

# FFV4Q4-65B-R7-V2



20-port sector antenna, 4x 617-894, 8x 1695-2690 MHz 65° HPBW and 8x 2300-4200 MHz, Beamformer, 7x RET

- Includes 1x 4-Column Array for 2300-4200MHz and calibration port
- Q4 array uses M-LOC cluster connectors
- 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>	1 female   1 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
<b>Power Consumption, idle state, maximum</b>	1 W

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**Protocol** 3GPP/AISG 2.0 (Single RET)

## Dimensions

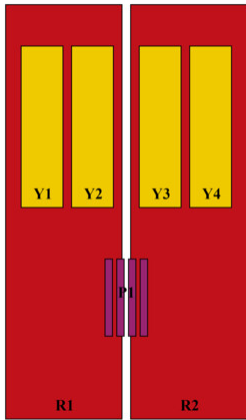
**Width** 498 mm | 19.606 in

**Depth** 197 mm | 7.756 in

**Length** 2100 mm | 82.677 in

**Net Weight, antenna only** 41.2 kg | 90.83 lb

## Array Layout



Array ID	Frequency (MHz)	RF Connector	RET (SRET)	AISG No.	AISG RET UID
R1	617-894	1 - 2	1	AISG1	CPxxxxxxxxxxxxxxxxR1
R2	617-894	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	2300-4200	13 - 20	7	AISG1	CPxxxxxxxxxxxxxxxxP1

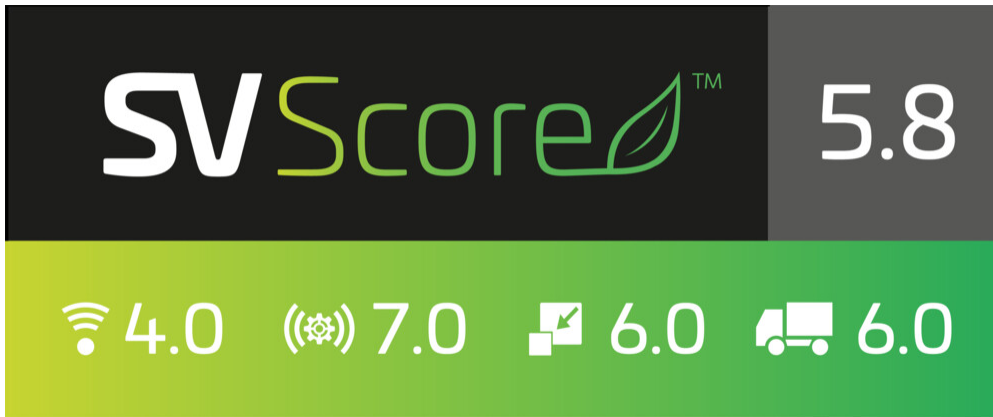
(Sizes of colored boxes are not true depictions of array sizes)

## Port Configuration



## Logo Image

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## Electrical Specifications

<b>Impedance</b>	50 ohm
<b>Operating Frequency Band</b>	1695 – 2690 MHz   2300 – 4200 MHz   617 – 894 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	1,400 W @ 50 °C

## Electrical Specifications

	R1,R2	R1,R2	Y1,Y2,Y3,Y4Y1,Y2,Y3,Y4Y1,Y2,Y3,Y4P1				P1	P1
Frequency Band, MHz	617–698	698–894	1695–1920	1920–2200	2490–2690	2300–2690	3300–3800	3700–4200
<b>RF Port</b>	1-4	1-4	5-12	5-12	5-12	13-20	13-20	13-20
<b>Gain, dBi</b>	14.1	14.7	15.8	16.8	17	13.9	15.2	14.9
<b>Beamwidth, Horizontal, degrees</b>	66	56	65	60	57	81	63	63
<b>Beamwidth, Vertical, degrees</b>	11.8	10.1	6.7	6	5.1	9.4	6.7	6.3
<b>Beam Tilt, degrees</b>	2–14	2–14	2–12	2–12	2–12	2–12	2–12	2–12
<b>USLS (First Lobe), dB</b>	18	17	16	18	19	16	18	16
<b>Front-to-Back Ratio at 180°, dB</b>	28	31	32	35	29	30	27	24
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	22	22	26	28	23	24	22	20
<b>Coupling level, Amp, Antenna port to Cal port, dB</b>						-26	-26	-26
<b>Coupling level, max Amp Δ, Antenna port to Cal port, dB</b>						±2	±2	±2
<b>Coupler, max Amp Δ, Antenna port to Cal port, dB</b>						0.9	0.9	0.9

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<b>Coupler, max Phase Δ, Antenna port to Cal port, degrees</b>						7	7	7
<b>CPR at Boresight, dB</b>	19	19	19	22	17	15	15	13
<b>CPR at Sector, dB</b>	10	8	7	7	4	7	6	3
<b>Isolation, Cross Polarization, dB</b>	25	25	25	25	25	25	25	25
<b>Isolation, Inter-band, dB</b>	25	25	25	25	25	25	25	25
<b>Isolation, Co-polarization, dB</b>						18	18	18
<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	-140	-140	-140
<b>Input Power per Port at 50°C, maximum, watts</b>	250	250	200	200	200	80	80	80

## Electrical Specifications, BASTA

Frequency Band, MHz	617–698	698–894	1695–1920	1920–2200	2490–2690	2300–2690	3300–3800	3700–4200
<b>Gain by all Beam Tilts, average, dBi</b>	14	14.6	15.7	16.6	16.8	13.8	15	14.7
<b>Gain by all Beam Tilts Tolerance, dB</b>	±0.6	±0.5	±0.8	±0.5	±0.5	±0.8	±0.8	±0.9
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±6	±6	±6	±6	±4	±31	±13	±11
<b>Beamwidth, Vertical Tolerance, degrees</b>	±0.7	±1	±0.5	±0.5	±0.3	±0.8	±0.6	±0.6
<b>USLS, beampeak to 20° above beampeak, dB</b>	18	16	14	15	15	14	13	12

## Electrical Specifications, Broadcast 65°

Frequency Band, MHz	2300–2690	3300–3800	3700–4200
<b>Gain, dBi</b>	15.7	15.9	15.7
<b>Beamwidth, Horizontal, degrees</b>	65	65	65
<b>Beamwidth, Horizontal at 10 dB, degrees</b>	114	119	123
<b>Beamwidth, Vertical, degrees</b>	9.3	6.8	6.4
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	27	23	21
<b>USLS (First Lobe), dB</b>	18	17	16

## Electrical Specifications, Envelope Pattern

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Frequency Band, MHz	2300–2690	3300–3800	3700–4200
Front-to-Back Total Power at 180° ± 30°, dB	28	26	23
USLS (First Lobe), dB	19	20	19

## Electrical Specifications, Service Beam

Frequency Band, MHz	2300–2690	3300–3800	3700–4200
Steered 0° Gain, dBi	19.1	20.4	20.3
Steered 0° Beamwidth, Horizontal, degrees	24	19	18
Steered 0° Front-to-Back Total Power at 180° ± 30°, dB	31	27	26
Steered 0° Horizontal Sidelobe, dB	14	13	12
Steered 30° Gain, dBi	17.9	18.7	18.2
Steered 30° Beamwidth, Horizontal, degrees	30	21	19
Steered 30° Front-to-Back Total Power at 180° ± 30°, dB	29	25	22

## Mechanical Specifications

Wind Loading @ Velocity, frontal	728.0 N @ 150 km/h (163.7 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	223.0 N @ 150 km/h (50.1 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	873.0 N @ 150 km/h (196.3 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	501.0 N @ 150 km/h (112.6 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h (150 mph)

## Packaging and Weights

Width, packed	565 mm   22.244 in
Depth, packed	309 mm   12.165 in
Length, packed	2287 mm   90.039 in
Weight, gross	55.7 kg   122.797 lb

## Regulatory Compliance/Certifications

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

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## 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.

## \* Footnotes

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