

<b>12-Port Antenna</b>	<b>R1</b>	<b>R2</b>	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>	<b>Y4</b>
<b>Frequency Range</b>	698-806	824-894	1695-2360	1695-2360	1695-2360	1695-2360
<b>Dual Polarization</b>	X	X	X	X	X	X
<b>HPBW</b>	65°	65°	65°	65°	65°	65°
<b>Adjust. Electr. DT set by FlexRET</b>	1.5°-10°	1.5°-10°	2.5°-12°	2.5°-12°	2.5°-12°	2.5°-12°



12-Port Antenna 698-806/824-894/1695-2360/1695-2360/1695-2360/1695-2360 65°/65°/65°/65°/65°/65°  
16/16.5/17/17/17.5/17dBi 1.5°-10°/1.5°-10°/2.5°-12°/2.5°-12°/2.5°-12°/2.5°-12°T

Type No.		80020799	
Lowbands		R1, connector 1-2	R2, connector 3-4
		698-806	824-894
Frequency Range	MHz	698 - 806	824 - 894
Gain at mid Tilt	dBi	15.8	16.5
Gain over all Tilts	dBi	15.8 ± 0.4	16.4 ± 0.4
<b>Horizontal Pattern:</b>			
Azimuth Beamwidth	°	70.9 ± 1.8	67.8 ± 2.3
Front-to-Back Ratio, Total Power, ± 30°	dB	> 21.4	> 24.5
Cross Polar Discrimination at Boresight	dB	> 25	> 25
Cross Polar Discrimination over Sector	dB	> 8.0	> 8.0
Azimuth Beam Port-to-Port Tracking	dB	< 1.0	< 1.5
<b>Vertical Pattern:</b>			
Elevation Beamwidth	°	9.1 ± 0.6	7.9 ± 0.5
Electrical Downtilt continuously adjustable	°	1.5 - 10.0	1.5 - 10.0
Tilt Accuracy	°	< 0.5	< 0.5
First Upper Side Lobe Suppression	dB	> 16	> 17
Upper Side Lobe Suppression, 20° Sector above Main Beam	dB	> 15	> 16
Cross Polar Isolation	dB	> 25	> 25
Port to Port Isolation	dB	> 28 (R1 // R2) > 30 (R1 // Y1, Y2, Y3, Y4)	> 28 (R2 // R1) > 30 (R2 // Y1, Y2, Y3, Y4)
Max. Effective Power per Port	W	400 (at 50 °C ambient temperature)	
Max. Effective Power Port 1-4	W	800 (at 50 °C ambient temperature)	



Values based on NGMN-P-BASTA (version 9.6) requirements.

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Left side, lower highband		Y1, connector 5-6			
		1695-2360			
Frequency Range	MHz	1695 – 1880	1850 – 1990	1920 – 2180	2300 – 2360
Gain at mid Tilt	dBi	16.5	16.9	17.1	17.1
Gain over all Tilts	dBi	16.3 ± 0.5	16.8 ± 0.2	17.0 ± 0.4	17.0 ± 0.4
<b>Horizontal Pattern:</b>					
Azimuth Beamwidth	°	64.5 ± 3.3	63.8 ± 2.9	61.7 ± 5.6	59.4 ± 4.7
Front-to-Back Ratio, Total Power, ± 30°	dB	> 21.4	> 22.0	> 22.5	> 21.0
Cross Polar Discrimination at Boresight	dB	> 16.0	> 21.0	> 22.5	> 19.5
Cross Polar Discrimination over Sector	dB	> 8.0	> 7.0	> 10.7	> 9.0
Azimuth Beam Port-to-Port Tracking	dB	< 2.3	< 2.3	< 1.8	< 1.5
<b>Vertical Pattern:</b>					
Elevation Beamwidth	°	7.7 ± 0.5	7.2 ± 0.4	6.8 ± 0.7	6.1 ± 0.3
Electrical Downtilt continuously adjustable	°	2.5 – 12.0			
Tilt Accuracy	°	< 0.5	< 0.4	< 0.3	< 0.4
First Upper Side Lobe Suppression	dB	> 17	> 16	> 15	> 15
Upper Side Lobe Suppression, 20° Sector above Main Beam	dB	> 13	> 13	> 13	> 13
Cross Polar Isolation	dB	> 25			
Port to Port Isolation	dB	> 30 (Y1 // R1, R2, Y2 , Y3, Y4)			
Max. Effective Power per Port	W	200 (at 50 °C ambient temperature)			
Max. Effective Power Port 5-6	W	400 (at 50 °C ambient temperature)			

Values based on NGMN-P-BASTA (version 9.6) requirements.

Left side, upper highband		Y2, connector 7-8			
		1695-2360			
Frequency Range	MHz	1695 – 1880	1850 – 1990	1920 – 2180	2300 – 2360
Gain at mid Tilt	dBi	16.2	16.8	16.9	16.9
Gain over all Tilts	dBi	16.1 ± 0.5	16.7 ± 0.3	16.8 ± 0.3	16.8 ± 0.3
<b>Horizontal Pattern:</b>					
Azimuth Beamwidth	°	63.6 ± 3.8	62.1 ± 3.0	60.9 ± 3.3	58.6 ± 5.7
Front-to-Back Ratio, Total Power, ± 30°	dB	> 23.6	> 25	> 25	> 25
Cross Polar Discrimination at Boresight	dB	> 16.0	> 22.0	> 24.0	> 19.5
Cross Polar Discrimination over Sector	dB	> 8.5	> 11.5	> 13.4	> 9.0
Azimuth Beam Port-to-Port Tracking	dB	< 1.1	< 2.2	< 1.9	< 2.2
<b>Vertical Pattern:</b>					
Elevation Beamwidth	°	7.7 ± 0.6	7.1 ± 0.4	6.7 ± 0.6	6.0 ± 0.4
Electrical Downtilt continuously adjustable	°	2.5 – 12.0			
Tilt Accuracy	°	< 0.4	< 0.4	< 0.4	< 0.4
First Upper Side Lobe Suppression	dB	> 17	> 16	> 15	> 15
Upper Side Lobe Suppression, 20° Sector above Main Beam	dB	> 13	> 13	> 13	> 13
Cross Polar Isolation	dB	> 25			
Port to Port Isolation	dB	> 30 (Y2 // R1, R2, Y1 , Y3, Y4)			
Max. Effective Power per Port	W	200 (at 50 °C ambient temperature)			
Max. Effective Power Port 7-8	W	400 (at 50 °C ambient temperature)			

Values based on NGMN-P-BASTA (version 9.6) requirements.

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Right side, lower highband		Y3, connector 9-10			
		1695-2360			
Frequency Range	MHz	1695 – 1880	1850 – 1990	1920 – 2180	2300 – 2360
Gain at mid Tilt	dBi	17.0	17.1	17.3	17.8
Gain over all Tilts	dBi	17.0 ± 0.2	17.1 ± 0.2	17.3 ± 0.3	17.8 ± 0.2
<b>Horizontal Pattern:</b>					
Azimuth Beamwidth	°	65.8 ± 3.6	67.1 ± 2.8	67.4 ± 2.6	67.6 ± 2.6
Front-to-Back Ratio, Total Power, ± 30°	dB	> 25	> 25	> 25	> 25
Cross Polar Discrimination at Boresight	dB	> 18.2	> 17.9	> 17.7	> 20.9
Cross Polar Discrimination over Sector	dB	> 16.7	> 14.7	> 14.5	> 14.6
Azimuth Beam Port-to-Port Tracking	dB	< 1.0	< 1.5	< 1.4	< 1.0
<b>Vertical Pattern:</b>					
Elevation Beamwidth	°	8.3 ± 0.6	7.8 ± 0.4	7.3 ± 0.7	6.3 ± 0.4
Electrical Downtilt continuously adjustable	°	2.5 – 12.0			
Tilt Accuracy	°	< 0.4	< 0.3	< 0.3	< 0.4
First Upper Side Lobe Suppression	dB	> 17.5	> 17.4	> 16.3	> 15.2
Upper Side Lobe Suppression, 20° Sector above Main Beam	dB	> 16.7	> 16.6	> 16.2	> 15.1
Cross Polar Isolation	dB	> 25			
Port to Port Isolation	dB	> 30 (Y3 // R1, R2, Y1, Y2, Y4)			
Max. Effective Power per Port	W	200 (at 50 °C ambient temperature)			120 (at 50 °C ambient temperature)
Max. Effective Power Port 9-10	W	400 (at 50 °C ambient temperature)			

Values based on NGMN-P-BASTA (version 9.6) requirements.

Right side, upper highband		Y4, connector 11-12			
		1695-2360			
Frequency Range	MHz	1695 – 1880	1850 – 1990	1920 – 2180	2300 – 2360
Gain at mid Tilt	dBi	16.5	16.6	16.8	17.2
Gain over all Tilts	dBi	16.5 ± 0.3	16.6 ± 0.2	16.8 ± 0.3	17.2 ± 0.2
<b>Horizontal Pattern:</b>					
Azimuth Beamwidth	°	65.6 ± 4.3	67.0 ± 2.4	67.5 ± 1.9	67.0 ± 3.6
Front-to-Back Ratio, Total Power, ± 30°	dB	> 25	> 25	> 25	> 25
Cross Polar Discrimination at Boresight	dB	> 17.2	> 16.6	> 16.2	> 16.5
Cross Polar Discrimination over Sector	dB	> 16.4	> 14.7	> 14.2	> 8.8
Azimuth Beam Port-to-Port Tracking	dB	< 1.0	< 1.0	< 1.0	< 1.0
<b>Vertical Pattern:</b>					
Elevation Beamwidth	°	8.4 ± 0.5	7.9 ± 0.4	7.4 ± 0.7	6.7 ± 0.5
Electrical Downtilt continuously adjustable	°	2.5 – 12.0			
Tilt Accuracy	°	< 0.5	< 0.5	< 0.5	< 0.5
First Upper Side Lobe Suppression	dB	> 15.9	> 15.7	> 15.2	> 15.0
Upper Side Lobe Suppression, 20° Sector above Main Beam	dB	> 15.3	> 15.4	> 15.2	> 15.0
Cross Polar Isolation	dB	> 25			
Port to Port Isolation	dB	> 30 (Y4 // R1, R2, Y1, Y2, Y3)			
Max. Effective Power per Port	W	200 (at 50 °C ambient temperature)			120 (at 50 °C ambient temperature)
Max. Effective Power Port 11-12	W	400 (at 50 °C ambient temperature)			

Values based on NGMN-P-BASTA (version 9.6) requirements.

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All specifications are subject to change without notice.  
The latest specifications are available at [www.kathreinusa.com](http://www.kathreinusa.com)

Electrical specifications, all systems		
Impedance	Ω	50
VSWR		< 1.5
Return Loss	dB	> 14
Interband Isolation	dB	> 30
Passive Intermodulation	dBc	< -153 (2 x 43 dBm carrier)
Polarization	°	+45, -45
Max. Effective Power for the Antenna	W	1100 (at 50 °C ambient temperature)

Values based on NGMN-P-BASTA (version 9.6) requirements.

Mechanical specifications		
Input	12 x 4.3-10 female	
Connector Position	bottom	
Adjustment Mechanism	FlexRET, continuously adjustable	
Wind load (at Rated Wind Speed: 150 km/h) (93 mph)	N   lbf	Frontal: 1140   256 Maximal: 1140   256
Max. Wind Velocity	km/h mph	241 150
Height / Width / Depth	mm inches	2438 / 378 / 164 96.0 / 14.9 / 6.5
Category of Mounting Hardware	XH (X-Heavy)	
Weight	kg lb	46.5 / 51.5 (clamps incl.) 102.5 / 113.5 (clamps incl.)
Packing Size	mm inches	2640 / 412 / 255 103.9 / 16.2 / 10.0
Scope of Supply	Panel, FlexRET and clamps for 55–115 mm   2.2–4.5 inches diameter	

## Accessories (order separately if required)

Type No.	Description	Remarks mm   inches	Weight approx. kg   lb	Units per antenna
85010097	2 clamps	Mast diameter: 110 – 220   4.3 – 8.7	9.4   20.7	1
85010099	1 downtilt kit	Downtilt angle: 0° – 10°	10.6   23.4	1
86010154	Site Sharing Adapter	3-way (see figure below)	0.7   1.5	
86010155	Site Sharing Adapter	6-way (see figure below)	1.4   3.1	
86010162	Gender Adapter	Solely to be used in combination with the FlexRET module 86010153v01	0.045   0.099	1
86010163	Port Extender		0.16   0.35	1

## Accessories (included in the scope of supply)

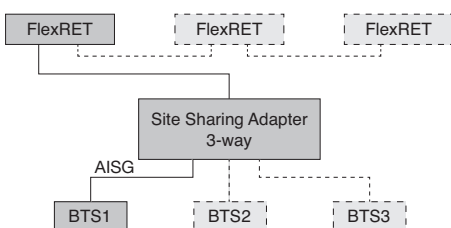
85010096	2 clamps	Mast diameter: 55 – 115   2.2 – 4.5	5.0   11.0	1
86010153v01	FlexRET			1

For downtilt mounting use the clamps for an appropriate mast diameter together with the downtilt kit. Wall mounting: No additional mounting kit needed.

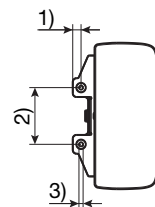
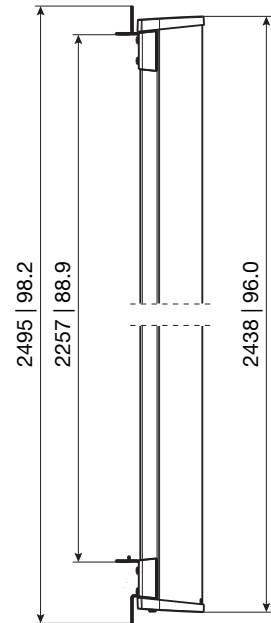
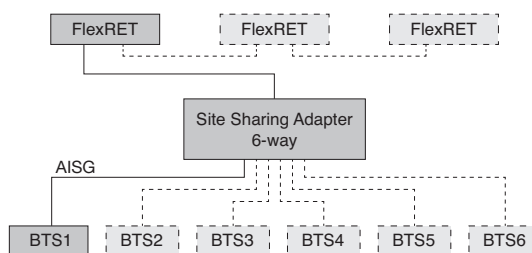
**Material:** **Reflector screen:** Aluminum.  
**Fiberglass housing:** It covers totally the internal antenna components. The special design reduces the sealing areas to a minimum and guarantees the best weather protection. Fiberglass material guarantees optimum performance with regards to stability, stiffness, UV resistance and painting. The color of the radome is light grey.  
**All nuts and bolts:** Stainless steel or hot-dip galvanized steel.

**Grounding:** The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.

### Configuration example with Site Sharing Adapter 86010154



### Configuration example with Site Sharing Adapter 86010155

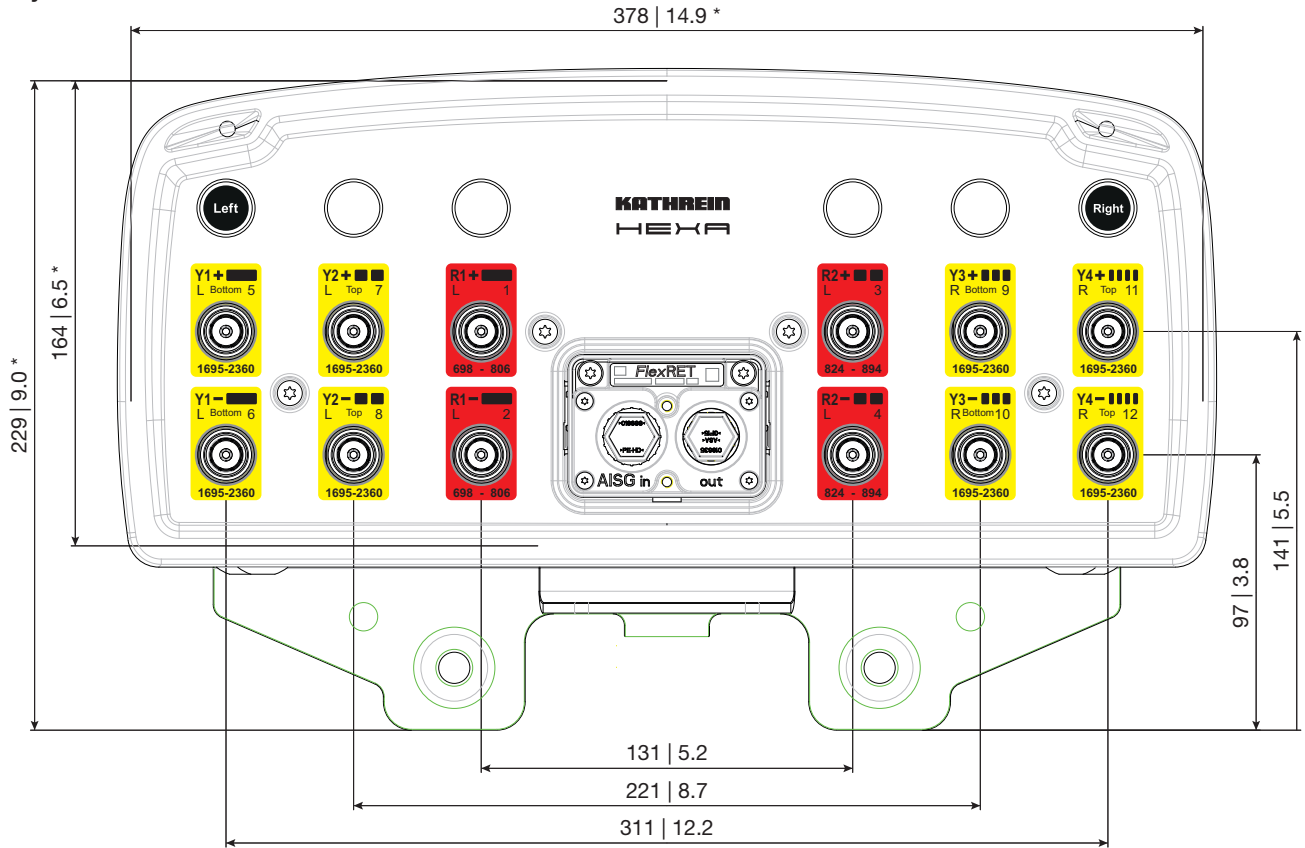


- 1) 22 | 0.9
- 2) 150 | 5.9
- 3) Ø 11 | 0.4

All dimensions in mm | inches

For more information please refer to the respective data sheets.

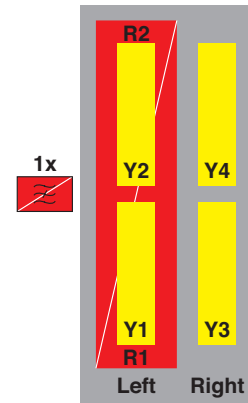
### Layout of interface:



Bottom view  
 \* Dimensions refer to radome  
 All dimensions in mm | inches

### Correlation Table

Frequency range	Array	Connector
698–806 MHz	R1	1–2
824–894 MHz	R2	3–4
1695–2360 MHz	Y1	5–6
1695–2360 MHz	Y2	7–8
1695–2360 MHz	Y3	9–10
1695–2360 MHz	Y4	11–12



### Order Information

Model	Description
80020799	12-Port antenna with mounting bracket
80020799K	12-Port antenna with mounting bracket and mechanical tilt bracket

Any previous data sheet issues have now become invalid.

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