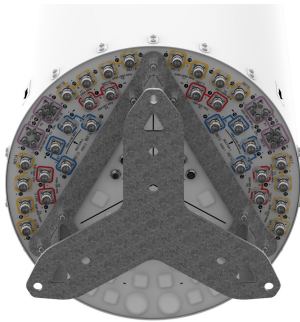


# 2X-RRZZHHTTS4-BR16



48-port Dual-sector antenna, 8x 694-960, 8x 1427-2690, 8x 1695-2180, 8x 2490-2690MHz 65° HPBW and 16x 3300-3800 MHz, 90° HPBW, 16x RET

- Separated Extension KIT available for this antenna, check Optional Mounting Kits section

## General Specifications

Antenna Type	DualPol® dual-sector
Band	Multiband
Calibration Connector Interface	M-LOC
Calibration Connector Quantity	2
Performance Note	Outdoor usage
RF Connector Interface	4.3-10 Female   M-LOC
RF Connector Location	Bottom
RF Connector Quantity, high band	16
RF Connector Quantity, mid band	24
RF Connector Quantity, low band	8
RF Connector Quantity, total	48

## Remote Electrical Tilt (RET) Information

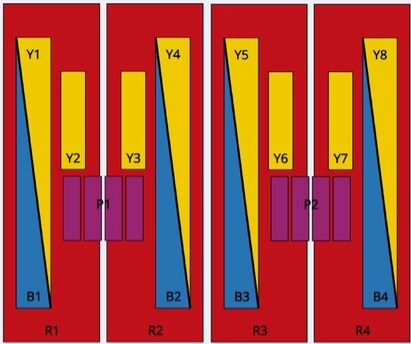
RET Hardware	CommRET v2
RET Interface, quantity	2 female   2 male
Internal RET	High band (2)   Low band (4)   Mid band (10)
Protocol	3GPP/AISG 2.0

## Dimensions

Length	2100 mm   82.677 in
Net Weight, antenna only	92.9 kg   204.809 lb
Outer Diameter	580 mm   22.835 in

## Array Layout

# 2X-RRZZHHTTS4-BR16

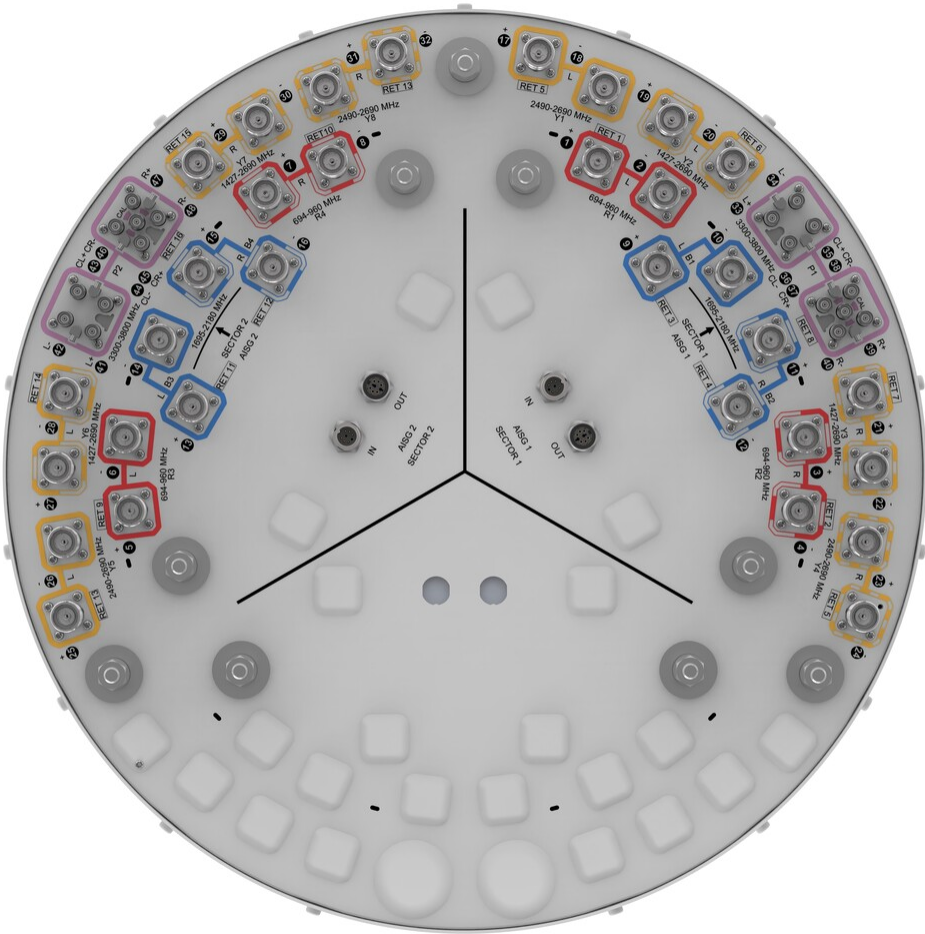


Array ID	Frequency (MHz)	RF Connector	RET (SRET)	AISG No.	RET UID
R1	694-960	1 - 2	1	AISG1	CPxxxxxxxxxxxxxR1
R2	694-960	3 - 4	2	AISG1	CPxxxxxxxxxxxxxR2
B1	1695-2180	9 - 10	3	AISG1	CPxxxxxxxxxxxxxB1
B2	1695-2180	11 - 12	4	AISG1	CPxxxxxxxxxxxxxB2
Y1	2490-2690	17 - 18	5	AISG1	CPxxxxxxxxxxxxxY1
Y4	2490-2690	23 - 24			
Y2	1427-2690	19 - 20	6	AISG1	CPxxxxxxxxxxxxxY2
Y3	1427-2690	21 - 22	7	AISG1	CPxxxxxxxxxxxxxY3
P1	3300-3800	33 - 40	8	AISG1	CPxxxxxxxxxxxxxP1
R3	694-960	5 - 6	9	AISG2	CPxxxxxxxxxxxxxR3
R4	694-960	7 - 8	10	AISG2	CPxxxxxxxxxxxxxR4
B3	1695-2180	13 - 14	11	AISG2	CPxxxxxxxxxxxxxB3
B4	1695-2180	15 - 16	12	AISG2	CPxxxxxxxxxxxxxB4
Y5	2490-2690	25 - 26	13	AISG2	CPxxxxxxxxxxxxxY5
Y8	2490-2690	31 - 32			
Y6	1427-2690	27 - 28	14	AISG2	CPxxxxxxxxxxxxxY6
Y7	1427-2690	29 - 30	15	AISG2	CPxxxxxxxxxxxxxY7
P2	3300-3800	41 - 48	16	AISG2	ANxxxxxxxxxxxxxP2

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

## Port Configuration

# 2X-RRZZHHTTS4-BR16



## Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1427 – 2690 MHz   1695 – 2180 MHz   2490 – 2690 MHz   3300 – 3800 MHz   694 – 960 MHz
Polarization	±45°

## Electrical Specifications

	R1-R4	R1-R4	R1-R4	Y2,Y3,Y6,Y7Y2,Y3,Y6,Y7Y2,Y3,Y6,Y7Y2,Y3,Y6,Y7B1-B4	B1-B4
Frequency Band, MHz	694–806	790–896	890–960	1427–1518 1695–1990 1920–2300 2300–2500 2490–2690 1695–19901920–2180	
RF Port	1-8	1-8	1-8	19-22,27-30 19-22,27-30 19-22,27-30 19-22,27-30 19-22,27-30 9-16	9-16
Gain at Mid Tilt, dBi	13.9	14.6	14.7	13.1 15.1 16.3 16.8 17 16.7	17

# 2X-RRZZHHTTS4-BR16

Beamwidth, Horizontal, degrees	67	59	57	61	67	59	60	57	72	69
Beamwidth, Vertical, degrees	10.4	9.5	9.1	10	8.1	7.2	6.4	5.9	5.5	5
Beam Tilt, degrees	2-12	2-12	2-12	2-12	2-12	2-12	2-12	2-12	2-12	2-12
USLS (First Lobe), dB	18	17	15	16	18	19	20	18	17	17
CPR at Boresight, dB	19	18	19	15	21	19	19	19	18	20
Isolation, Cross Polarization, dB	27	27	27	25	25	25	25	25	27	27
Isolation, Inter-band, dB	27	27	27	25	25	25	25	25	26	26
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	1.5   14.0
PIM, 3rd Order, typical, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153	-153	-153	-153	-153
Input Power per Port at 50°C, maximum, watts	250	250	250	200	200	200	150	150	200	200

## Electrical Specifications

	Y1,Y4,Y5,Y8	P1-P2	P1-P2
Frequency Band, MHz	2490-2690	3300-3600	3600-3800
RF Port	17-18,23-26,31-32	33-48	33-48
Gain at Mid Tilt, dBi	17.8	15.1	15.4
Beamwidth, Horizontal, degrees	63	84	81

# 2X-RRZZHHTTS4-BR16

Beamwidth, Vertical, degrees	4	6.5	6
Beam Tilt, degrees	2-12	2-12	2-12
USLS (First Lobe), dB	17	14	15
Coupling level, Amp, Antenna port to Cal port, dB		26	26
Coupling level, max Amp $\Delta$ , Antenna port to Cal port, dB		$\pm 2$	$\pm 2$
Coupler, max Amp $\Delta$ , Antenna port to Cal port, dB		0.9	0.9
Coupler, max Phase $\Delta$ , Antenna port to Cal port, degrees		7	7
CPR at Boresight, dB	20	16	15
Isolation, Cross Polarization, dB	27	25	25
Isolation, Inter-band, dB	27	25	25
Isolation, Co-polarization, dB		19	19
VSWR   Return loss, dB	1.5   14.0	1.5   14.0	1.5   14.0

# 2X-RRZZHHTTS4-BR16

<b>PIM, 3rd Order, typical, 2 x 20 W, dBc</b>	-153	-140	-140
<b>Input Power per Port at 50°C, maximum, watts</b>	150	75	75

## Electrical Specifications, Broadcast 65°

<b>Frequency Band, MHz</b>	<b>3300–3600</b>	<b>3600–3800</b>
<b>Gain, dBi</b>	16.4	16.4
<b>Beamwidth, Horizontal, degrees</b>	65	65
<b>Beamwidth, Horizontal at 10 dB, degrees</b>	117	112
<b>Beamwidth, Vertical, degrees</b>	6.5	6.1
<b>Front-to-Back Total Power at 180° ± 30°, dB</b>	33	33
<b>USLS (First Lobe), dB</b>	18	18

## Electrical Specifications, Service Beam

<b>Frequency Band, MHz</b>	<b>3300–3600</b>	<b>3600–3800</b>
<b>Steered 0° Gain, dBi</b>	19.8	20.7
<b>Steered 0° Beamwidth, Horizontal, degrees</b>	28	24
<b>Steered 0° Front-to-Back Total</b>	36	

# 2X-RRZZHHTTS4-BR16

Power at 180° ± 30°, dB		
Steered 0° Horizontal Sidelobe, dB	14	14
Steered 30° Gain, dBi	19.3	19.3
Steered 30° Beamwidth, Horizontal, degrees	29	29
Steered 30° Front-to- Back Total Power at 180° ± 30°, dB	36	35
Steered 30° Horizontal Sidelobe, dB	9	10

## Electrical Specifications, Soft Split

Frequency Band, MHz	3300–3600	3600–3800
Gain, dBi	19.3	19.2
Beamwidth, Horizontal, degrees	31	33
Front-to- Back Total Power at 180° ± 30°, dB	35	35
Horizontal Sidelobe, dB	16	19

## Mechanical Specifications

Wind Loading @ Velocity, frontal	745.0 N @ 150 km/h (167.5 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	745.0 N @ 150 km/h (167.5 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	745.0 N @ 150 km/h (167.5 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	745.0 N @ 150 km/h (167.5 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h (150 mph)

# 2X-RRZZHHTTS4-BR16

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## Packaging and Weights

Width, packed	750 mm   29.528 in
Depth, packed	690 mm   27.165 in
Length, packed	2510 mm   98.819 in
Weight, gross	114.6 kg   252.649 lb

## Regulatory Compliance/Certifications

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

## \* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance
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