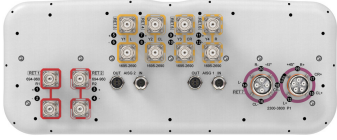


# RRV4Q4-65D-R7V4



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

- Includes 1x 4-column array for 2300-3800 MHz and calibration port. Column spacing optimized to support soft split beamforming
- Q4 array uses MQ4/5 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>	MQ5
<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   MQ4   MQ5
<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)
<b>Power Consumption, active state, maximum</b>	8 W

# RRV4Q4-65D-R7V4

**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

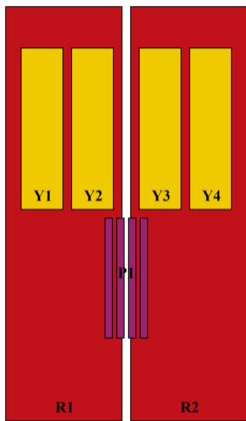
**Net Weight, antenna only**

44.5 kg | 98.106 lb

**TDD Column Spacing**

58 mm | 2.283 in

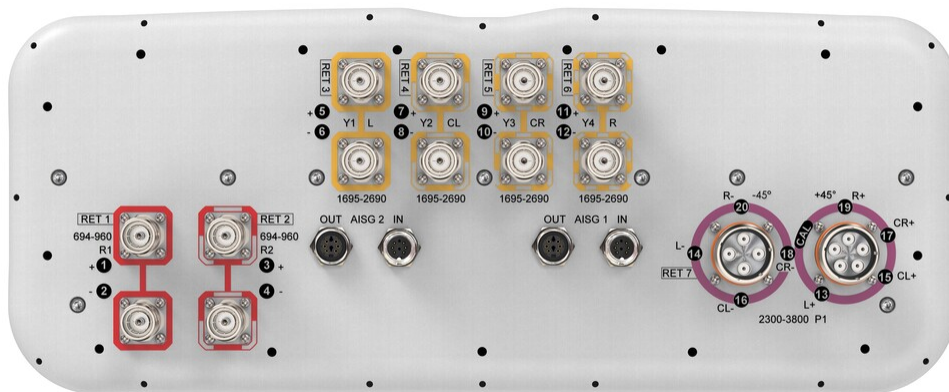
## Array Layout



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

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

## Port Configuration



## Electrical Specifications

# RRV4Q4-65D-R7V4

<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>	900 W @ 50 °C

## Electrical Specifications

	<b>R1-R2</b>	<b>R1-R2</b>	<b>R1-R2</b>	<b>Y1-Y4</b>	<b>Y1-Y4</b>	<b>Y1-Y4</b>	<b>P1</b>	<b>P1</b>
<b>Frequency Band, MHz</b>	<b>694–790</b>	<b>790–890</b>	<b>890–960</b>	<b>1695–1920</b>	<b>1920–2200</b>	<b>2300–2690</b>	<b>2300–2690</b>	<b>3400–3800</b>
<b>RF Port</b>	1-4	1-4	1-4	5-12	5-12	5-12	13-20	13-20
<b>Gain, dBi</b>	15.8	16.2	16.4	15.8	17	17.6	15.9	16.6
<b>Beamwidth, Horizontal, degrees</b>	71	64	63	70	62	59	88	64
<b>Beamwidth, Vertical, degrees</b>	8.9	8	7.3	7.4	6.5	5.4	6	5.1
<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>	16	16	16	16	16	16	14	14
<b>Front-to-Back Ratio at 180°, dB</b>	30	30	30	30	30	30	30	28
<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>	28	28	28	25	25	25	23	23
<b>Isolation, Inter-band, dB</b>	28	28	28	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
<b>PIM, 3rd Order, 2 x 20 W, dBc</b>	-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	75	75

## Electrical Specifications, BASTA

<b>Frequency Band, MHz</b>	<b>694–790</b>	<b>790–890</b>	<b>890–960</b>	<b>1695–1920</b>	<b>1920–2200</b>	<b>2300–2690</b>	<b>2300–2690</b>	<b>3400–3800</b>
<b>Gain by all Beam Tilts,</b>	15.5	15.8	16.1	15.4	16.5	17.1	15.1	15.9

# RRV4Q4-65D-R7V4

## average, dBi

<b>Gain by all Beam Tilts Tolerance, dB</b>	±0.4	±0.4	±0.4	±0.5	±0.7	±0.6	±1.1	±1
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±6	±4	±3	±5	±7	±6	±18	±12
<b>Beamwidth, Vertical Tolerance, degrees</b>	±0.4	±0.6	±0.3	±0.5	±0.6	±0.4	±0.5	±0.3
<b>USLS, beampeak to 20° above beampeak, dB</b>	16	17	17	15	16	16	11	11
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	22	22	22	26	25	26	24	23
<b>CPR at Boresight, dB</b>	20	20	18	19	21	20	16	16
<b>CPR at Sector, dB</b>	12	9	12	8	6	3	8	5

## Electrical Specifications, Broadcast 65°

Frequency Band, MHz	2300–2690	3400–3800
<b>Gain, dBi</b>	17.7	17.4
<b>Beamwidth, Horizontal, degrees</b>	65	65
<b>Beamwidth, Vertical, degrees</b>	5.9	5.1
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	28	25
<b>USLS (First Lobe), dB</b>	14	15

## Electrical Specifications, Envelope Pattern

Frequency Band, MHz	2300–2690	3400–3800
<b>Gain, dBi</b>	20.4	21.8
<b>Beamwidth, Horizontal at 10 dB, degrees</b>	125	120
<b>Beamwidth, Vertical at 3 dB, degrees</b>	5.9	5.1
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	28	27
<b>USLS (First Lobe), dB</b>	15	15

## Electrical Specifications, Service Beam

Frequency Band, MHz	2300–2690	3400–3800
<b>Steered 0° Gain, dBi</b>	20.5	21.8
<b>Steered 0° Beamwidth, Horizontal, degrees</b>	24	18

# RRV4Q4-65D-R7V4

<b>Steered 0° Front-to-Back Total Power at 180° ± 30°, dB</b>	30	29
<b>Steered 0° Horizontal Sidelobe, dB</b>	12	12
<b>Steered 30° Gain, dBi</b>	20	19.9
<b>Steered 30° Beamwidth, Horizontal, degrees</b>	28	22
<b>Steered 30° Front-to-Back Total Power at 180° ± 30°, dB</b>	30	25

## Electrical Specifications, Soft Split

<b>Frequency Band, MHz</b>	<b>2300–2690</b>
<b>Gain, dBi</b>	19.7
<b>Beamwidth, Horizontal, degrees</b>	30
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	30
<b>Horizontal Sidelobe, dB</b>	18

## Mechanical Specifications

<b>Effective Projective Area (EPA), frontal</b>	0.89 m <sup>2</sup>   9.58 ft <sup>2</sup>
<b>Effective Projective Area (EPA), lateral</b>	0.27 m <sup>2</sup>   2.906 ft <sup>2</sup>
<b>Wind Loading @ Velocity, frontal</b>	944.0 N @ 150 km/h (212.2 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	292.0 N @ 150 km/h (65.6 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	1,130.0 N @ 150 km/h (254.0 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	650.0 N @ 150 km/h (146.1 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>	65 kg   143.3 lb

## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
CHINA-ROHS	Above maximum concentration value

# RRV4Q4-65D-R7V4

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ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
ROHS	Compliant/Exempted
UK-ROHS	Compliant/Exempted



## 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. |
| BSAMNT-M | - | 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