695–1920</b>	<b>1920–2300</b>	<b>2300–2690</b>	<b>1695–1920</b>	<b>1920–2300</b>	<b>2300–2690</b>
<b>Gain by all Beam Tilts, average, dBi</b>	13.2	13.3	13.6	16.1	17	17.4	15.8	16.7	16.9
<b>Gain by all Beam Tilts Tolerance, dB</b>	±0.4	±0.6	±0.5	±0.7	±0.6	±0.5	±0.6	±0.4	±0.3
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±5	±5	±5	±5	±5	±3	±5	±3	±3
<b>Beamwidth, Vertical Tolerance, degrees</b>	±1.3	±1.4	±0.7	±0.4	±0.5	±0.5	±0.8	±0.7	±0.5
<b>USLS, beampeak to 20°</b>				14	15	16	14	17	14

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above beampeak, dB

<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	20	20	20	25	24	25	27	27	25
<b>CPR at Boresight, dB</b>	23	23	22	18	20	21	20	22	22
<b>CPR at Sector, dB</b>	11	10	9	7	5	5	9	9	8

## Electrical Specifications

	<b>P1</b>	<b>P1</b>
<b>Frequency Band, MHz</b>	<b>2300–2690</b>	<b>3300–3800</b>
<b>RF Port</b>	13-20	13-20
<b>Gain, dBi</b>	12	14
<b>Beamwidth, Horizontal, degrees</b>	91	68
<b>Beamwidth, Vertical, degrees</b>	17	12.1
<b>Beam Tilt, degrees</b>	2–12	2–12
<b>USLS (First Lobe), dB</b>	14	16
<b>Front-to-Back Ratio at 180°, dB</b>	28	25
<b>Coupling level, Amp, Antenna port to Cal port, dB</b>	26	26
<b>Coupling level, max Amp Δ, Antenna port to Cal port, dB</b>	±2	±2
<b>Coupler, max Amp Δ, Antenna port to Cal port, dB</b>	0.9	0.9
<b>Coupler, max Phase Δ, Antenna port to Cal port, degrees</b>	7	7
<b>Isolation, Cross Polarization, dB</b>	25	25
<b>Isolation, Inter-band, dB</b>	25	25
<b>Isolation, Co-polarization, dB</b>	18	18
<b>VSWR   Return loss, dB</b>	1.5   14.0	1.5   14.0
<b>PIM, 3rd Order, 2 x 20 W, dBc</b>	-140	-140
<b>Input Power per Port at 50°C, maximum, watts</b>	75	75

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## Electrical Specifications, BASTA

<b>Frequency Band, MHz</b>	<b>2300–26903300–3800</b>	
<b>Gain by all Beam Tilts, average, dBi</b>	11.4	13.3
<b>Gain by all Beam Tilts Tolerance, dB</b>	±0.7	±0.8
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±13	±14
<b>Beamwidth, Vertical Tolerance, degrees</b>	±2	±1.4
<b>USLS, beampeak to 20° above beampeak, dB</b>		16
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	22	20
<b>CPR at Boresight, dB</b>	18	16
<b>CPR at Sector, dB</b>	10	7

## Electrical Specifications, Broadcast 65°

<b>Frequency Band, MHz</b>	<b>2300–26903300–3800</b>	
<b>Gain, dBi</b>	13.8	14.7
<b>Beamwidth, Horizontal, degrees</b>	65	65
<b>Beamwidth, Horizontal at 10 dB, degrees</b>	115	107
<b>Beamwidth, Vertical, degrees</b>	16.9	12.1
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	25	21
<b>USLS (First Lobe), dB</b>	17	18

## Electrical Specifications, Envelope Pattern

<b>Frequency Band, MHz</b>	<b>2300–26903300–3800</b>	
<b>Gain, dBi</b>	16.9	18.9
<b>Beamwidth, Horizontal at 10 dB, degrees</b>	123	121
<b>Beamwidth, Vertical at 3 dB, degrees</b>	16.8	12
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	26	23

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USLS (First Lobe), dB	19	19
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## Electrical Specifications, Service Beam

<b>Frequency Band, MHz</b>	<b>2300–26903300–3800</b>	
<b>Steered 0° Gain, dBi</b>	17	19.1
<b>Steered 0° Beamwidth, Horizontal, degrees</b>	25	18
<b>Steered 0° Front-to-Back Total Power at 180° ± 30°, dB</b>	28	25
<b>Steered 0° Horizontal Sidelobe, dB</b>	12	12
<b>Steered 30° Gain, dBi</b>	16.5	17
<b>Steered 30° Beamwidth, Horizontal, degrees</b>	27	21
<b>Steered 30° Front-to-Back Total Power at 180° ± 30°, dB</b>	28	22

## Electrical Specifications, Soft Split

<b>Frequency Band, MHz</b>	<b>2300–2690</b>
<b>Gain, dBi</b>	16.3
<b>Beamwidth, Horizontal, degrees</b>	30
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	28
<b>Horizontal Sidelobe, dB</b>	20

## Mechanical Specifications

<b>Wind Loading @ Velocity, frontal</b>	498.0 N @ 150 km/h (112.0 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	148.0 N @ 150 km/h (33.3 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	597.0 N @ 150 km/h (134.2 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	342.0 N @ 150 km/h (76.9 lbf @ 150 km/h)
<b>Wind Speed, maximum</b>	241 km/h (150 mph)

## Packaging and Weights

<b>Width, packed</b>	570 mm   22.441 in
<b>Depth, packed</b>	323 mm   12.717 in

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**Length, packed** 1625 mm | 63.976 in

**Weight, gross** 45.1 kg | 99.428 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

# 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.

## Product Classification

**Product Type** Downtilt mounting kit

## General Specifications

**Application** Outdoor

**Color** Silver

## Dimensions

**Compatible Diameter, maximum** 115 mm | 4.528 in

**Compatible Diameter, minimum** 60 mm | 2.362 in

**Weight, net** 6.2 kg | 13.669 lb

## Material Specifications

**Material Type** Galvanized steel

## Packaging and Weights

**Included** Brackets | Hardware

**Packaging quantity** 1

**Weight, gross** 6.4 kg | 14.11 lb

## Regulatory Compliance/Certifications

Agency	Classification
CE	Compliant with the relevant CE product directives
CHINA-ROHS	Below maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
REACH-SVHC	Compliant as per SVHC revision on <a href="http://www.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a>
ROHS	Compliant
UK-ROHS	Compliant



# BSAMNT-3

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