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

Antenna Type	Sector- and beamforming
Band	Multiband
Calibration Connector Interface	M-LOC
Calibration Connector Quantity	1
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 | M-LOC
RF Connector Location	Bottom
RF Connector Quantity, high band	8
RF Connector Quantity, mid band	8
RF Connector Quantity, low band	4
RF Connector Quantity, total	20

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 (1) | Low band (2) | Mid band (4)

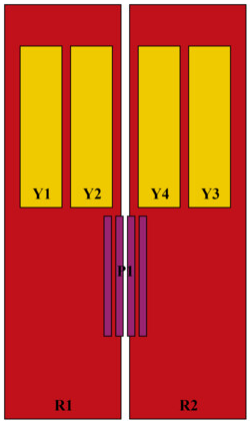
RRV4Q4-65A-R7

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	1499 mm | 59.016 in
Net Weight, antenna only	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	CPxxxxxxxxxxxxxxR1
R2	694-960	3 - 4	2	AISG1	CPxxxxxxxxxxxxxxR2
Y1	1695-2690	5 - 6	3	AISG1	CPxxxxxxxxxxxxxxY1
Y2	1695-2690	7 - 8	4	AISG1	CPxxxxxxxxxxxxxxY2
Y3	1695-2690	9 - 10	5	AISG1	CPxxxxxxxxxxxxxxY3
Y4	1695-2690	11 - 12	6	AISG1	CPxxxxxxxxxxxxxxY4
P1	2300-3800	13 - 20	7	AISG1	CPxxxxxxxxxxxxxxP1

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

Port Configuration

Electrical Specifications

RRV4Q4-65A-R7

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

Electrical Specifications

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

Electrical Specifications, BASTA

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

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

Electrical Specifications

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

Electrical Specifications, BASTA

Frequency Band, MHz	2300–2690	3300–3800
Gain by all Beam Tilts, average, dBi	11.4	13.3
Gain by all Beam Tilts Tolerance, dB	±0.7	±0.8
Beamwidth, Horizontal Tolerance, degrees	±13	±14
Beamwidth, Vertical Tolerance, degrees	±2	±1.4
USLS, beampeak to 20° above beampeak, dB		16
Front-to-Back Total Power at 180° ± 30°, dB	22	20
CPR at Boresight, dB	18	16
CPR at Sector, dB	10	7

Electrical Specifications, Broadcast 65°

Frequency Band, MHz	2300–2690	3300–3800
Gain, dBi	13.8	14.7
Beamwidth, Horizontal, degrees	65	65
Beamwidth, Horizontal at 10 dB, degrees	115	107
Beamwidth, Vertical, degrees	16.9	12.1
Front-to-Back Total Power at 180° ± 30°, dB	25	21
USLS (First Lobe), dB	17	18

Electrical Specifications, Envelope Pattern

Frequency Band, MHz	2300–2690	3300–3800
Gain, dBi	16.9	18.9
Beamwidth, Horizontal at 10 dB, degrees	123	121
Beamwidth, Vertical at 3 dB, degrees	16.8	12
Front-to-Back Total Power at 180° ± 30°, dB	26	23

USLS (First Lobe), dB	19	19

Electrical Specifications, Service Beam

Frequency Band, MHz	**2300–2690**	**3300–3800**
Steered 0° Gain, dBi	17	19.1
Steered 0° Beamwidth, Horizontal, degrees	25	18
Steered 0° Front-to-Back Total Power at 180° ± 30°, dB	28	25
Steered 0° Horizontal Sidelobe, dB	12	12
Steered 30° Gain, dBi	16.5	17
Steered 30° Beamwidth, Horizontal, degrees	27	21
Steered 30° Front-to-Back Total Power at 180° ± 30°, dB	28	22

Electrical Specifications, Soft Split

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

Mechanical Specifications

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

Packaging and Weights

Width, packed	570 mm | 22.441 in
Depth, packed	323 mm | 12.717 in

Length, packed	1625 mm | 63.976 in
Weight, gross	45.1 kg | 99.428 lb

Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2015	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