RRZZV4T4S4-6590DR7

32-port sector antenna, 4x 694-960 and 4x 1427-2690 MHz 65° HPBW, 8x 1695-2690, 8x 2300-2690 and 8x 3300-3800MHz, 90° HPBW, 7x RET

- Antenna FDD Beamforming in 1695-2690 MHz
- Soft Split Feature available
- Antenna support 4T4R configuration by using external power divider
- ZZ, V4, T4 and S4 arrays use MLOC cluster connectors

General Specifications

Antenna Type	Sector and beamforming
Band	Multiband
Calibration Connector Interface	M-LOC
Calibration Connector Quantity	3
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Performance Note	Outdoor usage
RF Connector Interface	4.3-10 Female | M-LOC
RF Connector Location	Bottom
RF Connector Quantity, high band	8
RF Connector Quantity, mid band	20
RF Connector Quantity, low band	4
RF Connector Quantity, total	32

Remote Electrical Tilt (RET) Information

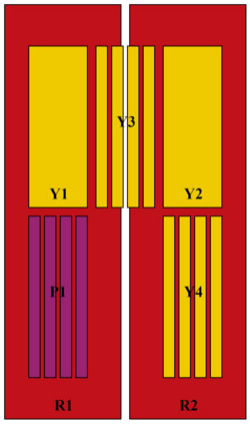
RET Hardware	CommRET v2
RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	2 female | 2 male
Input Voltage	10–30 Vdc
Internal RET	High band (1) | Low band (2) | Mid band (4)
Power Consumption, active state, maximum	8 W
Power Consumption, idle state, maximum	1 W
Protocol	3GPP/AISG 2.0 (Single RET)

RRZZV4T4S4-6590DR7

Dimensions

Width	498 mm | 19.606 in
Depth	197 mm | 7.756 in
Length	2688 mm | 105.827 in
Net Weight, antenna only	54 kg | 119.049 lb

Array Layout

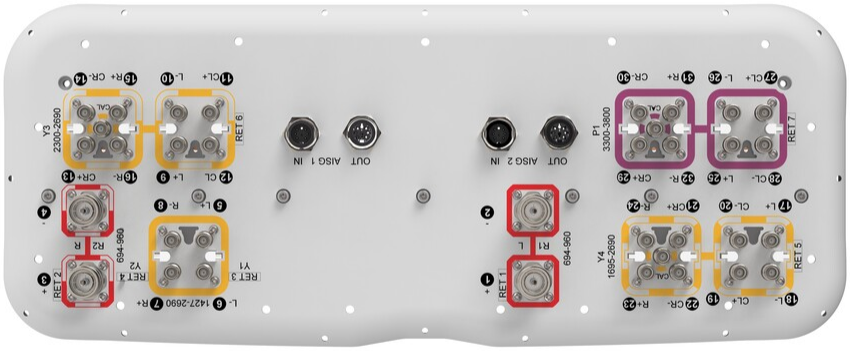


Array ID	Frequency (MHz)	RF Connector	HPBW	RET (SRET)	AISG No.	AISG RET UID
R1	694-960	1 - 2	65°	1	AISG1	CPxxxxxxxxxxxxxxR1
R2	694-960	3 - 4	65°	2	AISG1	CPxxxxxxxxxxxxxxR2
Y1	1427-2690	5 - 6	65°	3	AISG1	CPxxxxxxxxxxxxxxY1
Y2	1427-2690	7 - 8	65°	4	AISG1	CPxxxxxxxxxxxxxxY2
Y3	1695-2690	9 - 16	BF°	5	AISG1	CPxxxxxxxxxxxxxxY3
Y4	2300-2690	17 - 24	BF°	6	AISG1	CPxxxxxxxxxxxxxxY4
P1	3300-3800	25 - 32	BF°	7	AISG1	CPxxxxxxxxxxxxxxP1

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

Port Configuration

RRZZV4T4S4-6590DR7



Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1427 – 2690 MHz | 1695 – 2690 MHz | 2300 – 2690 MHz | 3300 – 3800 MHz | 694 – 960 MHz
Polarization	±45°
Total Input Power, maximum	900 W @ 50 °C

Electrical Specifications

	R1,R2	R1,R2	R1,R2	Y1,Y2	Y1,Y2	Y1,Y2	Y1,Y2	Y1,Y2
Frequency Band, MHz	**698–806**	**790–894**	**890–960**	**1427–1518**	**1695–1995**	**1920–2300**	**2300–2500**	**2490–2690**
RF Port	1-4	1-4	1-4	5-8	5-8	5-8	5-8	5-8
Gain at Mid Tilt, dBi	15.8	15.9	15.9	14.2	16.4	17	17.8	18.1
Beamwidth, Horizontal, degrees	72	67	67	87	74	68	61	61
Beamwidth, Vertical, degrees	8.7	7.9	7.4	6.5	5.6	5.1	4.6	4.3
Beam Tilt, degrees	2–12	2–12	2–12	2–12	2–12	2–12	2–12	2–12
USLS (First Lobe), dB	20	18	16	15	20	19	20	20
Front-to-Back Ratio at 180°,	28	28	30	32	30	28	29	32

dB								
CPR at Boresight, dB	20	22	18	16	22	19	22	18
Isolation, Cross Polarization, dB	28	28	28	25	25	25	25	25
Isolation, Inter-band, dB	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
PIM, 3rd Order, 2 x 20 W, dBc	-150	-150	-150	-150	-150	-150	-150	-150
Input Power per Port at 50°C, maximum, watts	300	300	300	250	250	250	200	200

Electrical Specifications

	Y3	**Y3**	**Y4**	**Y4**	**P1**	**P1**
Frequency Band, MHz	**1695–2200**	**2490–2690**	**2300–2500**	**2490–2690**	**3300–3600**	**3600–3800**
RF Port	9-16	9-16	17-24	17-24	25-32	25-32
Gain at Mid Tilt, dBi	14.4	15.6	14.3	14.8	15.7	16.2
Beamwidth, Horizontal, degrees	104	80	100	93	83	70
Beamwidth, Vertical, degrees	5.9	4.6	7.4	7.1	5.6	5.2
Beam Tilt, degrees	2–12	2–12	2–12	2–12	2–12	2–12
USLS (First Lobe), dB	15	16	13	16	13	14
Front-to-Back Ratio at 180°, dB	32	30	32	32	28	30
Coupling level, Amp, Antenna port to Cal port, dB	-26	-26	-26	-26	-26	-26
Coupling level, max Amp Δ, Antenna port to Cal port, dB	±2	±2	±2	±2	±2	±2
Coupler, max Amp Δ, Antenna port to Cal port, dB	0.9	0.9	0.9	0.9	0.9	0.9
Coupler, max Phase Δ, Antenna port to Cal port, degrees	7	7	7	7	7	7
CPR at Boresight, dB	18	17	19	20	13	14
Isolation, Cross Polarization, dB	25	25	23	23	25	25
Isolation, Inter-band, dB	22	22	25	25	25	25
Isolation, Co-polarization, dB	20	20	18	18	20	20
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
PIM, 3rd Order, 2 x 20 W, dBc	-140	-140	-140	-140	-140	-140
Input Power per Port at 50°C,	150	150	150	150	75	75

maximum, watts

Electrical Specifications, Broadcast 65°

Frequency Band, MHz	2300–2500	2490–2690	3300–3600	3600–3800
Gain, dBi	17	17.5	17.9	18.1
Beamwidth, Horizontal at 3 dB, degrees	65	65	65	65
Beamwidth, Horizontal at 10 dB, degrees	120	112	115	107
Beamwidth, Vertical, degrees	7.5	7	5.6	5.2
Front-to-Back Total Power at 180° ± 30°, dB	28	28	24	25
USLS (First Lobe), dB	15	18	18	21

Electrical Specifications, Envelope Pattern

Frequency Band, MHz	1695–2200	2490–2690	2300–2500	2490–2690	3300–3600	3600–3800
Gain, dBi	19.7	20.9	19.8	20.4	20.9	21.4
Beamwidth, Horizontal at 10 dB, degrees	119	103	114	105	110	105
Beamwidth, Vertical at 3 dB, degrees	5.9	4.6	7.4	7	5.6	5.2
Front-to-Back Total Power at 180° ± 30°, dB	29	28	30	30	23	25
USLS (First Lobe), dB	17	19	15	18	19	20

Electrical Specifications, Service Beam

Frequency Band, MHz	1695–2200	2490–2690	2300–2500	2490–2690	3300–3600	3600–3800
Steered 0° Gain, dBi			19.8	20.4	20.9	21.4
Steered 0° Beamwidth, Horizontal, degrees			26	25	26	23
Steered 0° Front-to-Back Total Power at 180° ± 30°, dB			32	32	28	29
Steered 0° Horizontal Sidelobe, dB			13	12	13	13
Steered 30° Gain, dBi	19.2	19.9	19.4	19.8	19.5	19.6
Steered 30° Beamwidth, Horizontal, degrees	31	23	28	27	29	27
Steered 30° Front-to-Back Total Power at 180° ± 30°, dB	30	28	30	30	23	24
Steered 30° Horizontal	10	9	10	10	10	8

Sidelobe, dB

Electrical Specifications, Soft Split

Frequency Band, MHz	1695–2200	2300–2500	2490–2690	3300–3600	3600–3800
Gain, dBi	18.8	18.8	19.2	19.4	20
Beamwidth, Horizontal, degrees	37	33	31	32	28
Front-to-Back Total Power at 180° ± 30°, dB	31	30	30	24	25
Horizontal Sidelobe, dB	16	20	20	17	15

Electrical Specifications

	Y3	Y3
Frequency Band, MHz	1695–2200	2490–2690
RF Port	9&11, 10&12, 13&15, 14&16	9&11, 10&12, 13&15, 14&16
Gain at Mid Tilt, dBi	16	17.4
Beamwidth, Horizontal, degrees	65	57
Beamwidth, Vertical, degrees	5.9	4.6
Beam Tilt, degrees	2–12	2–12
USLS (First Lobe), dB	16	17
Front-to-Back Ratio at 180°, dB	36	33
CPR at Boresight, dB	19	18

Mechanical Specifications

Wind Loading @ Velocity, frontal	970.0 N @ 150 km/h (218.1 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	304.0 N @ 150 km/h (68.3 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	1,162.0 N @ 150 km/h (261.2 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	667.0 N @ 150 km/h (149.9 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h (150 mph)

Packaging and Weights

Width, packed	565 mm | 22.244 in
Depth, packed	318 mm | 12.52 in

Length, packed	2809 mm | 110.591 in
Weight, gross	74.1 kg | 163.362 lb

Regulatory Compliance/Certifications

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

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.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance