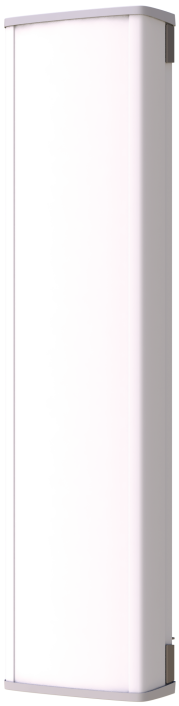
8-Port Antenna	R1	R2	Y1	Y2
Frequency Range	698–960	698–960	1695–2690	1695–2690
Dual Polarization	X	X	X	X
HPBW	65°	65°	65°	65°
Adjust. Electr. DT	2°–16°	2°–16°	2.5°–12°	2.5°–12°

set by *FlexRET*

KATHREIN

AISG Antenna Interface Standards Group

8-Port Antenna 698–960/698–960/1695–2690/1695–2690 65°/65°/65°/65° 14/14/17.5/17.5dBi 2°–16°/2°–16°/2.5°–12°/2.5°–12°T



Type No.		80010964			
Left side, lowband		R1, connector 1–2			
		698–960			
Frequency Range	MHz	698 – 806	791 – 862	824 – 894	880 – 960
Gain at mid Tilt	dBi	13.6	14.2	14.3	14.6
Gain over all Tilts	dBi	13.6 ± 0.6	14.2 ± 0.3	14.3 ± 0.3	14.5 ± 0.4
Horizontal Pattern:					
Azimuth Beamwidth	°	64.6 ± 4.2	62.5 ± 2.4	62.0 ± 2.4	59.3 ± 3.6
Front-to-Back Ratio, Total Power, ± 30°	dB	> 21.5	> 22.5	> 25.2	> 25.3
Vertical Pattern:					
Elevation Beamwidth	°	17.8 ± 1.8	16.2 ± 1.0	15.8 ± 0.8	14.7 ± 1.1
Electrical Downtilt continuously adjustable	°	2.0 – 16.0			
Tilt Accuracy	°	< 0.7	< 0.7	< 0.8	< 0.8
First Upper Side Lobe Suppression	dB	> 17.3	> 15.8	> 15.2	> 14.6
Cross Polar Isolation	dB	> 28			
Port to Port Isolation	dB	> 27 (R1 // R2) > 30 (R1 // Y1, Y2)			
Max. Effective Power per Port	W	300 (at 50 °C ambient temperature)			
Max. Effective Power Port 1–2	W	600 (at 50 °C ambient temperature)			

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

936.5553.1 ngmn Subject to alteration.

Kathrein USA Greenway Plaza II, 2400 Lakeside Blvd., Suite 650, Richardson TX 75082
Phone: 214.238.8800 Fax: 214.238.8801 Email: info@kathrein.com

Right side, lowband		R2, connector 3–4			
		698–960			
Frequency Range	MHz	698 – 806	791 – 862	824 – 894	880 – 960
Gain at mid Tilt	dBi	13.4	14.1	14.3	14.3
Gain over all Tilts	dBi	13.4 ± 0.5	14.0 ± 0.5	14.2 ± 0.3	14.3 ± 0.4
Horizontal Pattern:					
Azimuth Beamwidth	°	64.1 ± 5.6	61.8 ± 2.9	61.5 ± 2.9	59.5 ± 3.6
Front-to-Back Ratio, Total Power, ± 30°	dB	> 20.6	> 23.6	> 26.1	> 25.5
Vertical Pattern:					
Elevation Beamwidth	°	17.6 ± 1.5	16.1 ± 1.3	15.5 ± 0.7	14.6 ± 0.9
Electrical Downtilt continuously adjustable	°	2.0 – 16.0			
Tilt Accuracy	°	< 1.1	< 0.8	< 0.8	< 1.1
First Upper Side Lobe Suppression	dB	> 17.9	> 14.9	> 14.6	> 15.6
Cross Polar Isolation	dB	> 28			
Port to Port Isolation	dB	> 27 (R2 // R1) > 30 (R2 // Y1, Y2)			
Max. Effective Power per Port	W	300 (at 50 °C ambient temperature)			
Max. Effective Power Port 3–4	W	600 (at 50 °C ambient temperature)			

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

Left side, highband		Y1, connector 5–6				
		1695–2690				
Frequency Range	MHz	1695 – 1880	1850 – 1990	1920 – 2170	2300 – 2400	2500 – 2690
Gain at mid Tilt	dBi	16.9	17.3	17.5	17.7	17.2
Gain over all Tilts	dBi	16.9 ± 0.3	17.3 ± 0.4	17.4 ± 0.4	17.7 ± 0.8	17.1 ± 0.9
Horizontal Pattern:						
Azimuth Beamwidth	°	64.4 ± 4.0	62.7 ± 4.9	60.3 ± 4.5	53.6 ± 4.5	55.6 ± 8.3
Front-to-Back Ratio, Total Power, ± 30°	dB	> 23.8	> 25.3	> 25.2	> 27.2	> 23.2
Vertical Pattern:						
Elevation Beamwidth	°	6.8 ± 0.3	6.4 ± 0.2	6.0 ± 0.5	5.2 ± 0.3	4.7 ± 0.3
Electrical Downtilt continuously adjustable	°	2.5 – 12.0				
Tilt Accuracy	°	< 0.4	< 0.4	< 0.3	< 0.4	< 0.4
First Upper Side Lobe Suppression	dB	> 15.6	> 16.5	> 15.7	> 14.6	> 14.2
Cross Polar Isolation	dB	> 26, typically > 30 dB				
Port to Port Isolation	dB	> 30 (Y1 // R1, R2, Y2)				
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.

Kathrein USA Greenway Plaza II, 2400 Lakeside Blvd., Suite 650, Richardson TX 75082
Phone: 214.238.8800 Fax: 214.238.8801 Email: info@kathrein.com

Right side, highband		Y2, connector 7–8				
		1695–2690				
Frequency Range	MHz	1695 – 1880	1850 – 1990	1920 – 2170	2300 – 2400	2500 – 2690
Gain at mid Tilt	dBi	16.8	17.2	17.3	17.6	17.0
Gain over all Tilts	dBi	16.8 ± 0.4	17.2 ± 0.5	17.2 ± 0.6	17.6 ± 0.9	17.0 ± 1.0
Horizontal Pattern:						
Azimuth Beamwidth	°	67.0 ± 4.7	63.7 ± 6.7	60.7 ± 6.8	54.6 ± 6.0	53.9 ± 9.8
Front-to-Back Ratio, Total Power, ± 30°	dB	> 24.2	> 25.3	> 25.1	> 26.2	> 22.0
Vertical Pattern:						
Elevation Beamwidth	°	6.8 ± 0.3	6.4 ± 0.3	6.0 ± 0.5	5.3 ± 0.3	4.7 ± 0.3
Electrical Downtilt continuously adjustable	°	2.5 – 12.0				
Tilt Accuracy	°	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
First Upper Side Lobe Suppression	dB	> 16.1	> 16.3	> 15.2	> 15.8	> 13.8
Cross Polar Isolation	dB	> 26, typically > 30 dB				
Port to Port Isolation	dB	> 30 (Y2 // R1, R2, Y1)				
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.

936.5553.1 ngmn Subject to alteration.

Kathrein USA Greenway Plaza II, 2400 Lakeside Blvd., Suite 650, Richardson TX 75082
Phone: 214.238.8800 Fax: 214.238.8801 Email: info@kathrein.com

Electrical specifications, all systems		
Impedance	Ω	50
VSWR		< 1.5
Return Loss	dB	> 14
Interband Isolation	dB	> 27
Passive Intermodulation	dBc	< –153 (2 x 43 dBm carrier)
Polarization	°	+45, –45
Max. Effective Power for the Antenna	W	1200 (at 50 °C ambient temperature)

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

Mechanical specifications		
Input		8 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: 835 | 188 Maximal: 840 | 189 Lateral: 145 | 33
EPA (m^2 | ft^2)		Front: 0.767 | 8.26 Lateral: .132 | 1.42
Max. Wind Velocity	km/h mph	241 / 145 150 / 33
Height / Width / Depth	mm inches	1499 / 508 / 175 59.0 / 20.0 / 6.9
Category of Mounting Hardware		XH (X-Heavy)
Weight	kg lb	38.0 / 43.0 (clamps incl.) 83.8 / 94.8 (clamps incl.)
Packing Size	mm inches	1700 / 542 / 268 66.9 / 21.3 / 10.6
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° – 18°	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

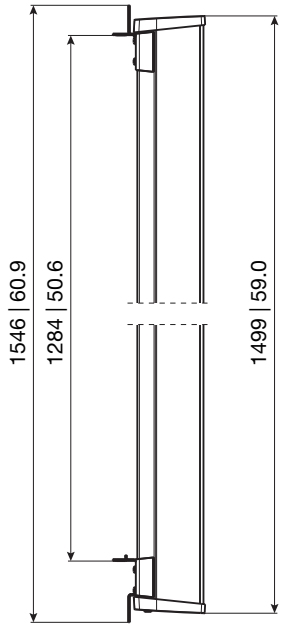
Accessories (included in the scope of supply)

85010096	2 clamps	Mast diameter: 55 – 115 | 2.2 – 4.5	5.0 | 11.0	1
86010153V01	FlexRET			1

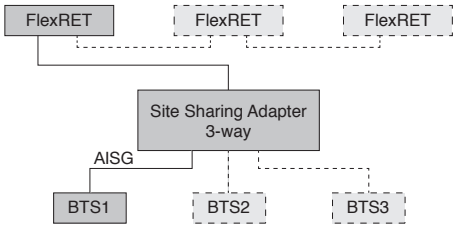
For downtilt mounting use the clamps for an appropriate mast diameter together with the downtilt kit.
Wall mounting: No additional mounting kit needed.

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.

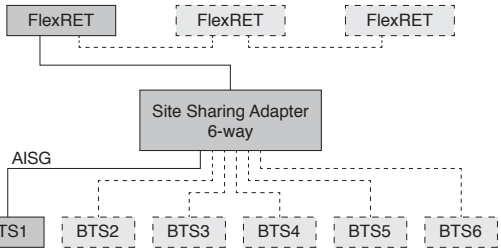
Grounding: The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.

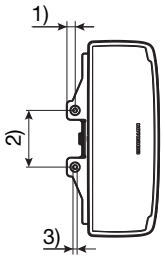


Configuration example with Site Sharing Adapter 86010154



Configuration example with Site Sharing Adapter 86010155





1) 22 | 0.9
2) 150 | 5.9
3) ∅ 11 | 0.4

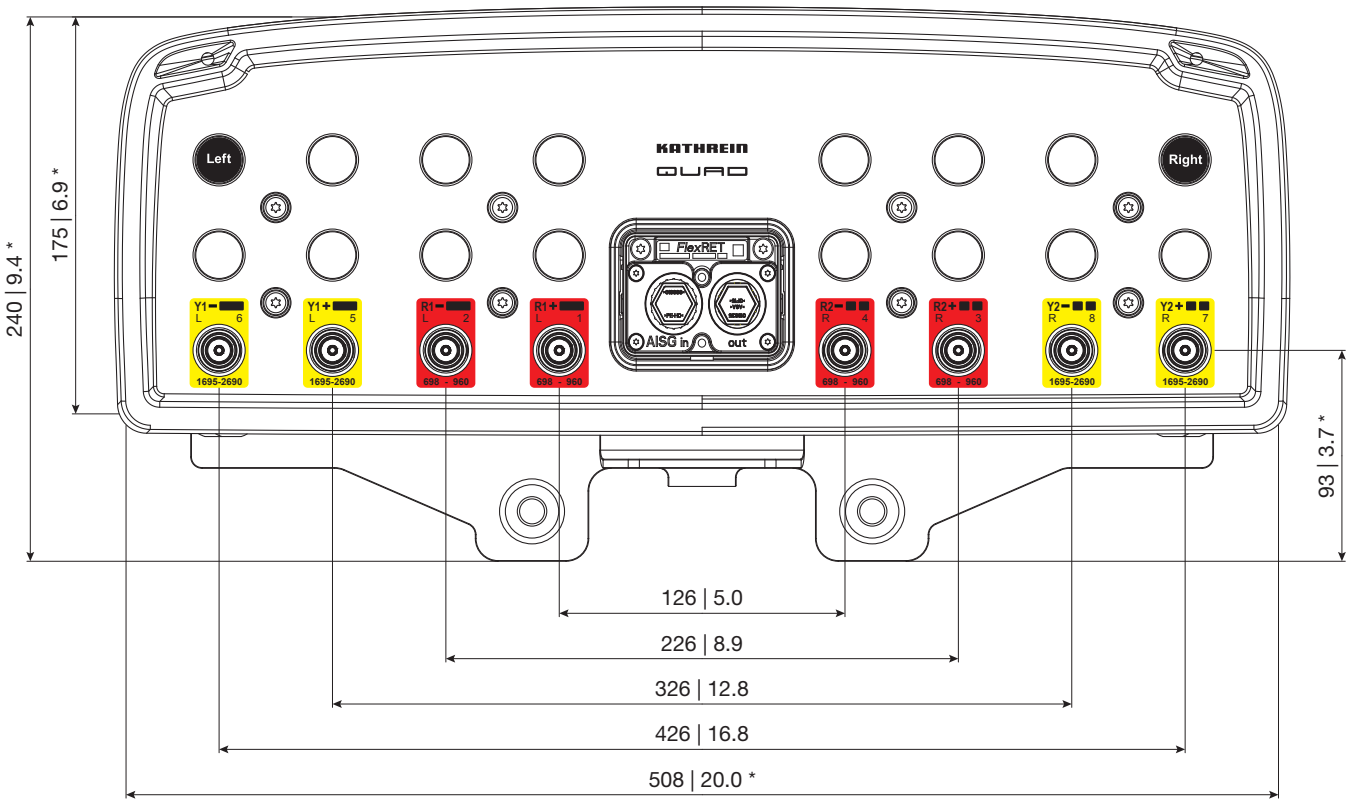
All dimensions in mm | inches

For more information please refer to the respective data sheets.

936.5553.1 ngmn Subject to alteration.

Kathrein USA Greenway Plaza II, 2400 Lakeside Blvd., Suite 650, Richardson TX 75082
Phone: 214.238.8800 Fax: 214.238.8801 Email: info@kathrein.com

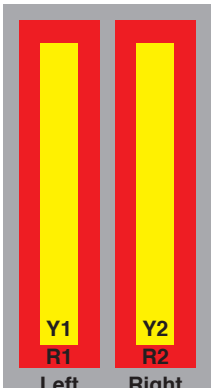
Layout of interface:



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

Correlation Table

Frequency range	Array	Connector
698–960 MHz	R1	1–2
698–960 MHz	R2	3–4
1695–2690 MHz	Y1	5–6
1695–2690 MHz	Y2	7–8



Order Information

Model	Description
80010964	8-Port antenna with mounting bracket
80010964K	8-Port antenna with mounting bracket and mechanical tilt bracket

Any previous data sheet issues have now become invalid.

Kathrein USA Greenway Plaza II, 2400 Lakeside Blvd., Suite 650, Richardson TX 75082
Phone: 214.238.8800 Fax: 214.238.8801 Email: info@kathrein.com