

# FFV4Q4-65D-R7



20-port sector antenna, 4x 617-894, 8x 1695-2690 MHz 65° HPBW and 8x 2500-4000 MHz, Beamformer, 7x RET

- All Internal RET actuators are connected in "Cascaded SRET" configuration
- Cluster connectors for the beam-forming array, including eight RF ports plus one calibration port

## 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

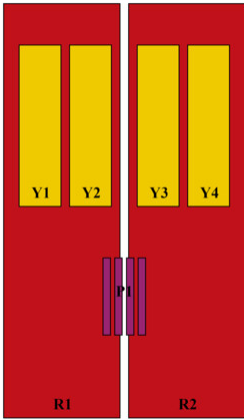
**Width** 498 mm | 19.606 in

**Depth** 197 mm | 7.756 in

**Length** 2688 mm | 105.827 in

**TDD Column Spacing** 58 mm | 2.283 in

## 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	2500-4000	13 - 20	7	AISG1	CPxxxxxxxxxxxxxxxxP1

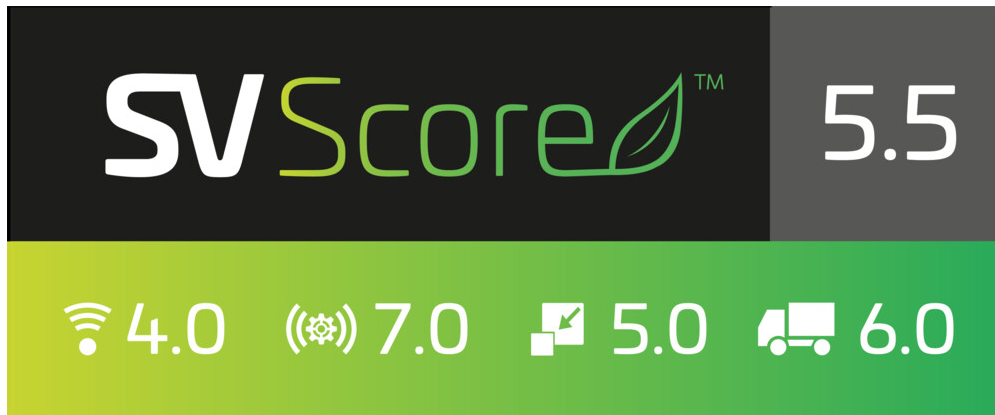
(Sizes of colored boxes are not true depictions of array sizes)

## Port Configuration

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## Logo Image



## Electrical Specifications

<b>Impedance</b>	50 ohm
<b>Operating Frequency Band</b>	1695 – 2690 MHz   2500 – 4000 MHz   617 – 894 MHz
<b>Polarization</b>	±45°
<b>Total Input Power, maximum</b>	1,400 W @ 50 °C

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## Electrical Specifications

	<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>P1</b>
<b>Frequency Band, MHz</b>	<b>617-698</b>	<b>698-894</b>	<b>1695-1920</b>	<b>1920-2200</b>	<b>2490-2690</b>	<b>2500-2690</b>	<b>3300-3800</b>	<b>3700-4000</b>
<b>RF Port</b>	1,2,3,4	1,2,3,4	5-12	5-12	5-12	13-20	13-20	13-20
<b>Gain, dBi</b>	15.2	16.1	16.6	17.3	17.6	16	16.4	15.9
<b>Beamwidth, Horizontal, degrees</b>	69	60	60	57	49	90	66	64
<b>Beamwidth, Vertical, degrees</b>	9.5	8.1	6.5	5.9	5.2	5.9	6	6.2
<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	17	15	16	15	17	15	15
<b>Front-to-Back Ratio at 180°, dB</b>	29	29	35	34	30	33	27	25
<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
<b>Coupler, max Phase Δ, Antenna port to Cal port, degrees</b>						7	7	7
<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

	<b>617-698</b>	<b>698-894</b>	<b>1695-1920</b>	<b>1920-2200</b>	<b>2490-2690</b>	<b>2500-2690</b>	<b>3300-3800</b>	<b>3700-4000</b>
<b>Frequency Band, MHz</b>	<b>617-698</b>	<b>698-894</b>	<b>1695-1920</b>	<b>1920-2200</b>	<b>2490-2690</b>	<b>2500-2690</b>	<b>3300-3800</b>	<b>3700-4000</b>
<b>Gain by all Beam Tilts, average, dBi</b>	14.8	15.7	16.1	16.8	17.3	15.5	15.6	15.1
<b>Gain by all Beam Tilts Tolerance, dB</b>	±0.5	±0.5	±0.8	±0.7	±0.6	±0.7	±0.8	±0.7
<b>Beamwidth, Horizontal Tolerance, degrees</b>	±6	±5	±8	±7	±10	±18	±14	±9
<b>Beamwidth, Vertical</b>	±0.6	±0.9	±0.4	±0.4	±0.3	±0.5	±0.7	±0.6

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## Tolerance, degrees

<b>USLS, beampeak to 20° above beampeak, dB</b>	14	14	13	13	13	12	12	11
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	21	22	26	27	23	25	22	20
<b>CPR at Boresight, dB</b>	20	20	20	24	21	16	13	12
<b>CPR at Sector, dB</b>	14	9	7	7	5	11	8	8

## Electrical Specifications, Broadcast 65°

<b>Frequency Band, MHz</b>	<b>2500–2690</b>	<b>3300–3800</b>	<b>3700–4000</b>
<b>Gain, dBi</b>	18.2	17.4	16.6
<b>Beamwidth, Horizontal, degrees</b>	55	59	61
<b>Beamwidth, Vertical, degrees</b>	5.9	5.9	6.2
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	30	23	19
<b>USLS (First Lobe), dB</b>	17	17	17

## Electrical Specifications, Envelope Pattern

<b>Frequency Band, MHz</b>	<b>2500–2690</b>	<b>3300–3800</b>	<b>3700–4000</b>
<b>Gain, dBi</b>	21	21	20.6
<b>Beamwidth, Horizontal at 10 dB, degrees</b>	120	125	126
<b>Beamwidth, Vertical at 3 dB, degrees</b>	5.8	6	6
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	31	26	23
<b>USLS (First Lobe), dB</b>	19	18	16

## Electrical Specifications, Service Beam

<b>Frequency Band, MHz</b>	<b>2500–2690</b>	<b>3300–3800</b>	<b>3700–4000</b>
<b>Steered 0° Gain, dBi</b>	20.4	20.9	20.4
<b>Steered 0° Beamwidth, Horizontal, degrees</b>	25	19	19
<b>Steered 0° Front-to-Back Total Power at 180° ± 30°, dB</b>	33	28	25
<b>Steered 0° Horizontal Sidelobe, dB</b>	13	11	11
<b>Steered 30° Gain, dBi</b>	20.3	19.3	18.8

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<b>Steered 30° Beamwidth, Horizontal, degrees</b>	27	22	18
<b>Steered 30° Front-to-Back Total Power at 180° ± 30°, dB</b>	32	26	23

## Electrical Specifications, Soft Split

<b>Frequency Band, MHz</b>	<b>2500–2690</b>
<b>Gain, dBi</b>	20.2
<b>Beamwidth, Horizontal, degrees</b>	30
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	32
<b>Horizontal Sidelobe, dB</b>	17

## Mechanical Specifications

<b>Wind Loading @ Velocity, frontal</b>	970.0 N @ 150 km/h (218.1 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	304.0 N @ 150 km/h (68.3 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	1,162.0 N @ 150 km/h (261.2 lbf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	667.0 N @ 150 km/h (149.9 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>	2875 mm   113.189 in
<b>Weight, gross</b>	64.5 kg   142.198 lb
<b>Weight, net</b>	47.2 kg   104.058 lb

## Regulatory Compliance/Certifications

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



## Included Products

BSAMNT-3F	–	Mounting bracket for cylindrical pipe installations (60-115mm pipe diameter) for fix mechanical tilt applications.
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\* Footnotes

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