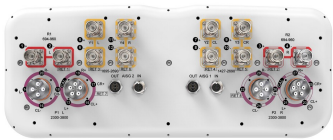


# RRZZVVQ4Q4-65DR8V4



28-port sector antenna, 4 x 694-960 MHz (R1,R2), 4 x 1695-2690 MHz (Y1,Y4) and 4 x 1427-2690 MHz (Y2,Y3) , 65° HPBW, 16 x 2300-3800 MHz (P1,P2), 90° HPBW, 8 x RET

- Q4 array uses MQ4/5 cluster connectors
- New aerodynamic endcaps for wind load optimization
- Eight internal RETs control the antenna arrays
- Two broadband beamforming arrays for 2300-3800 MHz, each with a calibration port

## General Specifications

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

## Remote Electrical Tilt (RET) Information

RET Hardware	CommRET v2
RET Interface	8-pin DIN Female   8-pin DIN Male
RET Interface, quantity	2 female   2 male
Input Voltage	10–30 Vdc
Internal RET	High band (2)   Low band (2)   Mid band (4)

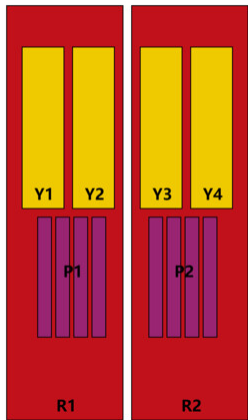
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Power Consumption, active state, maximum	8 W
Power Consumption, idle state, maximum	1 W
Protocol	3GPP/AISG 2.0 (Single RET)

## Dimensions

Width	498 mm   19.606 in
Depth	197 mm   7.756 in
Length	2688 mm   105.827 in
Net Weight, antenna only	56.5 kg   124.561 lb

## Array Layout



Array ID	Frequency (MHz)	RF Connector	HPBW	RET (SRET)	AISG No.	AISG RET UID
R1	694-960	1 - 2	65°	1	AISG2	CPxxxxxxxxxxxxR1
R2	694-960	3 - 4	65°	2	AISG1	CPxxxxxxxxxxxxR2
Y1	1695-2690	5 - 6	65°	3	AISG2	CPxxxxxxxxxxxxY1
Y2	1427-2690	7 - 8	65°	4	AISG1	CPxxxxxxxxxxxxY2
Y3	1427-2690	9 - 10	65°	5	AISG1	CPxxxxxxxxxxxxY3
Y4	1695-2690	11 - 12	65°	6	AISG2	CPxxxxxxxxxxxxY4
P1	2300-3800	13 - 20	90°	7	AISG2	CPxxxxxxxxxxxxP1
P2	2300-3800	21 - 28	90°	8	AISG1	CPxxxxxxxxxxxxP2

(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   1695 – 2690 MHz   2300 – 3800 MHz   694 – 960 MHz
Polarization	±45°
Total Input Power, maximum	1,600 W @ 50 °C

## Electrical Specifications

	R1,R2	R1,R2	R1,R2	Y1,Y4	Y1,Y4	Y1,Y4	Y1,Y4
Frequency Band, MHz	698–806	790–894	890–960	1695–1995	1920–2300	2300–2500	2490–2690
RF Port	1,2,3,4	1,2,3,4	1,2,3,4	5,6,11,12	5,6,11,12	5,6,11,12	5,6,11,12
Gain at Mid Tilt, dBi	15.8	16.1	16.1	16.7	17.8	18.2	18.3
Beamwidth, Horizontal, degrees	68	62	63	71	61	57	57
Beamwidth, Vertical, degrees	8.7	7.9	7.4	6.2	5.5	4.9	4.6
Beam Tilt, degrees	2–12	2–12	2–12	2–12	2–12	2–12	2–12
USLS (First Lobe), dB	18	20	19	17	18	20	20
Front-to-Back Ratio at 180°, dB	30	28	27	33	32	32	32
CPR at Boresight, dB	21	21	18	22	24	21	22

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Isolation, Cross Polarization, dB	28	28	28	25	25	25	25
Isolation, Inter-band, dB	28	28	28	25	25	25	25
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
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153	-153
Input Power per Port at 50°C, maximum, watts	300	300	300	250	250	200	200

## Electrical Specifications

	Y2,Y3	Y2,Y3	Y2,Y3	Y2,Y3	Y2,Y3
Frequency Band, MHz	1427–1518	1695–1995	1920–2300	2300–2500	2490–2690
RF Port	7,8,9,10	7,8,9,10	7,8,9,10	7,8,9,10	7,8,9,10
Gain at Mid Tilt, dBi	15.5	17	17.9	18.2	18.2
Beamwidth, Horizontal, degrees	78	66	60	60	58
Beamwidth, Vertical, degrees	7.9	6.4	5.7	5	4.7
Beam Tilt, degrees	2–12	2–12	2–12	2–12	2–12
USLS (First Lobe), dB	17	17	17	18	19
Front-to-Back Ratio at 180°, dB	34	36	36	30	30
CPR at Boresight, dB	22	23	22	23	24
Isolation, Cross Polarization, dB	25	25	25	25	25
Isolation, Inter-band, dB	25	25	25	25	25
VSWR   Return loss, dB	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	-153	-153	-153	-153	-153
Input Power per Port at 50°C, maximum, watts	250	250	250	200	200

## Electrical Specifications

	P1,P2	P1,P2	P1,P2	P1,P2
Frequency Band, MHz	2300–2500	2490–2690	3300–3600	3600–3800
RF Port	13-28	13-28	13-28	13-28
Gain at Mid Tilt, dBi	14.2	15	15.6	15.8
Beamwidth, Horizontal, degrees	90	92	73	63
Beamwidth, Vertical, degrees	6.2	5.7	5.4	5.4
Beam Tilt, degrees	2–12	2–12	2–12	2–12

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USLS (First Lobe), dB	11	13	12	13
Front-to-Back Ratio at 180°, dB	27	29	27	27
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
CPR at Boresight, dB	14	16	18	16
Isolation, Cross Polarization, dB	23	23	23	23
Isolation, Inter-band, dB	25	25	25	25
Isolation, Co-polarization, dB	18	18	18	18
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	-130	-130	-130	-130
Input Power per Port at 50°C, maximum, watts	75	75	75	75

## Electrical Specifications, Broadcast 65°

Frequency Band, MHz	2300–2500	2490–2690	3300–3600	3600–3800
Gain, dBi	17.1	18	16.9	17
Beamwidth, Horizontal at 3 dB, degrees	65	65	65	65
Beamwidth, Horizontal at 10 dB, degrees	117	110	115	114
Beamwidth, Vertical, degrees	6.1	5.7	5.4	5.4
Front-to-Back Total Power at 180° ± 30°, dB	24	25	22	23
USLS (First Lobe), dB	12	15	15	17

## Electrical Specifications, Service Beam

Frequency Band, MHz	2300–2500	2490–2690	3300–3600	3600–3800
Steered 0° Gain, dBi	19.7	20.5	21.2	21.3
Steered 0° Beamwidth, Horizontal, degrees	27	25	19	18
Steered 0° Front-to-Back	27	28	27	28

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## Total Power at 180° ± 30°, dB

Steered 0° Horizontal Sidelobe, dB	13	13	11	11
Steered 30° Gain, dBi	18.8	19.8	19.4	19.3
Steered 30° Beamwidth, Horizontal, degrees	29	28	22	19
Steered 30° Front-to-Back Total Power at 180° ± 30°, dB	24	26	24	24

## Electrical Specifications, Soft Split

Frequency Band, MHz	2300–2500	2490–2690
Gain, dBi	18.6	19.5
Beamwidth, Horizontal, degrees	33	31
Front-to-Back Total Power at 180° ± 30°, dB	25	27
Horizontal Sidelobe, dB	17	17

## Mechanical Specifications

Wind Loading @ Velocity, frontal	944.0 N @ 150 km/h (212.2 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	292.0 N @ 150 km/h (65.6 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	1,130.0 N @ 150 km/h (254.0 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	650.0 N @ 150 km/h (146.1 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h (150 mph)

## Packaging and Weights

Width, packed	565 mm   22.244 in
Depth, packed	368 mm   14.488 in
Length, packed	2874 mm   113.15 in
Weight, gross	78 kg   171.96 lb

## 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.

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\* Footnotes

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