

Summary – Directional Antennas

Dual Polarization +45°/–45°

1800/1900/2000/2500

Dual Polarization +45°/–45°

Type	Type No.	Height [mm]	Connector position	Page
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XPol Panel 1710–2170 65° 9dBi 0°T	742 210	155	bottom or top	51
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XPol Panel 1710–2170 65° 20.5dBi 0°T	742 186	2160	bottom	59
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XPol Panel 1710–1880 90° 17.5dBi 2°T	739 710	1902	bottom	62
XPol Panel 1710–2170 88° 18dBi 0°–6°T	741 990	1942	bottom	63

New or changed product

Abbreviations:

ESLS: Enhanced Side Lobe Suppression (above or below horizon)

HE: High Efficiency (Antennas with high gain compared to length)

Summary – Directional Antennas

Dual Polarization +45°/–45°

1800/1900/2000/2500

Antennas with Dual-Beam

Type	Type No.	Height [mm]	Connector position	Page
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1710–2200 45° (+30°) 19.5dBi 0°–10°T				

Antennas with integrated RET

XPol Panel IRT 1710–2200 65° 18dBi 0°–10°T	800 10314	1302	bottom	65
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Tri-Sector Pipe Antenna

XPol Tri-Sector Pipe 1710–2170 65° 15.5dBi 0°–12°T	800 10375	1241	bottom	68
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Flexible Sealing Frame	850 10010			72

New or changed product

Abbreviations:

IRT: Integrated Remote Tilt Unit

ISB: Integrated Smart Bias-T

IA: Integrated Amplifier

Multi-band Panel Dual Polarization Half-power Beam Width

1710–2170

X

33°

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XPol Panel 1710–2170 33° 20dBi 0°–12°T

Type No.	800 10251		
Frequency range	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 19.2 dBi	2 x 19.5 dBi	2 x 19.8 dBi
Horizontal Pattern:			
Half-power beam width	36°	35°	33°
Front-to-back ratio, copolar (180° ± 30°)	> 30 dB	> 30 dB	> 30 dB
Cross polar ratio Maindirection 0° Sector ±30°	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Sidelobe suppression	> 18 dB	> 17 dB	> 15 dB
Vertical Pattern:			
Half-power beam width	9.2°	9°	8.5°
Electrical tilt	0°–12°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 6° ... 12° T 15 ... 17 ... 17 dB	0° ... 6° ... 12° T 15 ... 17 ... 17 dB	0° ... 6° ... 12° T 15 ... 17 ... 17 dB
VSWR	< 1.5		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	1x, Position bottom, continuously adjustable		
Weight	11.5 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 460 / 90 / 460 N		
Height/width/depth	1032 / 299 / 69 mm		



XPol Panel 1710–2170 33° 21dBi 0°–8°T

Type No.	742 351		
Frequency range	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 20.2 dBi	2 x 20.5 dBi	2 x 20.7 dBi
Horizontal Pattern:			
Half-power beam width	36°	35°	33°
Front-to-back ratio, copolar	> 30 dB	> 30 dB	> 30 dB
Cross polar ratio Maindirection 0° Sector ±30°	Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB
Sidelobe suppression	> 14 dB	> 14 dB	> 14 dB
Vertical Pattern:			
Half-power beam width	7.4°	7.0°	6.7°
Electrical tilt	0°–8°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 4° ... 8° T 18 ... 17 ... 16 dB	0° ... 4° ... 8° T 18 ... 18 ... 17 dB	0° ... 4° ... 8° T 18 ... 17 ... 16 dB
VSWR	< 1.5		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	1x, Position bottom, continuously adjustable		
Weight	13.5 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 570 / 110 / 570 N		
Height/width/depth	1304 / 299 / 69 mm		



Panel
Dual Polarization
Half-power Beam Width

1710–1880

X

33°

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XPol Panel 1710–1880 33° 22dBi 2°T

Type No.	741 623	
Frequency range	1710 – 1880 MHz	
Polarization	+45°, -45°	
Gain	2 x 22 dBi	
Half-power beam width Copolar	+45° Horizontal: 33° Vertical: 5°	-45° Horizontal: 33° Vertical: 5°
Electrical tilt	2°, fixed	
Sidelobe suppression	above horizon for first sidelobe better or equal 14 dB below maximum gain	
Front-to-back ratio, copolar	> 30 dB	
Isolation	> 30 dB	
VSWR	< 1.5	
Intermodulation IM3	< -150 dBc (2 x 43 dBm carrier)	
Max. power per input	200 W (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom	
Weight	11 kg	
Wind load (at 150 km/h)	Frontal / lateral / rearside: 540 / 210 / 770 N	
Height/width/depth	1942 / 262 / 59 mm	



1800/1900/2000/2500
 XPol

Multi-band Panel Dual Polarization Half-power Beam Width

1710–2180

X

45°

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XPol Panel 1710–2170 45° 19.5dBi 0°–8°T

Type No.	742 218		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 19 dBi	2 x 19.5 dBi	2 x 19.6 dBi
Horizontal Pattern:			
Half-power beam width	47°	45°	44°
Front-to-back ratio (180° ± 30°)	Copolar: > 27 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 27 dB Total power: > 25 dB
Cross polar ratio Maindirection 0° Sector ±30°	Typically: 18 dB > 13 dB	Typically: 18 dB > 13 dB	Typically: 18 dB > 13 dB
Sidelobe suppression	> 18 dB	> 18 dB	> 18 dB
Vertical Pattern:			
Half-power beam width	7.3°	7°	6.7°
Electrical tilt	0°–8°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 2° ... 5° ... 8° T 17 ... 17 ... 15 ... 15 dB	0° ... 2° ... 5° ... 8° T 18 ... 18 ... 17 ... 17 dB	0° ... 2° ... 5° ... 8° T 18 ... 18 ... 15 ... 15 dB
VSWR	< 1.5		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	1x, Position bottom, continuously adjustable		
Weight	10.2 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 250 / 110 / 390 N		
Height/width/depth	1306 / 199 / 69 mm		



XPol Panel 1710–2180 45° 21.5dBi 0°–6°T

Type No.	742 219		
Frequency range	1710–2180		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2180 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Average gain (dBi)	20.5 ... 20.6 ... 20.3	20.9 ... 21.1 ... 20.9	21 ... 21.4 ... 21
Tilt	0° ... 3° ... 6°	0° ... 3° ... 6°	0° ... 3° ... 6°
Horizontal Pattern:			
Half-power beam width	48°	45°	44°
Front-to-back ratio (180°±30°)	Copolar: > 28 dB Total power: > 25 dB	Copolar: > 27 dB Total power: > 25 dB	Copolar: > 25 dB Total power: > 25 dB
Cross polar ratio Maindirection 0° Sector ±30°	Typically: 19 dB > 13 dB	Typically: 18 dB > 13 dB	Typically: 17 dB > 13 dB
Sidelobe suppression	> 18 dB	> 18 dB	> 18 dB
Vertical Pattern:			
Half-power beam width	4.7°	4.5°	4.4°
Electrical tilt	0°–6°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 2° ... 4° ... 6° T 18 ... 18 ... 16 ... 16 dB	0° ... 2° ... 4° ... 6° T 18 ... 18 ... 17 ... 16 dB	0° ... 2° ... 4° ... 6° T 18 ... 18 ... 17 ... 16 dB
VSWR	< 1.5		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	1x, Position bottom, continuously adjustable		
Weight	14 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 390 / 180 / 590 N		
Height/width/depth	1946 / 199 / 69 mm		



Multi-band Panel Dual Polarization Half-power Beam Width

1710–2170

X

65°

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XPoI Panel 1710–2170 65° 9dBi 0°T

Type No.	742 210		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 8.5 dBi	2 x 8.6 dBi	2 x 8.7 dBi
Horizontal Pattern:			
Half-power beam width	70°	68°	65°
Front-to-back ratio, copolar	> 25 dB	> 30 dB	> 30 dB
Cross polar ratio			
Maindirection	Typically: 25 dB	Typically: 25 dB	Typically: 25 dB
Sector	0° ±60° > 10 dB	> 10 dB	> 10 dB
Vertical Pattern:			
Half-power beam width	65°	65°	63°
Electrical tilt	0°, fixed	0°, fixed	0°, fixed
VSWR	< 1.4		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	150 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom or top		
Weight	1.5 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 47 / 12 / 55 N		
Height/width/depth	155 / 155 / 69 mm		



1800/1900/2000/2500
XPoI

XPoI Panel 1710–2170 65° 12dBi 2°T

Type No.	739 489		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 11.5 dBi	2 x 12 dBi	2 x 12 dBi
Horizontal Pattern:			
Half-power beam width	67°	65°	63°
Front-to-back ratio, copolar	> 30 dB	> 30 dB	> 27 dB
Cross polar ratio			
Maindirection	Typically: 25 dB	Typically: 25 dB	Typically: 25 dB
Sector	0° ±60° > 10 dB	> 10 dB	> 10 dB
Vertical Pattern:			
Half-power beam width	32°	30°	28°
Electrical tilt	3°, fixed	2°, fixed	0°, fixed
VSWR	< 1.4		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	150 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Weight	2 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 95 / 24 / 110 N		
Height/width/depth	342 / 155 / 69 mm		



Multi-band Panel Dual Polarization Half-power Beam Width

1710–2200

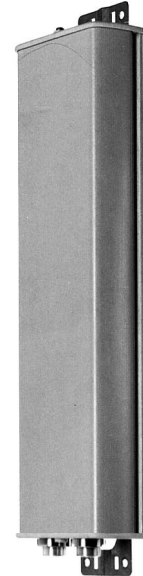
X

65°

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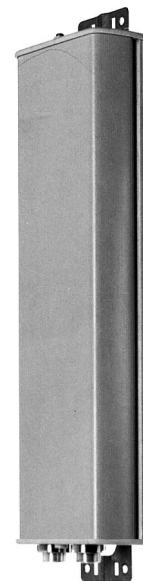
XPol Panel 1710–2170 65° 16dBi 0°T

Type No.	742 196		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 15.3 dBi	2 x 15.6 dBi	2 x 15.8 dBi
Horizontal Pattern:			
Half-power beam width	67°	66°	64°
Front-to-back ratio (180° ± 30°)	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Vertical Pattern:			
Half-power beam width	12.6°	11.8°	11°
Sidelobe suppression for first sidelobe above horizon	> 14 dB	> 16 dB	> 14 dB
VSWR	< 1.4		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom or top		
Weight	4.5 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 190 / 55 / 220 N		
Height/width/depth	735 / 155 / 69 mm		



XPol Panel 1710–2200 65° 15.5dBi 6°T

Type No.	800 10424		
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 15.2 dBi	2 x 15.5 dBi	2 x 15.7 dBi
Horizontal Pattern:			
Half-power beam width	66°	66°	64°
Front-to-back ratio, copolar	> 30 dB	> 30 dB	> 30 dB
Cross polar ratio Sector	0° ±60° Typically: 19 dB > 10 dB	Typically: 18 dB > 10 dB	Typically: 18 dB > 10 dB
Vertical Pattern:			
Half-power beam width	13.1°	12.2°	11.1°
Electrical tilt	6°, fixed	6°, fixed	6°, fixed
Sidelobe suppression for first sidelobe above main beam	> 15 dB	> 18 dB	> 18 dB
First null-fill below main beam	Typically: 25 dB	Typically: 25 dB	Typically: 25 dB
VSWR	< 1.3		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	250 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Weight	3.7 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 190 / 55 / 220 N		
Height/width/depth	735 / 155 / 69 mm		



Multi-band Panel Dual Polarization Half-power Beam Width

1710–2200

X

65°

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XPol Panel 1710–2200 65° 15.5dBi 0°–12°T

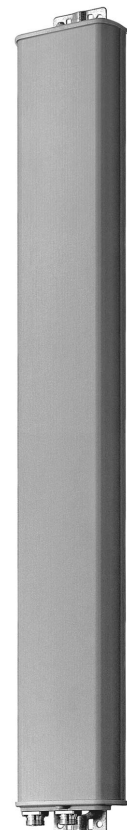
Type No.	800 10247		
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain per input	0° ... 4° ... 8° ... 12° T 15.5 ... 15.4 ... 15.3 ... 15.1 dBi	0° ... 4° ... 8° ... 12° T 15.6 ... 15.5 ... 15.4 ... 15 dBi	0° ... 4° ... 8° ... 12° T 15.8 ... 15.7 ... 15.5 ... 14.9 dBi
Horizontal Pattern:			
Half-power beam width	67°	66°	64°
Front-to-back ratio	Copolar: > 27 dB	Copolar: > 27 dB	Copolar: > 27 dB
Cross polar ratio			
Maindirection	Typically: 20 dB	Typically: 20 dB	Typically: 20 dB
Sector	> 10 dB	> 10 dB	> 10 dB
Vertical Pattern:			
Half-power beam width	12.9°	12.3°	11.5°
Electrical tilt	0°–12°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 4° ... 8° ... 12° T > 14 ... 14 ... 14 ... 14 dB	0° ... 4° ... 8° ... 12° T > 14 ... 14 ... 14 ... 14 dB	0° ... 4° ... 8° ... 12° T > 14 ... 14 ... 14 ... 14 dB
Isolation, between ports	> 30 dB		
VSWR	< 1.4		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	1x, Position bottom, continuously adjustable		
Weight	4.5 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 200 / 65 / 240 N		
Height/width/depth	735 / 155 / 69 mm		



1800/1900/2000/2500
XPol

XPol Panel 1710–2200 65° 18.3dBi 0°T

Type No.	800 10425		
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 17.9 dBi	2 x 18.1 dBi	2 x 18.3 dBi
Horizontal Pattern:			
Half-power beam width	67°	66°	64°
Front-to-back ratio, copolar	> 30 dB	> 30 dB	> 30 dB
Cross polar ratio			
Maindirection	Typically: 20 dB	Typically: 20 dB	Typically: 20 dB
Sector	> 10 dB	> 10 dB	> 10 dB
Vertical Pattern:			
Half-power beam width	6.6°	6.2°	5.8°
Electrical tilt	0°, fixed	0°, fixed	0°, fixed
Sidelobe suppression for first sidelobe above main beam	> 14 dB	> 15 dB	> 16 dB
First null-fill below main beam	Typically: 25 dB	Typically: 25 dB	Typically: 25 dB
VSWR	< 1.4		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Weight	6.6 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 350 / 100 / 410 N		
Height/width/depth	1302 / 155 / 69 mm		



Multi-band Panel Dual Polarization Half-power Beam Width

1710–2200

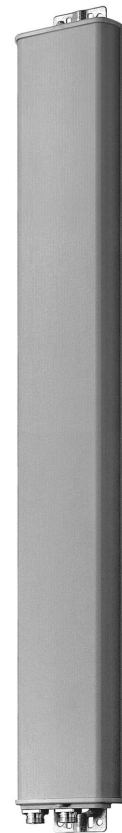
X

65°

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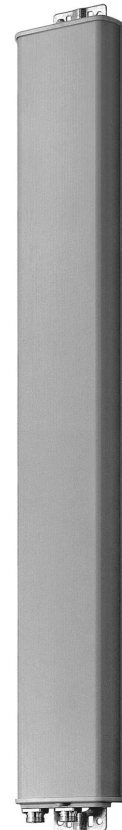
XPol Panel 1710–2200 65° 18.3dBi 2°T

Type No.	800 10426		
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 17.9 dBi	2 x 18.1 dBi	2 x 18.3 dBi
Horizontal Pattern:			
Half-power beam width	66°	65°	63°
Front-to-back ratio, copolar	> 28 dB	> 30 dB	> 33 dB
Cross polar ratio Sector 0° ±60°	Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB
Vertical Pattern:			
Half-power beam width	6.6°	6.2°	5.8°
Electrical tilt	2°, fixed	2°, fixed	2°, fixed
Sidelobe suppression for first sidelobe above main beam	> 14 dB	> 15 dB	> 15 dB
First null-fill below main beam	Typically: 25 dB	Typically: 25 dB	Typically: 25 dB
VSWR	< 1.4		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Weight	6.6 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 350 / 100 / 410 N		
Height/width/depth	1302 / 155 / 69 mm		



XPol Panel 1710–2200 65° 18dBi 6°T

Type No.	800 10428		
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 17.7 dBi	2 x 17.9 dBi	2 x 18.1 dBi
Horizontal Pattern:			
Half-power beam width	67°	65°	63°
Front-to-back ratio, copolar	> 27 dB	> 33 dB	> 33 dB
Cross polar ratio Sector 0° ±60°	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Vertical Pattern:			
Half-power beam width	6.7°	6.3°	5.8°
Electrical tilt	6°, fixed	6°, fixed	6°, fixed
Sidelobe suppression for first sidelobe above main beam	> 14 dB	> 14 dB	> 15 dB
First null-fill below main beam	Typically: 25 dB	Typically: 25 dB	Typically: 25 dB
VSWR	< 1.3		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Weight	6.6 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 350 / 100 / 410 N		
Height/width/depth	1302 / 155 / 69 mm		



Multi-band Panel Dual Polarization Half-power Beam Width

1710–2200

X

65°

KATHREIN
Antennen · Electronic

XPol Panel 1710–2200 65° 18dBi 0°–10°T

Type No.	742 215		
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 17.7 dBi	2 x 17.9 dBi	2 x 18 dBi
Horizontal Pattern:			
Half-power beam width	67°	66°	65°
Front-to-back ratio (180° ± 30°)	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB
Cross polar ratio Maindirection 0° Sector ±60°	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Vertical Pattern:			
Half-power beam width	7.1°	6.8°	6.4°
Electrical tilt	0°–10°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 4° ... 8° ... 10° T 18 ... 18 ... 17 ... 17 dB	0° ... 4° ... 8° ... 10° T 18 ... 18 ... 17 ... 17 dB	0° ... 4° ... 8° ... 10° T 18 ... 18 ... 17 ... 17 dB
Isolation, between ports	> 30 dB		
VSWR	< 1.5		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	1x, Position bottom, continuously adjustable		
Weight	6.2 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 350 / 90 / 350 N		
Height/width/depth	1314 / 155 / 70 mm		



1800/1900/2000/2500
XPol

XPol Panel 1710–2200 65° 18dBi 2°–10°T ESLS

Type No.	800 10614		
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain at 0° tilt	2 x 17.3 dBi	2 x 17.7 dBi	2 x 18 dBi
Horizontal Pattern:			
Half-power beam width	66°	64°	62°
Front-to-back ratio (180° ± 30°)	≥ 25 dB	≥ 25 dB	≥ 25 dB
Cross polar ratio Sector 0° ±60°	25 dB ≥ 10 dB	25 dB ≥ 10 dB	25 dB ≥ 10 dB
Vertical Pattern:			
Half-power beam width	7.9°	7.5°	7.2°
Electrical tilt	2°–10°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	> 15 dB	> 17 dB	> 18 dB
Sidelobe suppression in the sector 40°–180° below horizon for Tx-Frequencies	> 23 dB	> 24 dB	> 25 dB
VSWR	< 1.5		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	1x, Position bottom continuously adjustable		
Weight	6.9 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 350 / 90 / 350 N		
Height/width/depth	1314 / 155 / 70 mm		



Multi-band Panel Dual Polarization Half-power Beam Width

1710–2200

X

65°

KATHREIN

Antennen · Electronic

XPol Panel 1710–2200 65° 18dBi 0°–15°T ESLS

Type No.	800 10504			
Frequency range	1710–2200			
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz	2000 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°	+45°, –45°
Gain at 0° tilt	2 x 17.5 dBi	2 x 17.6 dBi	2 x 17.7 dBi	2 x 17.8 dBi
Horizontal Pattern:				
Half-power beam width	68°	66°	64°	62°
Front-to-back ratio (180° ±30°)	≥ 28 dB	≥ 28 dB	≥ 28 dB	≥ 28 dB
Cross polar ratio	0°	0°	0°	0°
Sector	±60°	±60°	±60°	±60°
	≥ 22 dB	≥ 22 dB	≥ 24 dB	≥ 26 dB
	≥ 10 dB	≥ 10 dB	≥ 10 dB	≥ 10 dB
Vertical Pattern:				
Half-power beam width	7.9°	7.5°	7.2°	7.0°
Electrical tilt	0°–15°, continuously adjustable			
Sidelobe suppression	0° ... 5° ... 10° ... 15° T	0° ... 5° ... 10° ... 15° T	0° ... 5° ... 10° ... 15° T	0° ... 5° ... 10° ... 15° T
– for first sidelobe above main beam	≥ 17 ... 20 ... 18 ... 17 dB	≥ 16 ... 20 ... 18 ... 17 dB	≥ 16 ... 20 ... 18 ... 17 dB	≥ 15 ... 20 ... 18 ... 15 dB
– within 0°–20° sector above horizon	≥ 16 ... 18 ... 18 ... 16 dB	≥ 16 ... 18 ... 17 ... 16 dB	≥ 15 ... 18 ... 17 ... 16 dB	≥ 15 ... 16 ... 16 ... 15 dB
Null-fill at 0° tilt	21 dB	20 dB	19 dB	18 dB
VSWR	< 1.5			
Isolation, between ports	> 30 dB			
Intermodulation IM3	< –153 dBc (2 x 43 dBm carrier)			
Max. power per input	300 W (at 50 °C ambient temperature)			
Input	2 x 7-16 female			
Connector position	Bottom			
Adjustment mechanism	1 x, Position bottom, continuously adjustable			
Weight	9 kg			
Wind load (at 150 km/h)	Frontal / lateral / rearside: 370 / 110 / 440 N			
Height/width/depth	1374 / 155 / 69 mm			



Panel
Dual Polarization
Half-power Beam Width

1710–2200

X

65°

KATHREIN
 Antennen · Electronic

XPol Panel 1710–2200 65° 19.5dBi 0°–6°T

Type No.	742 213		
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 19 dBi	2 x 19.2 dBi	2 x 19.5 dBi
Horizontal Pattern:			
Half-power beam width	67°	65°	63°
Front-to-back ratio (180° ± 30°)	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Vertical Pattern:			
Half-power beam width	4.7°	4.5°	4.3°
Electrical tilt	0°–6°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 2° ... 4° ... 6° T 18 ... 18 ... 16 ... 15 dB	0° ... 2° ... 4° ... 6° T 18 ... 18 ... 17 ... 16 dB	0° ... 2° ... 4° ... 6° T 18 ... 18 ... 18 ... 18 dB
Isolation, between ports	> 30 dB		
VSWR	< 1.5		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	1x, Position bottom continuously adjustable		
Weight	8.7 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 520 / 140 / 520 N		
Height/width/depth	1954 / 155 / 70 mm		



1800/1900/2000/2500
 XPol

Multi-band Panel Dual Polarization Half-power Beam Width

1710–2200

X

65°

KATHREIN

Antennen · Electronic

XPol Panel 1710–2200 65° 19dBi 0°–10°T ESLS

Type No.	800 10505			
Frequency range	1710–2200			
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz	2000 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°	+45°, –45°
Average Gain (dBi)	18.5 ... 18.7 ... 18.5 dB	18.7 ... 19.0 ... 18.5 dB	18.7 ... 19.0 ... 18.4 dB	18.7 ... 18.9 ... 18.3 dB
Tilt	0° ... 5° ... 10° T	0° ... 5° ... 10° T	0° ... 5° ... 10° T	0° ... 5° ... 10° T
Horizontal Pattern:				
Half-power beam width	67°	65°	64°	63°
Front-to-back ratio (180° ±30°)	≥ 30 dB	≥ 30 dB	≥ 27 dB	≥ 26 dB
Cross polar ratio Sector 0° ±60°	Typically: 25 dB ≥ 11 dB	Typically: 22 dB ≥ 11 dB	Typically: 22 dB ≥ 11 dB	Typically: 22 dB ≥ 10 dB
Vertical Pattern:				
Half-power beam width	5.0°	4.8°	4.6°	4.4°
Electrical tilt	0°–10°, continuously adjustable			
Sidelobe suppression – for first sidelobe above main beam – within 0°–20° sector above horizon	0° ... 4° ... 8° ... 10° T ≥ 20 ... 20 ... 18 ... 18 dB ≥ 18 ... 18 ... 17 ... 17 dB	0° ... 4° ... 8° ... 10° T ≥ 20 ... 20 ... 18 ... 18 dB ≥ 17 ... 18 ... 17 ... 15 dB	0° ... 4° ... 8° ... 10° T ≥ 19 ... 20 ... 18 ... 18 dB ≥ 17 ... 17 ... 17 ... 15 dB	0° ... 4° ... 8° ... 10° T ≥ 18 ... 20 ... 18 ... 18 dB ≥ 17 ... 17 ... 14 ... 12 dB
VSWR	< 1.5			
Isolation, between ports	> 30 dB			
Intermodulation IM3	< –153 dBc (2 x 43 dBm carrier)			
Max. power per input	300 W (at 50 °C ambient temperature)			
Input	2x 7-16 female			
Connector position	Bottom			
Adjustment mechanism	1x, Position bottom, continuously adjustable			
Weight	11 kg			
Wind load (at 150 km/h)	Frontal / lateral / rearside: 570 / 180 / 660 N			
Height/width/depth	1984 / 155 / 69 mm			



Multi-band Panel Dual Polarization Half-power Beam Width

1710–2200

X

65°

KATHREIN
Antennen · Electronic

XPol Panel 1710–2200 62° 19dBi 0°–8°T

Type No.	800 10636		
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 18.3 dBi	2 x 18.7 dBi	2 x 19 dBi
Horizontal Pattern:			
Half-power beam width	65°	62°	59°
Front-to-back ratio (180° ± 30°)	> 30 dB	> 30 dB	> 28 dB
Cross polar ratio			
Maindirection	Typically: 25 dB	Typically: 25 dB	Typically: 25 dB
Sector	> 10 dB	> 10 dB	> 10 dB
Vertical Pattern:			
Half-power beam width	6.6°	6.2°	5.9°
Electrical tilt	0°–8°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 4° ... 8° T 18 ... 14 ... 14 dB	0° ... 4° ... 8° T 18 ... 15 ... 15 dB	0° ... 4° ... 8° T 18 ... 15 ... 15 dB
VSWR	< 1.5		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	1x, Position bottom continuously adjustable		
Weight	Approx. 7 kg		
Wind load (approx.)	Frontal / lateral / rearside: 350 / 140 / 360 N (at 150 km/h)		
Height/width/depth	1404 / 155 / 70 mm		



1800/1900/2000/2500
XPol

XPol Panel 1710–2170 65° 20.5dBi 0°T

Type No.	742 186		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	20 dBi	20.2 dBi	20.5 dBi
Horizontal Pattern:			
Half-power beam width	67°	65°	61°
Front-to-back ratio (180° ± 30°)	Copolar: > 30 dB Total power: > 28 dB	Copolar: > 30 dB Total power: > 28 dB	Copolar: > 30 dB Total power: > 27 dB
Cross polar ratio			
Maindirection	Typically: 25 dB	Typically: 25 dB	Typically: 25 dB
Sector	> 14 dB	> 14 dB	> 14 dB
Vertical Pattern:			
Half-power beam width	4°	3.8°	3.5°
VSWR	< 1.5		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	7-16 female		
Connector position	Bottom		
Weight	9.5 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 600 / 180 / 710 N		
Height/width/depth	2160 / 155 / 69 mm		



Multi-band Panel Dual Polarization Half-power Beam Width

1710–2200

X

65°

KATHREIN
Antennen · Electronic

XPol Panel 1710–2200 65° 21dBi 0°T

Type No.	800 10439			
Frequency range	1710–2200			
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz	2000 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 20.5 dBi	2 x 20.8 dBi	2 x 21.1 dBi	2 x 21.2 dBi
Horizontal Pattern:				
Half-power beam width	66°	63°	60°	58°
Front-to-back ratio (180°±30°)	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Cross polar ratio	0°	23 dB	23 dB	23 dB
Sector	±60°	> 12 dB	> 10 dB	> 10 dB
Vertical Pattern:				
Half-power beam width	4.2°	4°	3.7°	3.5°
Electrical tilt	0°, fixed			
Sidelobe suppression				
– for first sidelobe above main beam	> 15 dB			
– within 0°–30° sector above horizon	> 15 dB			
First null-fill below main beam	< 20 dB			
VSWR	< 1.5			
Isolation, between ports	> 30 dB			
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)			
Max. power per input	300 W (at 50 °C ambient temperature)			
Input	2 x 7-16 female			
Connector position	Bottom or top			
Weight	11.5 kg			
Wind load (at 150 km/h)	Frontal / lateral / rearside: 230 / 220 / 550 N			
Height/width/depth	2172 / 155 / 89 mm			



XPol Panel 1710–2200 62° 21.2dBi 0°–6°T

Type No.	800 10378		
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 20.6 dBi	2 x 21.1 dBi	2 x 21.2 dBi
Horizontal Pattern:			
Half-power beam width	65°	62°	60°
Front-to-back ratio (180°± 30°)	> 30 dB	> 28 dB	> 28 dB
Cross polar ratio	0°	23 dB	23 dB
Sector	±60°	> 10 dB	> 10 dB
Vertical Pattern:			
Half-power beam width	3.7°	3.5°	3.3°
Electrical tilt	0°–6°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 4° ... 6° T 18 ... 18 ... 16 dB	0° ... 4° ... 6° T 18 ... 18 ... 17 dB	0° ... 4° ... 6° T 18 ... 18 ... 17 dB
Null-fill at 0° tilt	20 dB	20 dB	20 dB
VSWR	< 1.5		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	1x, Position bottom continuously adjustable		
Weight	14 kg		
Wind load (approx.)	Frontal / lateral / rearside: 630 / 250 / 650 N (at 150 km/h)		
Height/width/depth	Approx. 2520 / 155 / 89 mm		



Multi-band Panel Dual Polarization Half-power Beam Width

1710–2170

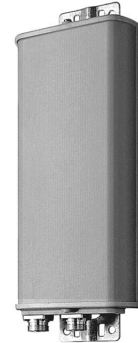
X

88°

KATHREIN
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XPol Panel 1710–2170 88° 11.5dBi

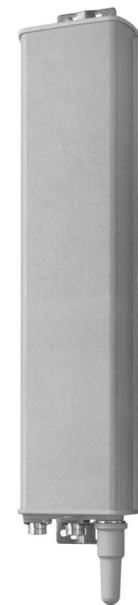
Type No.	741 984		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 11.3 dBi	2 x 11.5 dBi	2 x 11.6 dBi
Horizontal Pattern:			
Half-power beam width	86°	87°	88°
Front-to-back ratio (180° ± 30°)	Copolar: > 23 dB Total power: > 23 dB	Copolar: > 23 dB Total power: > 23 dB	Copolar: > 23 dB Total power: > 23 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 20 dB > 18 dB	Typically: 25 dB > 18 dB	Typically: 20 dB > 15 dB
Vertical Pattern:			
Half-power beam width	28°	26°	26°
Sidelobe suppression vertical sector ±45°	> 20 dB	> 20 dB	> 20 dB
VSWR	< 1.4		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	150 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom or top		
Weight	2 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 95 / 24 / 110 N		
Height/width/depth	342 / 155 / 69 mm		



1800/1900/2000/2500
XPol

XPol Panel 1710–2170 88° 14dBi 0°–10°T

Type No.	741 988		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 13.7 dBi	2 x 14 dBi	2 x 14.1 dBi
Horizontal Pattern:			
Half-power beam width	88°	88°	88°
Front-to-back ratio, copolar total power	> 25 dB > 25 dB	> 25 dB > 25 dB	> 25 dB > 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB
Vertical Pattern:			
Half-power beam width	14.7°	14°	13°
Electrical tilt	0°–10°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 4° ... 8° ... 10° T 18 ... 18 ... 18 ... 18 dB	0° ... 4° ... 8° ... 10° T 18 ... 18 ... 18 ... 18 dB	0° ... 4° ... 8° ... 10° T 18 ... 18 ... 18 ... 18 dB
VSWR	< 1.5		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	1x, Position bottom, continuously adjustable		
Weight	4.2 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 180 / 55 / 210 N		
Height/width/depth	662 / 155 / 69 mm		



Multi-band Panel Dual Polarization Half-power Beam Width

1710–2200

X

88°

KATHREIN
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XPol Panel 1710–2200 88° 17dBi 0°–8°T

Type No.	741 989		
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 16.5 dBi	2 x 16.8 dBi	2 x 16.7 dBi
Horizontal Pattern:			
Half-power beam width	88°	88°	88°
Front-to-back ratio (180° ± 30°)	Copolar: > 25 dB Total power: > 25 dB	Copolar: > 25 dB Total power: > 25 dB	Copolar: > 24 dB Total power: > 24 dB
Cross polar ratio			
Maindirection	Typically: 20 dB	Typically: 20 dB	Typically: 20 dB
Sector	0° ±60° > 10 dB	> 10 dB	> 10 dB
Vertical Pattern:			
Half-power beam width	7°	6.7°	6.5°
Electrical tilt	0°–8°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 2° ... 5° ... 8° T 18 ... 18 ... 16 ... 14 dB	0° ... 2° ... 5° ... 8° T 20 ... 20 ... 18 ... 17 dB	0° ... 2° ... 5° ... 8° T 18 ... 18 ... 18 ... 17 dB
VSWR	< 1.5		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	1x, Position bottom, continuously adjustable		
Weight	7.5 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 360 / 110 / 420 N		
Height/width/depth	1302 / 155 / 69 mm		



XPol Panel 1710–1880 90° 17.5dBi 2°T

Type No.	739 710
Frequency range	1710 – 1880 MHz
Polarization	+45°, –45°
Gain	2 x 17.5 dBi
Half-power beam width	Horizontal: 90°
Copolar +45°/–45°	Vertical: 5°
Electrical tilt	2°, fixed
Sidelobe suppression for first sidelobe above horizon	≥ 14 dB
Front-to-back ratio, copolar	> 25 dB
Isolation, between ports	> 30 dB
VSWR	< 1.4
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)
Max. power per input	200 W (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	9 kg
Wind load (at 150 km/h)	Frontal / lateral / rearside: 530 / 150 / 610 N
Height/width/depth	1902 / 155 / 69 mm



Multi-band Panel Dual Polarization Half-power Beam Width

1710–2170

X

88°

KATHREIN
Antennen · Electronic

XPol Panel 1710–2170 88° 18dBi 0°–6°T

Type No.	741 990		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 17.7 dBi	2 x 18 dBi	2 x 18.2 dBi
Horizontal Pattern:			
Half-power beam width	88°	88°	88°
Front-to-back ratio, copolar total power	> 25 dB > 25 dB	> 25 dB > 25 dB	> 25 dB > 25 dB
Cross polar ratio			
Main direction	Typically: 20 dB	Typically: 20 dB	Typically: 20 dB
Sector	±60° > 10 dB	> 10 dB	> 10 dB
Vertical Pattern:			
Half-power beam width	4.9°	4.7°	4.5°
Electrical tilt	0°–6°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 2° ... 4° ... 6° T 17 ... 17 ... 17 ... 17 dB	0° ... 2° ... 4° ... 6° T 18 ... 18 ... 18 ... 18 dB	0° ... 2° ... 4° ... 6° T 18 ... 18 ... 18 ... 18 dB
VSWR	< 1.5		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	1x, Position bottom, continuously adjustable		
Weight	10.8 kg		
Wind load	Frontal / lateral / rearside: 550 / 160 / 630 N		
Height/width/depth	1942 / 155 / 69 mm		



1800/1900/2000/2500
XPol

Dual-Beam Panel Dual Polarization Half-power Beam Width

1710–2200	1710–2200
X	X
45°	45°

KATHREIN
Antennen · Electronic

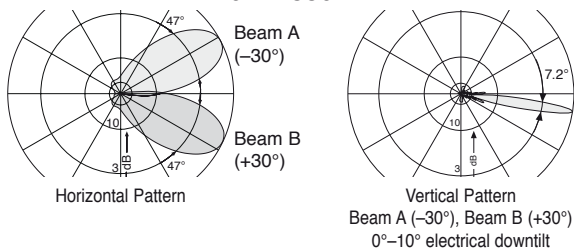
XXPol Panel 1710–2200/1710–2200 45°(-30°)/45°(+30°) 19.5/19.5dBi 0°–10°/0°–10°T

Type No.	800 10606		
Frequency range	1710 – 1880 MHz 1850 – 1990 MHz 1920 – 2200 MHz		
Azimuth direction	Beam A (-30°), Beam B (+30°)		
Polarization	+45°, -45°, +45°, -45°	+45°, -45°, +45°, -45°	+45°, -45°, +45°, -45°
Gain	4 x 19 dBi	4 x 19.3 dBi	4 x 19.5 dBi
Horizontal Pattern:			
Half-power beam width (offset beams ±30°)	47°	45°	43°
Front-to-back ratio	Copolar: > 30 dB Total power: > 25 dB		
Cross polar ratio			
Maindirection -30°; +30° Sector -60°; 0°; 0°; +60°	Typically: 18 dB > 13 dB	Typically: 17 dB > 13 dB	Typically: 16 dB > 13 dB
Sidelobe suppression for sidelobes beside main beam	> 18 dB		
Vertical Pattern:			
Half-power beam width	7.2°	7.1°	6.8°
Electrical tilt	0°–10°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	> 18 dB		
VSWR	< 1.5		
Isolation, between inputs	> 30 dB		
Intermodulation IM3	< -150 dBc (2 x 43 dBm carrier)		
Max. power per input	200 W (at 50 °C ambient temperature)		
Input	4 x 7-16 female		
Connector position	Bottom		
Weight	18.5 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 720 / 190 / 830 N		
Height/width/depth	1314 / 380 / 150 mm		

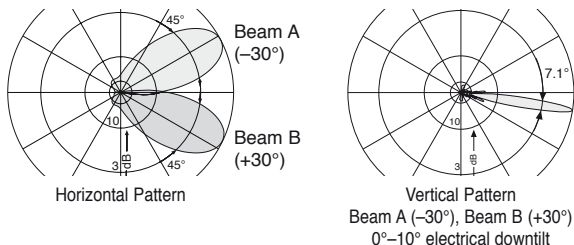


Dual Beam Antenna Patterns:

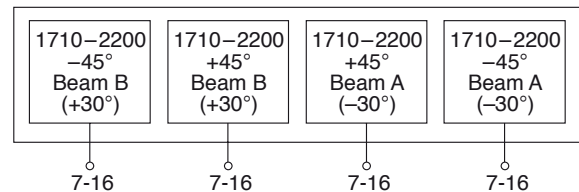
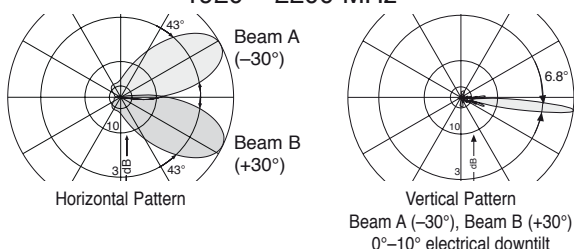
1710 – 1880 MHz



1850 – 1990 MHz



1920 – 2200 MHz



Multi-band Panel Dual Polarization Half-power Beam Width

1710–2200

X

65°

KATHREIN
Antennen · Electronic

XPol Panel IRT 1710–2200 65° 18dBi 0°–10°T

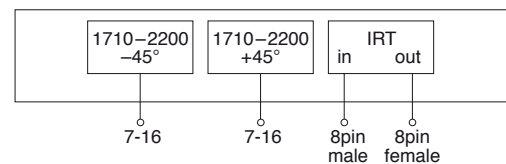


Type No.	800 10314 / 800 10618		
A) Antenna specifications			
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 17.7 dBi	2 x 17.9 dBi	2 x 18 dBi
Horizontal Pattern:			
Half-power beam width	67°	66°	65°
Front-to-back ratio	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB
Cross polar ratio			
Maindirection	0°		
Sector	±60°	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Vertical Pattern:			
Half-power beam width	7.1°	6.8°	6.6°
Electrical tilt	0°–10°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 4° ... 8° ... 10° T 16 ... 16 ... 16 ... 16 dB	0° ... 4° ... 8° ... 10° T 17 ... 17 ... 17 ... 17 dB	0° ... 4° ... 8° ... 10° T 17 ... 17 ... 17 ... 17 dB
VSWR	< 1.5		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	120 W (at 50 °C ambient temperature)		
Input	2 x 7-16 female IRT in: 1 x 8pin male IRT out: 1 x 8pin female		
Connector position	Bottom		
Weight	7.5 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 350 / 100 / 410 N		
Height/width/depth	1302 / 155 / 69 mm		



1800/1900/2000/2500
XPol

B) IRT specifications	800 10314	800 10618
Logical interface ex factory ¹⁾	AISG 1.1	3GPP/AISG 2.0
Protocols	Compliant to AISG 1.1 and 3GPP/AISG 2.0	
Hardware interface ²⁾	2 x 8pin connector acc. IEC 60130-9; according to AISG: – IRT in (male): Control / Daisy chain in – IRT out (female): Daisy chain out	
Power supply	10 ... 30 V	
Power consumption	< 1 W (stand by) < 8.5 W (motor activated)	
Adjustment time (full range)	40 sec.	
Adjustment cycles	> 50,000	



¹⁾ The protocol of the logical interface can be switched from AISG 1.1 to 3GPP/AISG 2.0 and vice versa with a vendor specific command. Start-up operation of the 800 10314 is only possible with a primary station supporting AISG 1.1 and start-up operation of the 800 10618 is only possible with a primary station supporting 3GPP/AISG 2.0!

Please note: The used Primary-SW has to be able to handle also integrated remote tilt units, like Kathrein CCU with firmware 1.29 or higher and the Kathrein PCA with SW 2.0 or higher. If the Primary of the system doesn't support the standard of the 'logical interface ex factory', the IRT must be switched to the appropriate standard of the Primary before installation. Please contact Kathrein for further information.

²⁾ The tightening torque for fixing the connector must be 0.5 – 1.0 Nm ('hand-tightened'). The connector should be tightened by hand only!

Multi-band Panel Dual Polarization Half-power Beam Width

1710–2200

X

65°

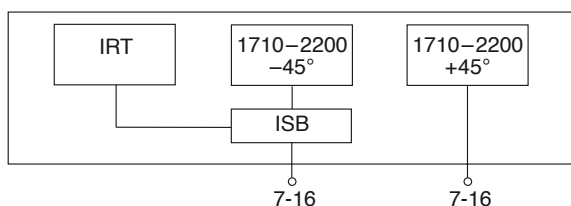
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Antennen · Electronic

XPol Panel IRT+ISB 1710–2200 65° 18dBi 0°–10°T



Type No.	800 10414		
A) Antenna specifications			
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 17.7 dBi	2 x 17.9 dBi	2 x 18 dBi
Horizontal Pattern:			
Half-power beam width	67°	66°	65°
Front-to-back ratio	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB
Cross polar ratio			
Maindirection	0°		
Sector	±60°	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Vertical Pattern:			
Half-power beam width	6.8°	6.5°	6.2°
Electrical tilt	0°–10°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 4° ... 8° ... 10° T 17 ... 17 ... 17 ... 17 dB	0° ... 4° ... 8° ... 10° T 17 ... 17 ... 17 ... 17 dB	0° ... 4° ... 8° ... 10° T 18 ... 18 ... 17 ... 17 dB
VSWR	< 1.5		
Isolation, between ports	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	100 W (at 45 °C ambient temperature)		
Input	2 x 7-16 female		
Connector position	Bottom		
Weight	8.5 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 360 / 90 / 360 N		
Height/width/depth	1358 / 155 / 70 mm		



B) IRT + ISB specifications

Power supply	10 ... 30 V
Power consumption	< 1 W (stand by) < 8 W (motor activated)
Hardware interface	IRT supply and control via integrated smart Bias-T: Input: 7-16 female (–45°)
Modem carrier frequency	2.176 MHz
Modem data rate	9.6 kB / 38.4 kB
Software interface ¹⁾	HEX coded commands based on HDLC protocol; according to AISG 2.0 / 3GPP
Adjustment time (full range)	< 30 sec.
Adjustment cycles	> 50,000

¹⁾ Please note: The primary station must be able to support an integrated remote tilt unit with 3GPP / AISG 2.0 protocol, e.g. Kathrein CCU with firmware 2.00 or higher or the Kathrein PCA with software 2.1.0 or higher.

Multi-band Panel Dual Polarization Half-power Beam Width

1920...2170

X

65°

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XPoI Panel IRT+ISB IA 12dB 1920–1980,2110–2170 65° 17.5dBi 0°–15°T

Type No.	800 10519
System Specifications	
Frequency range, Rx	1920 – 1980 MHz
Bandwidth, Rx	60 MHz
Frequency range, Tx	2110 – 2170 MHz
Bandwidth, Tx	60 MHz
Impedance	50 Ω
Gain, Rx at 0° tilt	29.5 ±1.0 dBi (DC ON) 14 dBi (DC OFF)
Gain, Tx at 0° tilt	17.2 dBi
VSWR, Rx	< 1.5 (DC ON) < 1.7 (DC OFF)
VSWR, Tx	< 1.5
Intermodulation IM7 in Rx band	< -160 dBc (2 x 43 dBm carrier)
Max. power per input	75 W (at 45 °C ambient temperature)
Hardware interface	IA / IRT supply and control via integrated smart Bias-T; Input: 7-16 female (-45°) or (+45°)
DC supply	10 – 30 V
Power consumption	Inactive motor: < 4 W (LNA active) Aktive motor: < 13 W (LNA active)
Modem carrier frequency	2,176 MHz
Modem data rate	9.6 kB / 38.4 kB

A) Antenna Specifications	
Polarization	+45°, -45°
Gain at 0° tilt, full band	17.5 dBi
Horizontal Pattern:	
Half-power beam width	65°
Front-to-back ratio (180° ±30°)	Copolar: > 30 dB Total power: > 25 dB
Cross polar ratio Sector 0° ±60°	Typically 20 dB Typically 10 dB
Vertical Pattern:	
Half-power Beam Width	7.5°
Electrical tilt	0° – 15°, continuously adjustable (via IRT)
Sidelobe suppression for first sidelobe above main beam	> 16 dB
Null-fill at 0° tilt	19 dB
Isolation between +45°, -45° Polarization	> 30 dB

B) IA Specifications	
Rx Characteristics	
Gain -40 ... +60 °C (DC on) +22 ... +28 °C	12.0 ±1.0 dB 12.0 ±0.5 dB
Gain ripple	< ±0.3 dB
Loss in by-pass mode (DC off)	Typically 3.3 dB
Noise figure	Typically 1.4 dB
Output 1-dB compression point	> 14 dBm
3 rd order intercept point (OIP3)	> 24 dBm
Tx Characteristics	
Insertion loss	Typically 0.3 dB
Ripple	< ±0.2 dB
Alarm management ¹⁾	According to AISG 2.0 / 3GPP

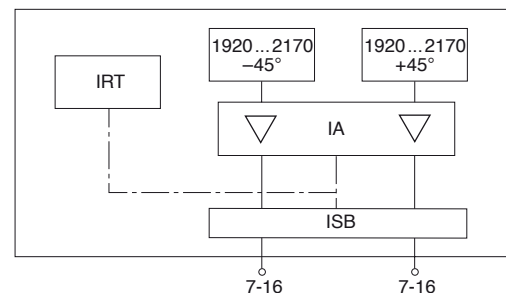
C) IRT Specifications	
Software interface ¹⁾	HEX coded commands based on HDLC protocol, according to AISG 2.0 / 3GPP
Adjustment time (full range)	40 sec.
Adjustment cycles	> 50,000

¹⁾ The protocol of the software interface can be switched between AISG 2.0 / 3GPP and AISG 1.1 with a vendor specific command.

The protocol as supplied is AISG 2.0 / 3GPP, if the primary station does not support this protocol, it has to be switched before system start up. Please contact Kathrein for further information.



1800/1900/2000/2500
XPoI



D) Mechanical specifications	
Input	2 x 7-16 female (long neck)
Connector position	Bottom
Weight	10 kg
Wind load (at 150 km/h)	Frontal: 360 N Lateral: 90 N Rearside: 360 N
Max. wind velocity	200 km/h
Packing size	1460 x 172 x 92 mm
Height/width/depth	1336 / 155 / 70 mm

Tri-Sector Pipe Antenna

0°

120°

240°

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Frequency Range

1710–2170

1710–2170

1710–2170

Antennen · Electronic

Dual Polarization

X

X

X

Half-power Beam Width

65°

65°

65°

Adjust. Electr. Downtilt

0°–12°

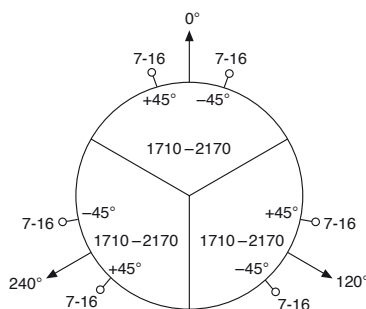
0°–12°

0°–12°

set by hand or by optional RCUs (Remote Control Units)

XPol Tri-Sector Pipe 1710–2170 65° 15.5dBi 0°–12°T

Type No.	800 10375			Electrical datas per sector
Frequency range	1710–2170			
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz	
Polarization	+45°, –45°	+45°, –45°	+45°, –45°	
Gain per Input (dBi)	0° ... 4° ... 8° ... 12° T 15.4 ... 15.2 ... 15.0 ... 14.8	0° ... 4° ... 8° ... 12° T 15.5 ... 15.4 ... 15.3 ... 14.9	0° ... 4° ... 8° ... 12° T 15.7 ... 15.6 ... 15.4 ... 14.9	
Half-power beam width Copolar +45°/–45°	Horizontal: 67° Vertical: 12.7°	Horizontal: 65° Vertical: 12°	Horizontal: 62° Vertical: 11.2°	
Electrical tilt continuously adjustable	0°–12°	0°–12°	0°–12°	
Sidelobe suppression for first sidelobe above horizon	0° ... 4° ... 8° ... 12° T 16 ... 16 ... 15 ... 15 dB	0° ... 4° ... 8° ... 12° T 18 ... 17 ... 17 ... 16 dB	0° ... 4° ... 8° ... 12° T 18 ... 18 ... 16 ... 16 dB	
Front-to-back ratio	Copolar: > 25 dB	Copolar: > 25 dB	Copolar: > 25 dB	
Cross polar ratio Maindirection Sector	0° ±60° Typically: 20 dB Typically: > 10 dB	Typically: 20 dB Typically: > 10 dB	Typically: 20 dB Typically: > 10 dB	
Isolation: Intrasystem	> 30 dB	> 30 dB	> 30 dB	
Isolation: Intersystem	> 40 dB	> 40 dB	> 40 dB	
Impedance	50 Ω	50 Ω	50 Ω	
VSWR	< 1.5	< 1.5	< 1.5	
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)			
Max. power per input	250 W (at 50 °C ambient temperature)			



Mechanical specifications

Input	3 x 2 x 7-16 female
Connector position	Bottom – inside service area
Adjustment mechanism	3 x 1, Position bottom continuously adjustable inside service area
Weight	32 kg
Wind load	205 N (at 150 km/h)
Max. wind velocity	200 km/h
Natural frequency	45 – 47 Hz
Damping ratio	0.032
Mechanical interface	Flange connection 12 x 12M at a graduated diameter of 208 mm 0°–360° continuously adjustable (for further details see application note)
Packing size	1395 x 315 x 330 mm
Height / diameter	1241 / 230 and 280 mm

Tri-Sector Pipe Antenna

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Frequency Range

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Dual Polarization

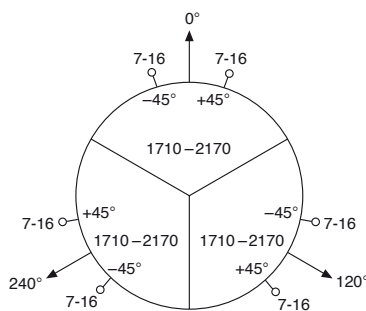
Half-power Beam Width

Adjust. Electr. Downtilt

set by hand or by optional RCUs (Remote Control Units)

XPol Tri-Sector Pipe 1710-2170 65° 18dBi 0°-10°T

Type No.	800 10360			Electrical datas per sector
Frequency range	1710-2170			
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz	
Polarization	+45°, -45°	+45°, -45°	+45°, -45°	
Average gain (dBi)	17.2 ... 17.5 ... 17.2	17.6 ... 17.8 ... 17.6	17.8 ... 17.9 ... 17.4	
Tilt	0° ... 5° ... 10°	0° ... 5° ... 10°	0° ... 5° ... 10°	
Half-power beam width	Horizontal: 66°	Horizontal: 63°	Horizontal: 60°	
Copolar +45°/-45°	Vertical: 7°	Vertical: 6.7°	Vertical: 6.4°	
Electrical tilt continuously adjustable	0°-10°	0°-10°	0°-10°	
Sidelobe suppression for first sidelobe above horizon	0° ... 5° ... 10° T 17 ... 15 ... 15 dB	0° ... 5° ... 10° T 17 ... 17 ... 15 dB	0° ... 5° ... 10° T 17 ... 17 ... 15 dB	
Front-to-back ratio (180° ± 30°)	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	
Cross polar ratio				
Maindirection	0°			
Sector	±60°			
Isolation: Intrasystem	> 30 dB	> 30 dB	> 30 dB	
Isolation: Intersystem	> 45 dB	> 42 dB	> 42 dB	
Impedance	50 Ω	50 Ω	50 Ω	
VSWR	< 1.5	< 1.5	< 1.5	
Intermodulation IM3	< -150 dBc (2 x 43 dBm carrier)			
Max. power per input	300 W (at 50 °C ambient temperature)			


 1800/1900/2000/2500
XPol


Mechanical specifications

Input	3 x 2 x 7-16 female
Connector position	Bottom – inside service area
Adjustment mechanism	3 x 1, Position bottom continuously adjustable inside service area
Weight	56 kg
Wind load	320 N (at 150 km/h)
Max. wind velocity	200 km/h
Natural frequency	19 – 21 Hz
Damping ratio	0.032
Mechanical interface	Flange connection 12 x 12M at a graduated diameter of 208 mm 0°-360° continuously adjustable (for further details see application note)
Packing size	2030 x 400 x 400 mm
Height / diameter	1823 / 230 and 280 mm

Tri-Sector Pipe Antenna

Frequency Range

Dual Polarization

Half-power Beam Width

Adjust. Electr. Downtilt

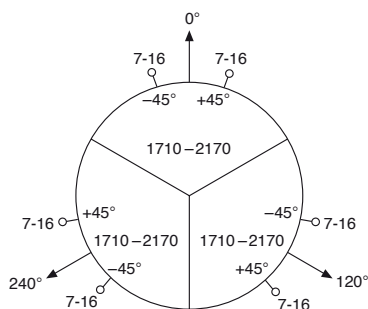
set by hand or by optional RCUs (Remote Control Units)

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Antennen · Electronic

XPol Tri-Sector Pipe 1710-2170 65° 18dBi 0°-10°T

Type No.	800 10270			Electrical datas per sector
Frequency range	1710-2170			
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz	
Polarization	+45°, -45°	+45°, -45°	+45°, -45°	
Average gain (dBi)	17.2 ... 17.5 ... 17.2	17.6 ... 17.8 ... 17.6	17.8 ... 17.9 ... 17.4	
Tilt	0° ... 5° ... 10°	0° ... 5° ... 10°	0° ... 5° ... 10°	
Half-power beam width	Horizontal: 66°	Horizontal: 63°	Horizontal: 60°	
Copolar +45°/-45°	Vertical: 7°	Vertical: 6.7°	Vertical: 6.4°	
Electrical tilt continuously adjustable	0°-10°	0°-10°	0°-10°	
Sidelobe suppression for first sidelobe above horizon	0° ... 5° ... 10° T 17 ... 15 ... 15 dB	0° ... 5° ... 10° T 17 ... 17 ... 15 dB	0° ... 5° ... 10° T 17 ... 17 ... 15 dB	
Front-to-back ratio (180° ± 30°)	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	
Cross polar ratio				
Maindirection	0°			
Sector	±60°	Typically: 25 dB Typically: > 10 dB	Typically: 20 dB Typically: > 10 dB	Typically: 20 dB Typically: > 10 dB
Isolation: Intrasystem	> 30 dB	> 30 dB	> 30 dB	
Isolation: Intersystem	> 45 dB	> 42 dB	> 42 dB	
Impedance	50 Ω	50 Ω	50 Ω	
VSWR	< 1.5	< 1.5	< 1.5	
Intermodulation IM3	< -150 dBc (2 x 43 dBm carrier)			
Max. power per input	300 W (at 50 °C ambient temperature)			



Mechanical specifications

Input	3 x 2 x 7-16 female
Connector position	Bottom – inside service area
Adjustment mechanism	3 x 1, Position bottom continuously adjustable inside service area
Weight	70 kg
Wind load	450 N (at 150 km/h)
Max. wind velocity	200 km/h
Natural frequency	17.5 – 19 Hz
Damping ratio	0.032
Mechanical interface	Flange connection 12 x 12M at a graduated diameter of 208 mm 0°-360° continuously adjustable (for further details see application note)
Packing size	2500 x 330 x 315 mm
Height / diameter	2296 / 230 and 280 mm

Tri-Sector Pipe Antenna

KATHREIN

Frequency Range

Antennen · Electronic

Dual Polarization

Half-power Beam Width

Adjust. Electr. Downtilt

set by hand or by optional RCUs (Remote Control Units)

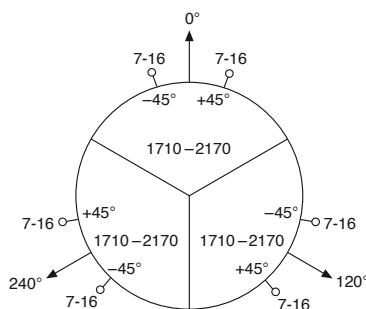
XPol Tri-Sector Pipe 1710-2170 65° 19.5dBi 0°-6°T

Type No.	800 10271			Electrical datas per sector
Frequency range	1710-2170			
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz	
Polarization	+45°, -45°	+45°, -45°	+45°, -45°	
Average gain (dBi)	18.7 ... 19.0 ... 18.7	18.8 ... 19.2 ... 19.1	19.0 ... 19.5 ... 19.3	
Tilt	0° ... 3° ... 6°	0° ... 3° ... 6°	0° ... 3° ... 6°	
Half-power beam width Copolar +45°/-45°	Horizontal: 67° Vertical: 4.7°	Horizontal: 66° Vertical: 4.5°	Horizontal: 64° Vertical: 4.3°	
Electrical tilt continuously adjustable	0°-6°	0°-6°	0°-6°	
Sidelobe suppression for first sidelobe above main beam	0° ... 3° ... 6° T 18 ... 18 ... 16 dB	0° ... 3° ... 6° T 18 ... 18 ... 18 dB	0° ... 3° ... 6° T 18 ... 18 ... 17 dB	
Front-to-back ratio (180° ± 30°)	Copolar: > 28 dB Total power: > 28 dB	Copolar: > 26 dB Total power: > 25 dB	Copolar: > 26 dB Total power: > 25 dB	
Cross polar ratio Maindirection Sector	0° ±60°	Typically: 25 dB > 10 dB	Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB
Isolation: Intrasystem	> 30 dB	> 30 dB	> 30 dB	
Isolation: Intersystem	> 45 dB	> 42 dB	> 42 dB	
Impedance	50 Ω	50 Ω	50 Ω	
VSWR	< 1.5	< 1.5	< 1.5	
Intermodulation IM3	< -150 dBc (2 x 43 dBm carrier)			
Max. power per input	300 W (at 50 °C ambient temperature)			



compact service area

1800/1900/2000/2500 XPol



Mechanical specifications	
Input	3 x 2 x 7-16 female
Connector position	Bottom – inside service area
Adjustment mechanism	3 x 1, Position bottom continuously adjustable inside service area
Weight	64 kg
Wind load	445 N (at 150 km/h)
Max. wind velocity	200 km/h
Natural frequency	9.5 – 11 Hz
Damping ratio	0.032
Mechanical interface	Flange connection 12 x 12M at a graduated diameter of 208 mm 0°-360° continuously adjustable (for further details see application note)
Packing size	2605 x 330 x 315 mm
Height / diameter	2460 / 230 and 280 mm

Accessories delivered with the Tri-Sector-Pipe Antenna:

1. Clamping ring for mounting the antenna on the customer-supplied base
2. Lightning conductor rod
3. Ring bolt as attachment possibility for lifting aid
4. Wrench (SW41 + SW27) for attaching the RCU

Optional Accessories:

The following components may be ordered separately

1. 860 10025 Slimline Remote Control Unit (RCU), see page 169
2. 782 10352 Multipack TMA MPTMA-UMTS-12-AISG-6P with 12 dB (equals 3*DTMA) and RET-Support
3. 782 10353 Multipack TMA MPTMA-UMTS-24-AISG-6P with 24 dB (equals 3*DTMA) and RET-Support
4. 782 10354 Multipack TMA MPTMA-UMTS-12-CW-6P with 12 dB (equals 3*DTMA) without RET-Support
5. 782 10355 Multipack TMA MPTMA-UMTS-24-CW-6P with 24 dB (equals 3*DTMA) without RET-Support
6. 850 10010 Flexible Sealing Frame (Roxtec frame to seal connection between the mast and the antenna, see below)
7. 738 440 Azimuth Adjustment Tool, see page 203
8. 737 306 3-way power splitter for optional omni pattern
9. 850 10111 Inlay mounting plate kit for 3-way splitter and DTMA for omni pattern
10. 782 10xxx Double TMA optional for omni pattern (several types, see page 286)



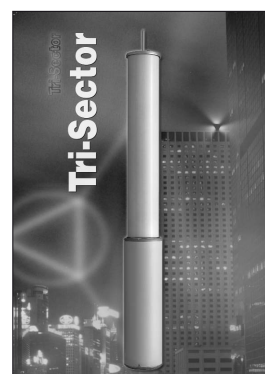
View inside service zone with MPTMA and Slimline RCUs

Flexible Sealing Frame

Type No.	850 10010
Outer diameter	180 mm
Cable diameter (6x)	15 – 42 mm
Cable diameter (3x)	3.5 – 10.5 mm
Frame-Material	Stainless steel
Sealing-Material	Halogen free cross linkable compound on ethylene-propylene rubber (EPDM)
Material of screws	Stainless steel
Accessories	Mounting lubricant
Required assembly tools	Socket wrench size 6 mm
Weight (without packaging)	1.8 kg
Packing size (L x W x H)	approx. 208 x 208 x 68 mm



For further information please refer to separate application note under:
www.kathrein.de/en/mca/index-customerportal.htm



Summary – Directional Antennas

2-Multi-band

1800/1900/2000/2500

Dual Polarization +45°/–45°

Type	Type No.	Height [mm]	Connector position	Page
XXPol Panel 1710–2170 65° 15dBi 0°–10°T 1710–2170 65° 15dBi 0°–10°T	742 233	679	bottom	74
XXPol Panel 1710–2690 65° 15.5dBi 0°–10°T 1710–2690 65° 15.5dBi 0°–10°T	800 10682	724	bottom	120
XXPol Panel 1710–2200 65° 18dBi 0°–10°T 1710–2200 65° 18dBi 0°–10°T	742 236	1319	bottom	74
XXPol Panel 1710–2200 65° 18dBi 0°–15°T ESLS 1710–2200 65° 18dBi 0°–15°T	800 10510	1389	bottom	75
XXPol Panel 1710–2200 65° 18dBi 0°–15°T 2300–2690 60° 17.5dBi 0°–12°T	800 10544	1389	bottom	122
XXPol Panel 1710–2690 65° 18dBi 0°–12°T ESLS 1710–2690 65° 18dBi 0°–12°T	800 10622	1389	bottom	123
XXPol Panel 1710–2170 65° 19.5dBi 0°–6°T 1710–2170 65° 19.5dBi 0°–6°T	742 235	1959	bottom	76
XXPol Panel 1710–2200 65° 19dBi 0°–10°T ESLS 1710–2200 65° 19dBi 0°–10°T	800 10511	1999	bottom	77
XXPol Panel 1710–2180 88° 16.5dBi 0°–10°T 1710–2180 88° 16.5dBi 0°–10°T	742 352	1319	bottom	78

New or changed product

*When deploying
2-Multi-band Antennas,
please also consider using
special Dual-band Combiners
(see pages 228 and 229)*

Abbreviations:
ESLS: Enhanced Side Lobe Suppression (above or below horizon)

1800/1900/2000/2500
XXPol 2-Multi

2-Multi-band Panel

Dual Polarization

Half-power Beam Width

1710–2200	1710–2200
-----------	-----------

X	X
---	---

65°	65°
-----	-----

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Antennen · Electronic

XXPol Panel 1710–2170/1710–2170 65°/65° 15/15dBi 0°–10°/0°–10°T

Type No.	742 233		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°
Gain	4 x 15 dBi	4 x 15.2 dBi	4 x 15.3 dBi
Horizontal Pattern:			
Half-power beam width	67°	65°	62°
Front-to-back ratio	Copolar: > 25 dB Total power: > 25 dB	Copolar: > 25 dB Total power: > 25 dB	Copolar: > 25 dB Total power: > 25 dB
Cross polar ratio			
Main direction	0°	Typically: 20 dB	Typically: 20 dB
Sector	±60°	Typically: 10 dB	Typically: 10 dB
Vertical Pattern:			
Half-power beam width	14°	13.7°	13°
Electrical tilt	0°–10°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 4° ... 8° ... 10°T 16 ... 16 ... 15 ... 15 dB	0° ... 4° ... 8° ... 10°T 16 ... 16 ... 16 ... 16 dB	0° ... 4° ... 8° ... 10°T 16 ... 16 ... 16 ... 16 dB
VSWR	< 1.5		
Isolation, between inputs	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	250 W (at 50 °C ambient temperature)		
Input	4 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	2x, Position bottom, continuously adjustable		
Weight	10.4 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 300 / 60 / 300 N		
Height/width/depth	679 / 323 / 71 mm		



XXPol Panel 1710–2200/1710–2200 65°/65° 18/18dBi 0°–10°/0°–10°T

Type No.	742 236		
Frequency range	1710–2200		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2200 MHz
Polarization	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°
Gain	4 x 17.6 dBi	4 x 17.8 dBi	4 x 18 dBi
Horizontal Pattern:			
Half-power beam width	64°	64°	62°
Front-to-back ratio	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB
Cross polar ratio			
Main direction	0°	Typically: 25 dB	Typically: 25 dB
Sector	±60°	> 10 dB	> 10 dB
Vertical Pattern:			
Half-power beam width	7°	6.8°	6.5°
Electrical tilt	0°–10°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 5° ... 10° T 20 ... 18 ... 16 dB	0° ... 5° ... 10° T 20 ... 18 ... 16 dB	0° ... 5° ... 10° T 16 ... 18 ... 16 dB
VSWR	< 1.5		
Isolation, between inputs	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	4 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	2x, Position bottom continuously adjustable		
Weight	14.6 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 650 / 100 / 700 N		
Height/width/depth	1319 / 323 / 71 mm		



2-Multi-band Panel

Dual Polarization

Half-power Beam Width

1710–2200	1710–2200
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X	X
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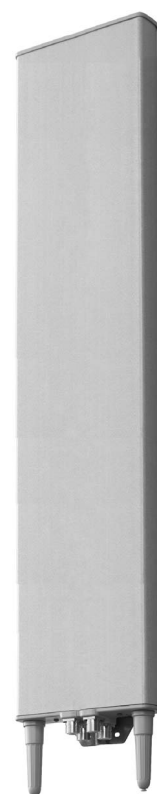
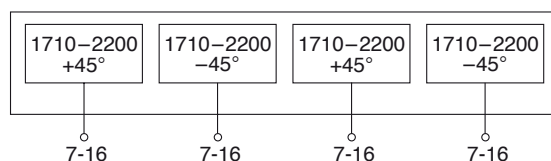
65°	65°
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KATHREIN

Antennen · Electronic

XXPol Panel 1710–2200/1710–2200 65°/65° 18/18dBi 0°–15°/0°–15°T ESLs

Type No.	800 10510			
Frequency range	1710–2200			
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz	2000 – 2200 MHz
Polarization	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°
Gain at 0° tilt	4 x 17.5 dBi	4 x 17.6 dBi	4 x 17.7 dBi	4 x 17.8 dBi
Horizontal Pattern:				
Half-power beam width	65°	63°	62°	62°
Front-to-back ratio (180° ±30°)	≥ 30 dB	≥ 30 dB	≥ 30 dB	≥ 28 dB
Cross polar ratio	0°	0°	0°	0°
Sector	±60°	±60°	±60°	±60°
	≥ 24 dB	≥ 24 dB	≥ 24 dB	≥ 26 dB
	≥ 9 dB	≥ 9 dB	≥ 10 dB	≥ 10 dB
Vertical Pattern:				
Half-power beam width	7.9°	7.5°	7.2°	6.9°
Electrical tilt	0°–15°, continuously adjustable			
Sidelobe suppression	0° ... 5° ... 10° ... 15° T	0° ... 5° ... 10° ... 15° T	0° ... 5° ... 10° ... 15° T	0° ... 5° ... 10° ... 15° T
– for first sidelobe above main beam	≥ 17 ... 20 ... 18 ... 17 dB	≥ 16 ... 20 ... 18 ... 18 dB	≥ 15 ... 19 ... 18 ... 17 dB	≥ 14 ... 18 ... 18 ... 16 dB
– within 0°–20° sector above horizon	≥ 17 ... 18 ... 18 ... 16 dB	≥ 16 ... 17 ... 17 ... 16 dB	≥ 15 ... 17 ... 17 ... 16 dB	≥ 14 ... 16 ... 16 ... 15 dB
Null-fill at 0° tilt	23 dB	22 dB	21 dB	20 dB
VSWR	< 1.5			
Isolation, between ports	> 30 dB			
Intermodulation IM3	< –153 dBc (2 x 43 dBm carrier)			
Max. power per input	300 W (at 50 °C ambient temperature)			
Input	4 x 7-16 female			
Connector position	Bottom			
Adjustment mechanism	2x, Position bottom, continuously adjustable			
Weight	17 kg			
Wind load (at 150 km/h)	Frontal / lateral / rearside: 600 / 120 / 650 N			
Height/width/depth	1389 / 323 / 71 mm			



1800/1900/2000/2500
XXPol 2-Multi

2-Multi-band Panel

Dual Polarization

Half-power Beam Width

1710–2170

1710–2170

X

X

65°

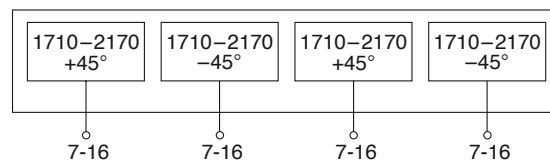
65°

KATHREIN

Antennen · Electronic

XXPol Panel 1710–2170/1710–2170 65°/65° 19.5/19.5dBi 0°–6°/0°–6°T

Type No.	742 235		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°
Gain	4 x 19 dBi	4 x 19.2 dBi	4 x 19.5 dBi
Horizontal Pattern:			
Half-power beam width	65°	64°	63°
Front-to-back ratio	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 24 dB
Cross polar ratio			
Maindirection	Typically: 25 dB	Typically: 25 dB	Typically: 25 dB
Sector	0° ±60° > 10 dB	> 10 dB	> 10 dB
Vertical Pattern:			
Half-power beam width	4.6°	4.4°	4.2°
Electrical tilt	0°–6°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 2° ... 4° ... 6° T 17 ... 17 ... 14 ... 14 dB	0° ... 2° ... 4° ... 6° T 17 ... 17 ... 15 ... 15 dB	0° ... 2° ... 4° ... 6° T 17 ... 17 ... 15 ... 15 dB
VSWR	< 1.5		
Isolation, between inputs	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	4 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	2x, Position bottom, continuously adjustable		
Weight	18 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 920 / 190 / 920 N		
Height/width/depth	1959 / 323 / 71 mm		



2-Multi-band Panel

Dual Polarization

Half-power Beam Width

1710–2200

1710–2200

X

X

65°

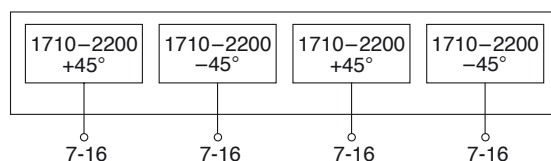
65°

KATHREIN

Antennen · Electronic

XXPol Panel 1710–2200/1710–2200 65°/65° 19/19dBi 0°–10°/0°–10°T ESLS

Type No.	800 10511			
Frequency range	1710–2200			
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz	2000 – 2200 MHz
Polarization	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°
Gain	18.5 ... 18.7 ... 18.5 dBi	18.7 ... 19.0 ... 18.5 dBi	18.7 ... 19.0 ... 18.4 dBi	18.7 ... 18.9 ... 18.3 dBi
Tilt	0° ... 5° ... 10° T	0° ... 5° ... 10° T	0° ... 5° ... 10° T	0° ... 5° ... 10° T
Horizontal Pattern:				
Half-power beam width	66°	65°	65°	63°
Front-to-back ratio (180° ±30°)	≥ 30 dB	≥ 30 dB	≥ 30 dB	≥ 28 dB
Cross polar ratio 0°	Typically: 22 dB	Typically: 22 dB	Typically: 22 dB	Typically: 22 dB
Sector ±60°	≥ 10 dB	≥ 10 dB	≥ 10 dB	≥ 10 dB
Vertical Pattern:				
Half-power beam width	5.0°	4.8°	4.6°	4.4°
Electrical tilt	0°–10°, continuously adjustable			
Sidelobe suppression	0° ... 4° ... 8° ... 10° T	0° ... 4° ... 8° ... 10° T	0° ... 4° ... 8° ... 10° T	0° ... 4° ... 8° ... 10° T
– for first sidelobe above main beam	≥ 20 ... 20 ... 18 ... 18 dB	≥ 20 ... 20 ... 18 ... 18 dB	≥ 19 ... 20 ... 18 ... 18 dB	≥ 18 ... 20 ... 18 ... 18 dB
– within 0°–20° sector above horizon	≥ 18 ... 18 ... 17 ... 17 dB	≥ 17 ... 18 ... 17 ... 15 dB	≥ 17 ... 17 ... 17 ... 15 dB	≥ 17 ... 17 ... 14 ... 12 dB
VSWR	< 1.5			
Isolation, between ports	> 30 dB			
Intermodulation IM3	< –153 dBc (2 x 43 dBm carrier)			
Max. power per input	300 W (at 50 °C ambient temperature)			
Input	4 x 7-16 female			
Connector position	Bottom			
Adjustment mechanism	2x, Position bottom, continuously adjustable			
Weight	18 kg			
Wind load (at 150 km/h)	Frontal / lateral / rearside: 920 / 190 / 950 N			
Height/width/depth	1999 / 323 / 71 mm			



1800/1900/2000/2500
XXPol 2-Multi

2-Multi-band Panel

Dual Polarization

Half-power Beam Width

1710–2180	1710–2180
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X	X
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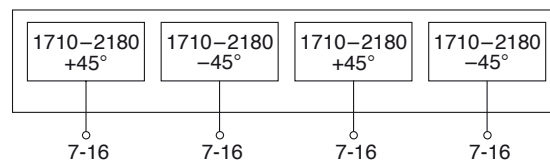
88°	88°
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KATHREIN

Antennen · Electronic

XXPol Panel 1710–2180/1710–2180 88°/88° 16.5/16.5dBi 0°–10°/0°–10°T

Type No.	742 352		
Frequency range	1710 – 1880 MHz 1710–2180 1850 – 1990 MHz 1920 – 2180 MHz		
Polarization	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°
Gain (average)	16.1 ... 16.3 ... 16.0 dBi	16.2 ... 16.4 ... 16.1 dBi	16.5 ... 16.7 ... 16.2 dBi
Tilt	0° ... 5° ... 10°	0° ... 5° ... 10°	0° ... 5° ... 10°
Horizontal Pattern:			
Half-power beam width	88°	90°	88°
Front-to-back ratio	Copolar: > 24 dB Total power: > 24 dB	Copolar: > 24 dB Total power: > 24 dB	Copolar: > 24 dB Total power: > 24 dB
Cross polar ratio			
Maindirection	Typically: 15 dB	Typically: 15 dB	Typically: 15 dB
Sector	0° ±60° > 8 dB	> 7.5 dB	> 7 dB
Vertical Pattern:			
Half-power beam width	7.4°	7°	6.5°
Electrical tilt	0°–10°, continuously adjustable		
Sidelobe suppression for first sidelobe above main beam	0° ... 4° ... 8° ... 10° T 18 ... 17 ... 16 ... 15 dB	0° ... 4° ... 8° ... 10° T 18 ... 17 ... 16 ... 15 dB	0° ... 4° ... 8° ... 10° T 17 ... 17 ... 16 ... 15 dB
VSWR	< 1.5		
Isolation: Intrasystem	> 30 dB		
Isolation: Intersystem	> 30 dB		
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)		
Max. power per input	300 W (at 50 °C ambient temperature)		
Input	4 x 7-16 female		
Connector position	Bottom		
Adjustment mechanism	2x, Position bottom, continuously adjustable		
Weight	16.5 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 600 / 120 / 600 N		
Height/width/depth	1319 / 323 / 71 mm		



1800/1900/2000/2500
XXPol 2-Multi

Summary – Directional Antennas

Vertical Polarization

1800/1900/2000

VPol

Type						Type No.	Height [mm]	Connector position	Page
VPol Panel	1710–2180	12°	18.5dBi	0°T		800 10368	299	side	80
Dual Yagi	870–960 C 1710–2170	30° 23°	16.5dBi 19.5dBi	0°T 0°T		800 10658	1100	rearside	81
VPol BiDir	790–960 / 1710–2170	65°	5dBi	0°T		738 445	312		82
VPol BiDir	790–960 / 1710–2170	65°	5dBi	0°T		738 446	312		82
VPol LogPer	806–2170	65°	11dBi	0°T		742 192	300	bottom	83

VVPol

VVPol Panel	824–960 1710–2170	C	90° 82°	7dBi 7dBi	0°T 0°T	742 290	328	bottom or top	84
VVPol Panel	824–960 1710–2170	C	90° 82°	10dBi 11dBi	0°T 0°T	800 10046	662	bottom or top	84

C = integrated Combiner

New or changed product

**Multi-band Panel
Vertical Polarization
Half-power Beam Width**

1710–2180

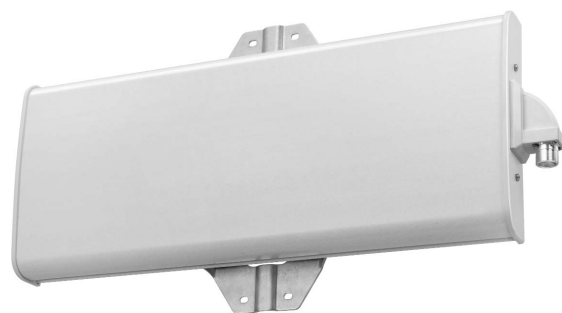
V

12°

KATHREIN
Antennen · Electronic

VPol Panel 1710–2180 12° 18.5dBi 0°T

Type No.	800 10368		
Frequency range	1710 – 1880 MHz	1710–2180 1850 – 1990 MHz	1920 – 2180 MHz
Polarization	Vertical	Vertical	Vertical
Gain	18.1 dBi	18.4 dBi	18.7 dBi
Horizontal Pattern:			
Half-power beam width	13.3°	12.8°	12°
Front-to-back ratio (180° ± 30°)	> 30 dB	> 30 dB	> 30 dB
Sidelobe suppression	> 18 dB	> 18 dB	> 17 dB
Vertical Pattern:			
Half-power beam width	37°	36°	36°
Electrical tilt	0°, fixed	0°, fixed	0°, fixed
Sidelobe suppression for first sidelobe above main beam	> 18 dB	> 18 dB	> 18 dB
VSWR	< 1.5		
Intermodulation IM3	< -150 dBc (2 x 43 dBm carrier)		
Max. power	300 W (at 50 °C ambient temperature)		
Input	1 x 7-16 female		
Connector position	Side (see picture)		
Weight	9 kg		
Wind load (at 150 km/h)	Frontal / lateral / rearside: 400 / 25 / 400 N		
Height/width/depth	299 / 743 / 69 mm		



**Yagi Multi-band Antenna
Dual Polarization
Half-power Beam Width
Integrated Combiner**

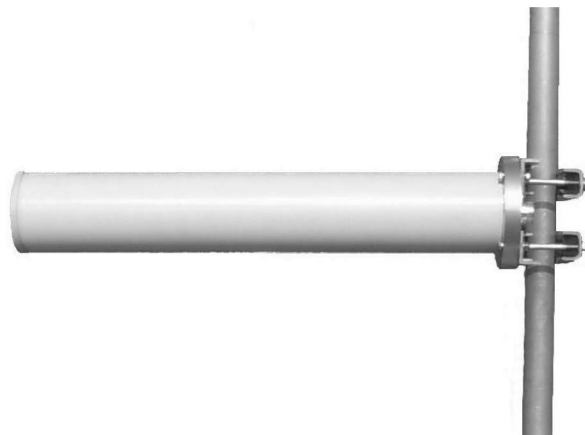
870–960	1710–2170
+45°	–45°
30°	23°
C	

KATHREIN
Antennen · Electronic

Dual Yagi 870–960/1710–2170 C 30°/23° 16.5/19dBi

Type No.	800 10658		
Frequency range	870–960 870 – 960 MHz	1710–2170 1710 – 1880 MHz	1920 – 2170 MHz
VSWR	< 1.5	< 1.5	< 1.5
Gain	16.5 dBi	18 dBi	19 dBi
Polarization	+45°	–45°	–45°
Front-to-back ratio	≥ 20 dB	≥ 27 dB	≥ 27 dB
Half-power beam width horizontal	30°	26°	20°
vertical	30°	27°	20°
Max. power	100 W (at 50 °C ambient temperature)		
Input	1 x 7-16 female		
Connector position	Rearside		
Weight	4.0 kg		
Dimensions	1100 / Ø 170 mm		
Integrated combiner	The insertion loss is included in the given antenna gain values.		

Please note: This antenna is suitable for tunnel applications.



1800/1900/2000
VPoI

Multi-band Bidirectional Antenna

Vertical Polarization

Half-power Beam Width

790–960/1710–2170

V

65°

KATHREIN

Antennen · Electronic

VPol BiDir 790–960/1710–2170 65° 5dBi

Type No.	738 445	738 446
Input	1 x 7-16 female	1 x N female
Frequency range	790 – 960 MHz, 1710 – 2170 MHz	
VSWR	790 – 806 MHz: < 2.2 806 – 824 MHz: < 1.7 824 – 960 / 1710 – 2170 MHz: < 1.5	
Gain	790 – 960 MHz: 5 dBi 1710 – 1880 MHz: 5.5 dBi 1880 – 2170 MHz: 6.5 dBi	
Impedance	50 Ω	
Polarization	Vertical	
Max. power (total)	200 W (at 50 °C ambient temperature)	
Weight	0.8 kg	
Wind load	Frontal: 25 N (at 150 km/h) Lateral: 65 N (at 150 km/h) Rearside: 35 N (at 150 km/h)	
Max. wind velocity	200 km/h	
Packing size	422 x 212 x 95 mm	
Height/width/depth	312 / 55 / 188 mm	



Material:	Radiator: Tin-plated copper. Reflector: Weather-proof aluminum. Radome: High impact plastic, colour: Grey. All screws and nuts: Stainless steel.
Mounting:	Wall mounting: No additional mounting kit needed. For pipe mast mounting use clamps listed below (order separately).
Ice protection:	The radiating system is protected by the radome. Due to its very sturdy construction, the antenna remains operational even under icy conditions.
Grounding:	All metal parts of the antenna as well as the inner conductor are DC grounded.

Accessories (order separately)

Type No.	Description	Remarks	Weight approx.	Units per antenna
734 360	2 clamps	Mast: 34 – 60 mm diameter	60 g	1
734 361	2 clamps	Mast: 60 – 80 mm diameter	70 g	1
734 362	2 clamps	Mast: 80 – 100 mm diameter	80 g	1
734 363	2 clamps	Mast: 100 – 120 mm diameter	90 g	1
734 364	2 clamps	Mast: 120 – 140 mm diameter	110 g	1
734 365	2 clamps	Mast: 45 – 125 mm diameter	80 g	1

Logarithmic Periodic Vertical Polarization Half-power Beam Width

806–2170

V

65°

KATHREIN
Antennen · Electronic

VPol LogPer 806–2170 65° 11dBi

Type No.	742 192		
Input	1 x 7-16 female		
Connector position	Bottom		
Frequency range	806 – 1000 MHz	1000 – 1700 MHz	1700 – 2170 MHz
VSWR	< 1.5	< 1.5	< 1.5
Gain	11 dBi	11.3 dBi	11.5 dBi
Polarization	Vertical	Vertical	Vertical
Front-to-back ratio	> 25 dB	> 25 dB	> 23 dB
Half-power Beam Width			
horizontal	65°	55°	50°
vertical	55°	50°	45°
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	< -150 dBc	< -150 dBc
Max. power	300 W	250 W	200 W
	(at 50 °C ambient temperature)		
Weight	5.7 kg		
Wind load	Frontal:	20 N (at 150 km/h)	
	Lateral:	260 N (at 150 km/h)	
	Rearside:	30 N (at 150 km/h)	
Height/width/depth	300 / 155 / 785 mm		



1800/1900/2000
VPol

- Material:** Radiator: Weather-proof aluminum.
Reflector screen: Weather-proof aluminum.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.
- Mounting:** The antenna can be mounted on tubular mast with a diameter of 30 – 70 mm with supplied clamps.
- Ice protection:** Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.
- Grounding:** All metal parts of the antenna as well as the inner conductor are DC grounded.

Dual-band Panel Vertical Polarization Half-power Beam Width

824–960

1710–2170

V

V

90°

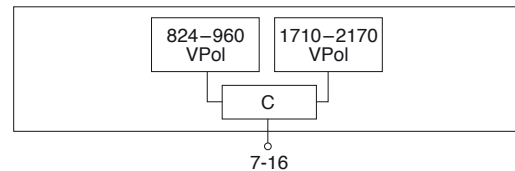
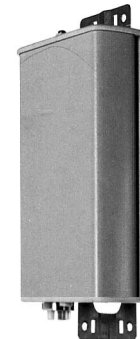
82°

KATHREIN

Antennen · Electronic

VVPol Panel 824–960/1710–2170 C 90°/82° 7/7dBi

Type No.	742 290	
Frequency range	824 – 960 MHz	1710 – 2170 MHz
Polarization	Vertical	Vertical
Gain	7 dBi	7 dBi
Half-power beam width	Horizontal: 90° Vertical: 60°	Horizontal: 82° Vertical: 70°
Front-to-back ratio	> 18 dB	> 20 dB
VSWR	< 1.7 (824 – 960 MHz) < 1.5 (870 – 960 MHz)	< 1.7 (1710 – 2170 MHz) < 1.5 (1710 – 1990 MHz)
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	< -150 dBc
Max. power	100 W (at 50 °C ambient temperature)	
Input	1 x 7-16 female	
Connector position	Bottom or top	
Weight	2.8 kg	
Wind load (at 150 km/h)	Frontal / lateral / rearside: 90 / 23 / 100 N	
Height/width/depth	328 / 155 / 69 mm	



VVPol Panel 824–960/1710–2170 C 90°/82° 10/11dBi

Type No.	800 10046	
Frequency range	824 – 960 MHz	1710 – 2170 MHz
Polarization	Vertical	Vertical
Gain	10 dBi	11 dBi
Half-power beam width	Horizontal: 90° Vertical: 33°	Horizontal: 82° Vertical: 19°
Front-to-back ratio	> 18 dB	> 20 dB
VSWR	< 1.7 (824 – 960 MHz) < 1.5 (870 – 960 MHz)	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	< -150 dBc
Max. power	100 W (at 50 °C ambient temperature)	
Input	1 x 7-16 female	
Connector position	Bottom or top	
Weight	5 kg	
Wind load (at 150 km/h)	Frontal / lateral / rearside: 175 / 47 / 200 N	
Height/width/depth	662 / 155 / 69 mm	

