



Huber + Suhner

Overview

Of 1.9 GHz PCS Planar Antennas

Linear Vertical Polarized Basestation Antennas*

Horizontal Beam Width	Vertical Beam Width	Gain (dBi)	Down-tilt	Connector Type	Length (mm)	Page No.
60°	36°	11.0	0°	N, 7/16	263	4
60°	18°	14.0	0°	N, 7/16	533	6
60°	6°	18.0	-2°	N, 7/16	1563	8
85°	36°	9.5	0°	N, 7/16	263	10
85°	18°	13.0	0°	N, 7/16	533	12
85°	7°	15.5	-2°	N, 7/16	1283	14
85°	5°	17.0	-2°	N, 7/16	1893	16

Notes:

1. Electrical downtilts of 0°, -2°, and -5° available.
2. Input power: 250 W max.
3. Bottom, top, or rear panel entry connector locations available.
4. VSWR: 1.3:1 max.
5. Radom material: ASA
6. Temperature Range: -40°C to +80°C
7. Bandwidth tolerance: 60° = -0/+3, 85° = -0/+5

* Polarization diversity available for all models.

Dual Linear Polarized (0°/-90°) Basestation Antennas*

Horizontal Beam Width	Vertical Beam Width	Gain (dBi)	Down-tilt	Connector Type	Length (mm)	Page No.
60°	18°	14.0	0°	N 7/16	533	18
60°	6°	18.0	-2°	N, 7/16	1563	20
85°	18°	13.0	0°	N, 7/16	533	22
85°	5°	17.0	-2°	N, 7/16	1563	24

Notes:

1. Electrical downtilts of 0°, -2°, and -5° available.
2. Input power: 250 W max.
3. Bottom, top, or rear panel entry connector locations available.
4. VSWR: 1.3:1 max.
5. Radom material: ASA
6. Temperature Range: -40°C to +80°C
7. Bandwidth tolerance: 60° = -0/+3, 85° = -0/+5

* Polarization diversity available for all models.



Overview of 1.9 GHz PCS Planar Antennas

Microcell Antennas

Horizontal Beam Width	Vertical Beam Width	Gain (dBi)	Connector Type	Polarization	Page No.
70°	70°	7.8	SMA	left-hand circular	28
70°	70°	7.8	SMA	right-hand circular	28
80°	50°	7.5	SMA	linear vertical	29

Notes:

1. VSWR: 1.5:1 max.
2. Input power: 75 W max.
3. Radom material: ASA
4. Temperature Range: -40°C to +80°C
5. Bandwidth tolerance: -0/+5

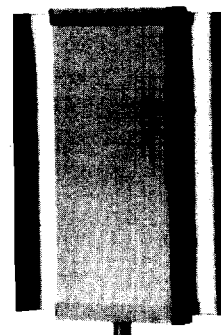




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60° – 11.0 dBi Linear Vertical Polarized 1.9 GHz PCS Planar Antennas

Part number	
1319.17.0002	N female, bottom
1319.41.0013	7/16 female, bottom



Technical Data

Electrical properties	
Frequency range	1.85 – 1.99 GHz
Impedance	50 Ω
VSWR	≤ 1.3
Polarization	linear, vertical
Gain	11.0 dBi
3 dB beamwidth horizontal	60°
3 dB beamwidth vertical	36°
Downtilt	—
Front to back ratio	≥ 25 dB
Permitted power on entrance	250 W (CW) at 25 °C

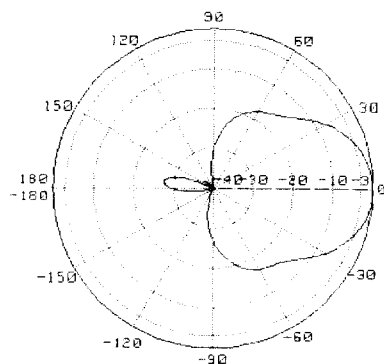
Mechanical properties	
Dimensions	263 x 207 x 29 [mm]
Weight	0.7 kg
Housing material	Aluminium painted grey
Radom material	ASA
Radom color	RAL 9002 (grey-white)
Operating temperature range	– 40 °C to + 80 °C
Storage temperature range	– 40 °C to + 80 °C
Windload	169 N (200 km/h)
Mounting Holes	X = 140 mm Y = 750 mm Ø = 9.0 mm

Note: Antennas may be painted with Imron 5000 or equivalent 2-part enamel on a polyurethane-acrylic base.
Do not use metallic-based paints.

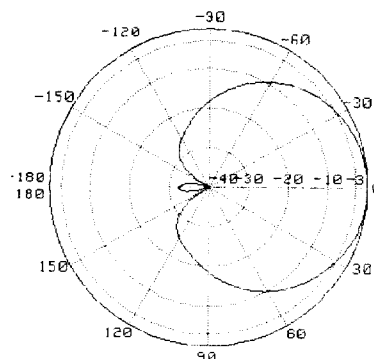


60° – 11.0 dBi Vertical 1.9 GHz PCS Planar Antennas

Radiation pattern

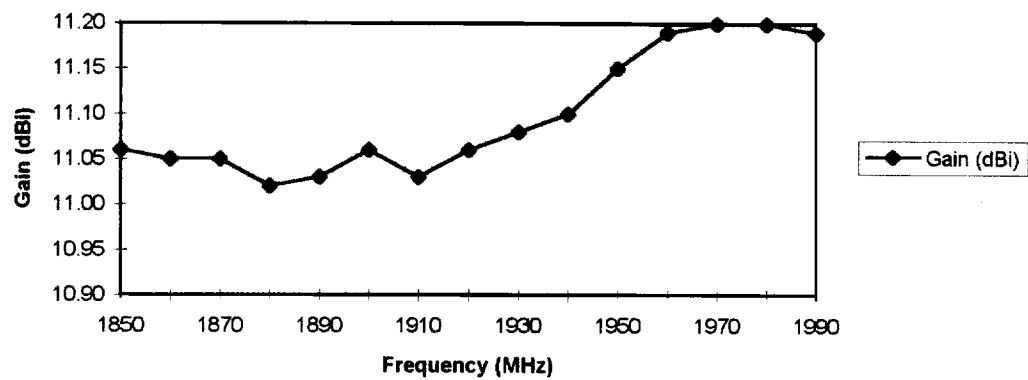


vertical



horizontal

Gain vs. Frequency



Mounting Brackets

Wall Mounting Kit included with antenna. Consult your local Sales Office for other factory-provided mounting brackets available to meet your installation requirements.





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60° – 14.0 dBi Linear Vertical Polarized 1.9 GHz PCS Planar Antennas

Part number	
1319.17.0003	N female, bottom
1319.41.0014	7/16 female, bottom

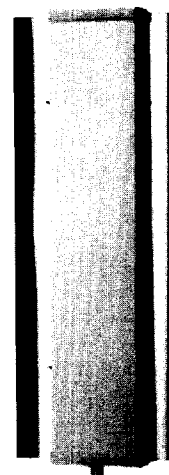
Technical Data

Electrical properties

Frequency range	1.85 – 1.99 GHz
Impedance	50 Ω
VSWR	≤ 1.3
Polarization	linear, vertical
Gain	14.0 dBi
3 dB beamwidth horizontal	60°
3 dB beamwidth vertical	18°
Downtilt	—
Front to back ratio	≥ 25 dB
Permitted power on entrance	250 W (CW) at 25 °C

Mechanical properties

Dimensions	533 x 207 x 29 [mm]
Weight	1.2 kg
Housing material	Aluminium painted grey
Radom material	ASA
Radom color	RAL 9002 (grey-white)
Operating temperature range	– 40 °C to + 80 °C
Storage temperature range	– 40 °C to + 80 °C
Windload	343 N (200 km/h)
Mounting Holes	X = 140 mm Y = 750 mm Ø = 9.0 mm

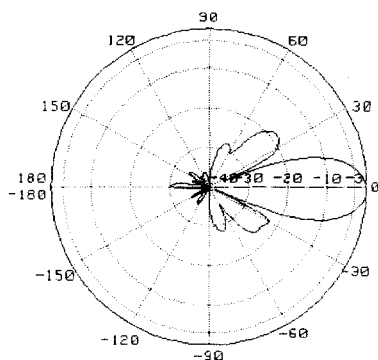


Note: Antennas may be painted with Imron 5000 or equivalent 2-part enamel on a polyurethane-acrylic base.
Do not use metallic-based paints.

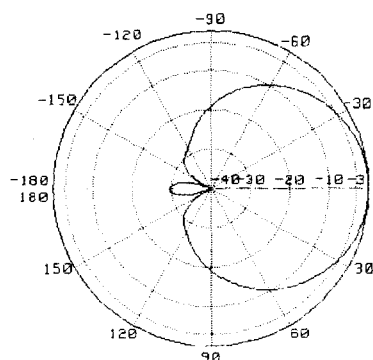


60° – 14.0 dBi Vertical 1.9 GHz PCS Planar Antennas

Radiation pattern

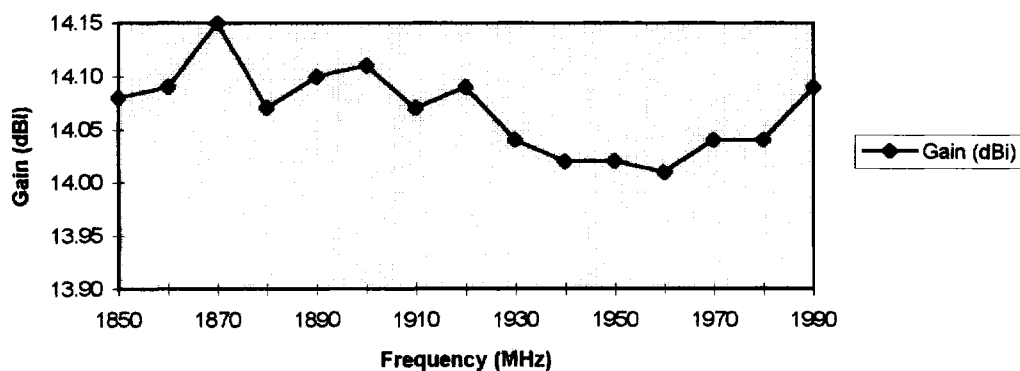


vertical



horizontal

Gain vs. Frequency



Mounting Brackets

Application	Part number
Wall mount	Included with antenna
Down-tilt bracket for wall, mast and monopole mount	90389204

Consult your local Sales Office for other factory-provided mounting brackets available to meet your installation requirements.





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60° – 18.0 dBi Linear Vertical Polarized 1.9 GHz PCS Planar Antennas

Part number	
1319.17.0006	N female, bottom
1319.41.0017	7/16 female, bottom

Technical Data

Electrical properties	
Frequency range	1.85 – 1.99 GHz
Impedance	50 Ω
VSWR	≤ 1.3
Polarization	linear, vertical
Gain	18.0 dBi
3 dB beamwidth horizontal	60°
3 dB beamwidth vertical	6°
Downtilt	2°
Front to back ratio	≥ 25 dB
Permitted power on entrance	250 W (CW) at 25 °C

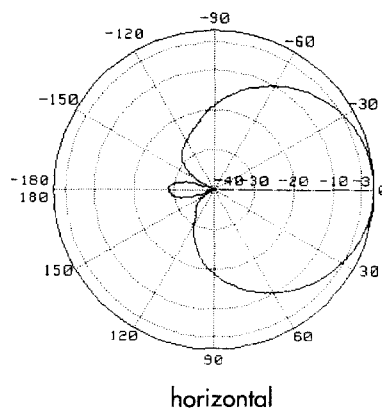
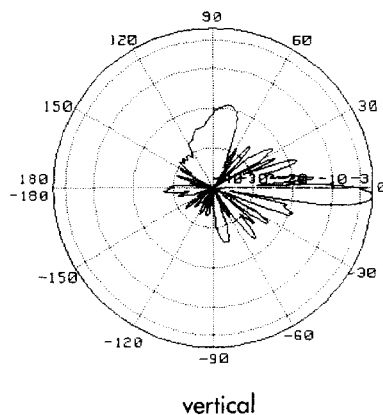
Mechanical properties	
Dimensions	1563 x 207 x 29 [mm]
Weight	3.3 kg
Housing material	Aluminium painted grey
Radom material	ASA
Radom color	RAL 9002 (grey-white)
Operating temperature range	- 40 °C to + 80 °C
Storage temperature range	- 40 °C to + 80 °C
Windload	1005 N (200 km/h)
Mounting Holes	X = 140 mm Y = 750 mm Ø = 9.0 mm

Note: Antennas may be painted with Imron 5000 or equivalent 2-part enamel on a polyurethane-acrylic base.
Do not use metallic-based paints.

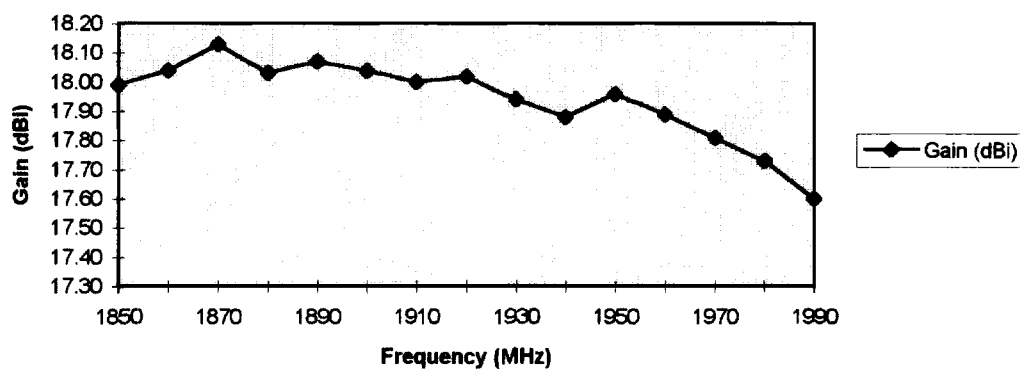


60° – 18.0 dBi Vertical 1.9 GHz PCS Planar Antennas

Radiation pattern



Gain vs. Frequency



Mounting Brackets

Application	Part number
Wall mount	Included with antenna
Down-tilt bracket for wall, mast and monopole mount	90389203

Consult your local Sales Office for other factory-provided mounting brackets available to meet your installation requirements.

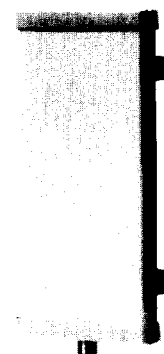




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85° – 9.5 dBi Linear Vertical Polarized 1.9 GHz PCS Planar Antennas

Part number	
1319.17.0008	N female, bottom
1319.41.0019	7/16 female, bottom



Technical Data

Electrical properties	
Frequency range	1.85 – 1.99 GHz
Impedance	50 Ω
VSWR	≤ 1.3
Polarization	linear, vertical
Gain	9.5 dBi
3 dB beamwidth horizontal	85°
3 dB beamwidth vertical	36°
Downtilt	—
Front to back ratio	≥ 20 dB
Permitted power on entrance	250 W (CW) at 25 °C

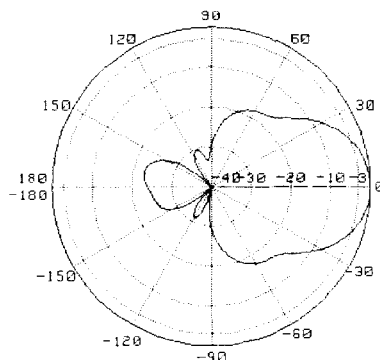
Mechanical properties	
Dimensions	263 x 116 x 29 [mm]
Weight	0.6 kg
Housing material	Aluminium anodized
Radom material	ASA
Radom color	RAL 9002 (grey-white)
Operating temperature range	– 40 °C to + 80 °C
Storage temperature range	– 40 °C to + 80 °C
Windload	94 N (200 km/h)
Mounting Holes	X = 140 mm Y = 750 mm Ø = 9.0 mm

Note: Antennas may be painted with Imron 5000 or equivalent 2-part enamel on a polyurethane-acrylic base.
Do not use metallic-based paints.

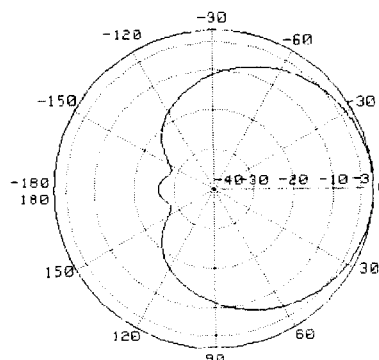


85° – 9.5 dBi Vertical 1.9 GHz PCS Planar Antennas

Radiation pattern

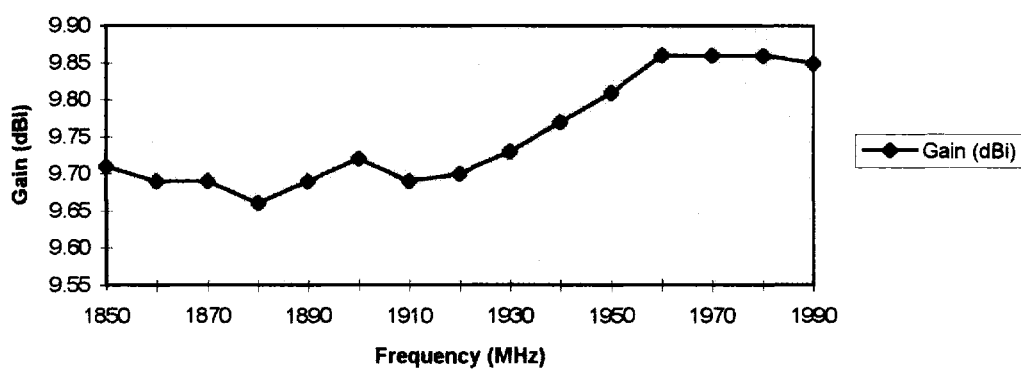


vertical



horizontal

Gain vs. Frequency



Mounting Brackets

Wall Mounting Kit included with antenna. Consult your local Sales Office for other factory-provided mounting brackets available to meet your installation requirements.





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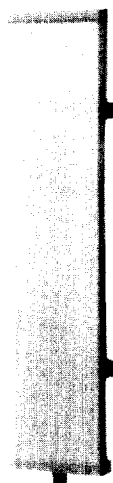
85° – 12.5 dBi Linear Vertical Polarized 1.9 GHz PCS Planar Antennas

Part number	
1319.17.0009	N female, bottom
1319.41.0020	7/16 female, bottom

Technical Data

Electrical properties	
Frequency range	1.85 – 1.99 GHz
Impedance	50 Ω
VSWR	≤ 1.3
Polarization	linear, vertical
Gain	12.5 dBi
3 dB beamwidth horizontal	85°
3 dB beamwidth vertical	18°
Downtilt	—
Front to back ratio	≥ 20 dB
Permitted power on entrance	250 W (CW) at 25 °C

Mechanical properties	
Dimensions	533 x 116 x 29 [mm]
Weight	1.0 kg
Housing material	Aluminium anodized
Radom material	ASA
Radom color	RAL 9002 (grey-white)
Operating temperature range	- 40 °C to + 80 °C
Storage temperature range	- 40 °C to + 80 °C
Windload	192 N (200 km/h)
Mounting Holes	X = 140 mm Y = 750 mm Ø = 9.0 mm

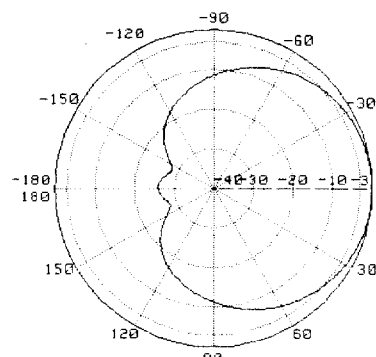
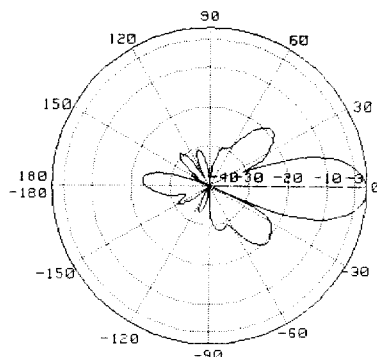


Note: Antennas may be painted with Imron 5000 or equivalent 2-part enamel on a polyurethane-acrylic base.
Do not use metallic-based paints.

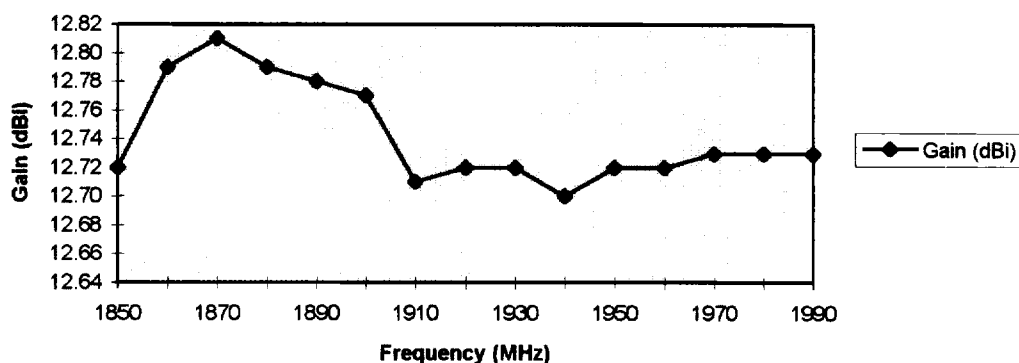


85° – 12.5 dBi Vertical 1.9 GHz PCS Planar Antennas

Radiation pattern



Gain vs. Frequency



Mounting Brackets

Application	Part number
Wall mount	Included with antenna
Down-tilt bracket for wall, mast and monopole mount	90389204

Consult your local Sales Office for other factory-provided mounting brackets available to meet your installation requirements.





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85° – 15.5 dBi Linear Vertical Polarized 1.9 GHz PCS Planar Antennas

Part number	
1319.17.0010	N female, bottom
1319.41.0021	7/16 female, bottom

Technical Data

Electrical properties

Frequency range	1.85 – 1.99 GHz
Impedance	50 Ω
VSWR	≤ 1.3
Polarization	linear, vertical
Gain	15.5 dBi
3 dB beamwidth horizontal	85°
3 dB beamwidth vertical	7°
Downtilt	2°
Front to back ratio	≥ 20 dB
Permitted power on entrance	250 W (CW) at 25 °C

Mechanical properties

Dimensions	1283 x 116 x 29 [mm]
Weight	2.0 kg
Housing material	Aluminium anodized
Radom material	ASA
Radom color	RAL 9002 (grey-white)
Operating temperature range	- 40 °C to + 80 °C
Storage temperature range	- 40 °C to + 80 °C
Windload	462 N (200 km/h)
Mounting Holes	X = 140 mm Y = 750 mm Ø = 9.0 mm

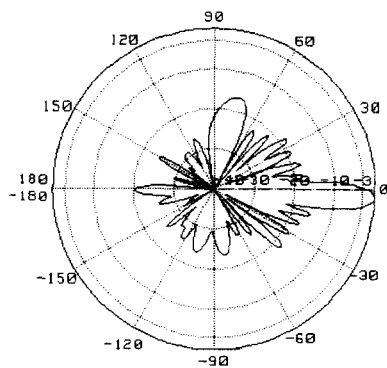


Note: Antennas may be painted with Imron 5000 or equivalent 2-part enamel on a polyurethane-acrylic base.
Do not use metallic-based paints.

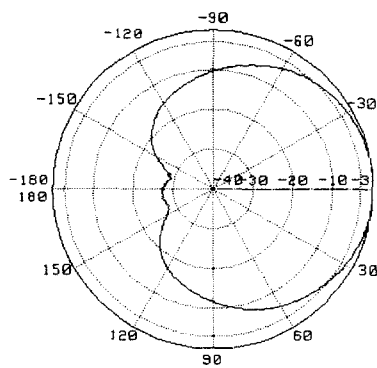


85° – 15.5 dBi Vertical 1.9 GHz PCS Planar Antennas

Radiation pattern

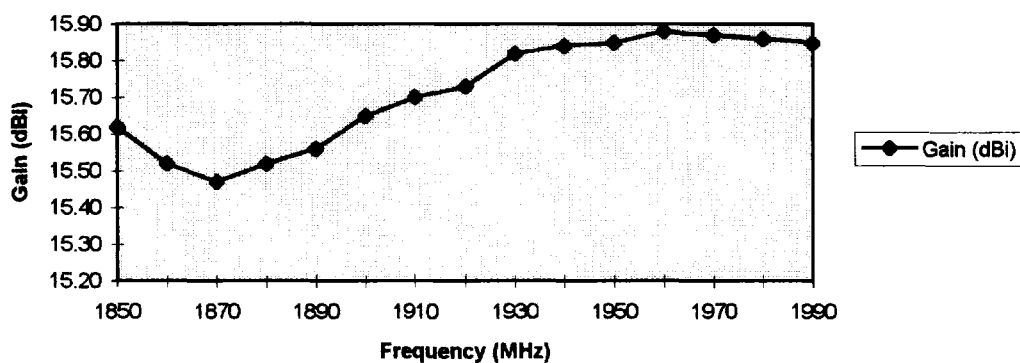


vertical



horizontal

Gain vs. Frequency



Mounting Brackets

Application	Part number
Wall mount	Included with antenna
Down-tilt bracket for wall, mast and monopole mount	90389201

Consult your local Sales Office for other factory-provided mounting brackets available to meet your installation requirements.





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85° – 17.0 dBi Linear Vertical Polarized 1.9 GHz PCS Planar Antennas

Part number	
1319.17.0012	N female, bottom
1319.41.0023	7/16 female, bottom

Technical Data

Electrical properties	
Frequency range	1.85 – 1.99 GHz
Impedance	50 Ω
VSWR	≤ 1.3
Polarization	linear, vertical
Gain	17 dBi
3 dB beamwidth horizontal	85°
3 dB beamwidth vertical	5°
Downtilt	2°
Front to back ratio	≥ 20 dB
Permitted power on entrance	250 W (CW) at 25 °C

Mechanical properties	
Dimensions	1893 x 116 x 29 [mm]
Weight	2.9 kg
Housing material	Aluminium anodized
Radom material	ASA
Radom color	RAL 9002 (grey-white)
Operating temperature range	- 40 °C to + 80 °C
Storage temperature range	- 40 °C to + 80 °C
Windload	682 N (200 km/h)
Mounting Holes	X = 140 mm Y ₁ = 1215 mm Y ₂ = 610 mm Y ₃ = 605 mm Ø = 9.0 mm

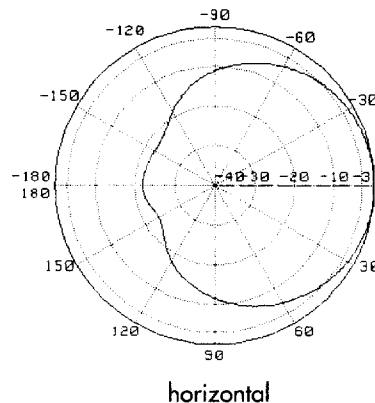
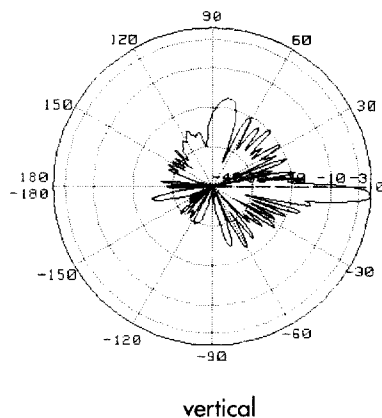


Note: Antennas may be painted with Imron 5000 or equivalent 2-part enamel on a polyurethane-acrylic base.
Do not use metallic-based paints.

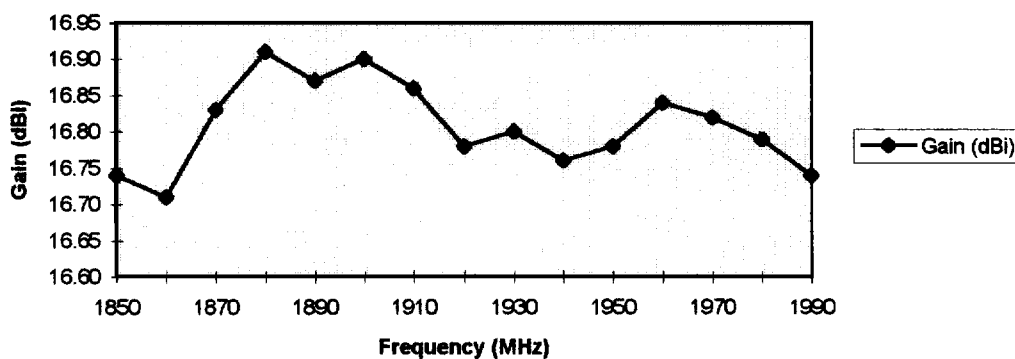


85° – 17.0 dBi Vertical 1.9 GHz PCS Planar Antennas

Radiation pattern



Gain vs. Frequency



Mounting Brackets

Application	Part number
Wall mount	Included with antenna
Down-tilt bracket for wall, mast and monopole mount	90389202

Consult your local Sales Office for other factory-provided mounting brackets available to meet your installation requirements.





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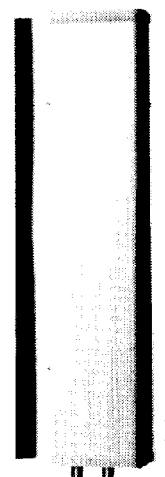
60° – 14.0 dBi Dual Linear Polarized (0°/-90°) 1.9 GHz PCS Planar Antennas

Part number	
1319.17.0031	N female, bottom
1319.41.0040	7/16 female, bottom

Technical Data

Electrical properties	
Frequency range	1850 – 1990 MHz
Impedance	50 Ω
VSWR	1.3
Polarization	vertical and horizontal
Port/port isolation	30 dB
Gain	14.0 dBi
3 dB beamwidth vertical	18°
3 dB beamwidth horizontal	60°
Downtilt	—
Front to back ratio	20 dB
Permitted power on entrance	250 W (CW) at 25 °C

Mechanical properties	
Dimensions	530 x 210 x 30 [mm]
Weight	2.0 kg
Housing material	Aluminium painted grey
Radome material	ASA
Radome color	RAL 9002 (grey-white)
Operating temperature range	– 40 °C to + 80 °C
Storage temperature range	– 40 °C to + 80 °C
Windload	346 N (200 km/h)

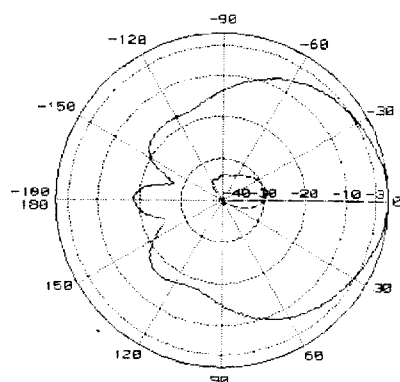


Note: Antennas may be painted with Imron 5000 or equivalent 2-part enamel on a polyurethane-acrylic base.
Do not use metallic-based paints.

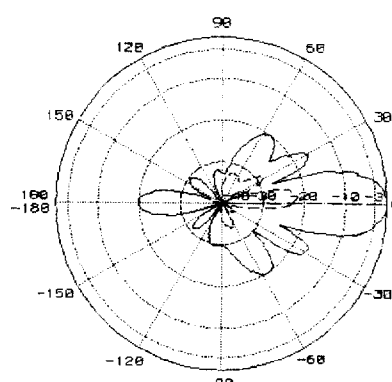


60° – 14.0 dBi Dual Linear Polarized (0°/-90°) 1.9 GHz PCS Planar Antennas

Radiation pattern



vertical



horizontal

Mounting Brackets

Application	Part number
Wall mount	Included with antenna
Down-tilt bracket for wall, mast and monopole mount	90389204

Consult your local Sales Office for other factory-provided mounting brackets available to meet your installation requirements.





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60° – 18.0 dBi Dual Linear Polarized (0°/-90°) 1.9 GHz PCS Planar Antennas

Part number	
1319.17.0029	N female, bottom
1319.41.0038	7/16 female, bottom

Technical Data

Electrical properties

Frequency range	1850 – 1990 MHz
Impedance	50 Ω
VSWR	1.3
Polarization	vertical and horizontal
Port/port isolation	30 dB
Gain	18.0 dBi
3 dB beamwidth vertical	6°
3 dB beamwidth horizontal	60°
Downtilt	2°
Front to back ratio	20 dB
Permitted power on entrance	250 W (CW) at 25 °C

Mechanical properties

Dimensions	1560 x 210 x 30 [mm]
Weight	3.5 kg
Housing material	Aluminium painted grey
Radome material	ASA
Radome color	RAL 9002 (grey-white)
Operating temperature range	- 40 °C to + 80 °C
Storage temperature range	- 40 °C to + 80 °C
Windload	1019 N (200 km/h)

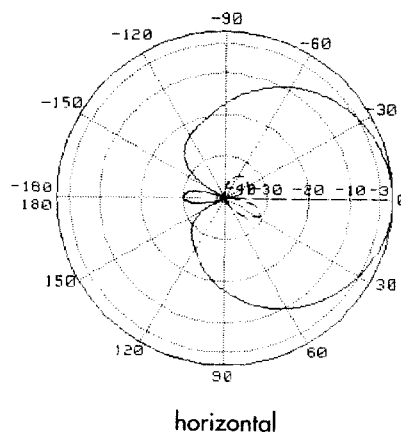
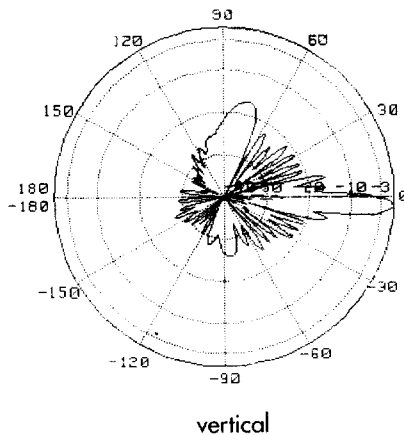


Note: Antennas may be painted with Imron 5000 or equivalent 2-part enamel on a polyurethane-acrylic base.
Do not use metallic-based paints.



60° – 18.0 dBi Dual Linear Polarized (0°/-90°) 1.9 GHz PCS Planar Antennas

Radiation pattern



Mounting Brackets

Wall Mounting Kit included with antenna. Consult your local Sales Office for other factory-provided mounting brackets available to meet your installation requirements.





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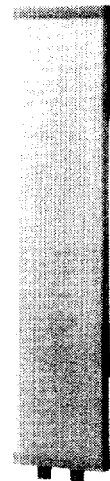
85° – 13.0 dBi Dual Linear Polarized (0°/-90°) 1.9 GHz PCS Planar Antennas

Part number	
1319.17.0030	N female, bottom
1319.41.0039	7/16 female, bottom

Technical Data

Electrical properties	
Frequency range	1850 – 1990 MHz
Impedance	50 Ω
VSWR	1.3
Polarization	vertical and horizontal
Port/port isolation	30 dB
Gain	13.0 dBi
3 dB beamwidth vertical	18°
3 dB beamwidth horizontal	85°
Downtilt	—
Front to back ratio	20 dB
Permitted power on entrance	250 W (CW) at 25 °C

Mechanical properties	
Dimensions	530 x 120 x 30 [mm]
Weight	1.8 kg
Housing material	Aluminium anodized
Radome material	ASA
Radome color	RAL 9002 (grey-white)
Operating temperature range	– 40 °C to + 80 °C
Storage temperature range	– 40 °C to + 80 °C
Windload	198 N (200 km/h)



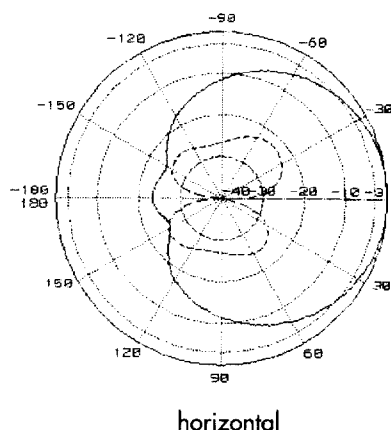
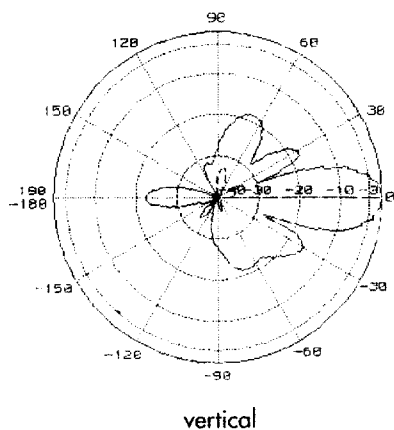
Note: Antennas may be painted with Imron 5000 or equivalent 2-part enamel on a polyurethane-acrylic base.
Do not use metallic-based paints.



85° – 13.0 dBi Dual Linear Polarized (0°/-90°)

1.9 GHz PCS Planar Antennas

Radiation pattern



Mounting Brackets

Application	Part number
Wall mount	Included with antenna
Down-tilt bracket for wall, mast and monopole mount	90389204

Consult your local Sales Office for other factory-provided mounting brackets available to meet your installation requirements.





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85° – 17.0 dBi Dual Linear Polarized (0°/-90°) 1.9 GHz PCS Planar Antennas

Part number	
1319.17.0025	N female, bottom
1319.41.0035	7/16 female, bottom

Technical Data

Electrical properties	
Frequency range	1850 – 1990 MHz
Impedance	50 Ω
VSWR	1.3
Polarization	vertical and horizontal
Port/port isolation	30 dB
Gain	17.0 dBi
3 dB beamwidth vertical	6°
3 dB beamwidth horizontal	85°
Downtilt	2°
Front to back ratio	20 dB
Permitted power on entrance	250 W (CW) at 25 °C

Mechanical properties	
Dimensions	1560 x 120 x 30 [mm]
Weight	2.8 kg
Housing material	Aluminium anodized
Radome material	ASA
Radome color	RAL 9002 (grey-white)
Operating temperature range	- 40 °C to + 80 °C
Storage temperature range	- 40 °C to + 80 °C
Windload	582 N (200 km/h)

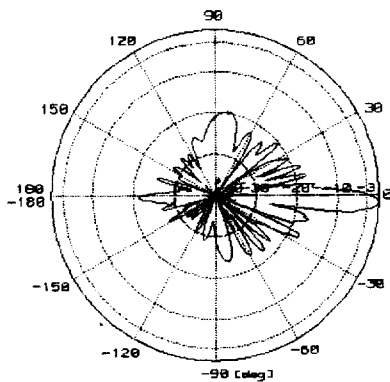


Note: Antennas may be painted with Imron 5000 or equivalent 2-part enamel on a polyurethane-acrylic base.
Do not use metallic-based paints.

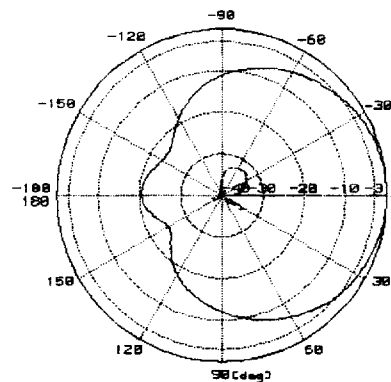


85° – 17.0 dBi Dual Linear Polarized (0°/-90°) 1.9 GHz PCS Planar Antennas

Radiation pattern



vertical



horizontal

Mounting Brackets

Wall Mounting Kit included with antenna. Consult your local Sales Office for other factory-provided mounting brackets available to meet your installation requirements.







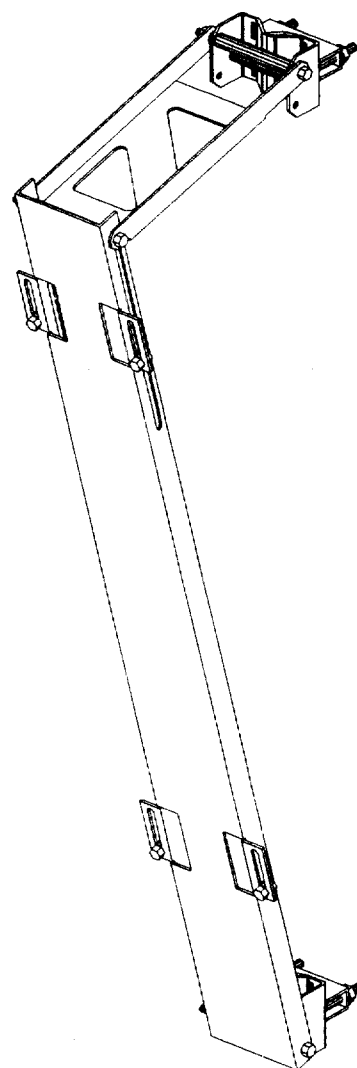
Huber + Suhner

Down-tilt Mounting Brackets

For 1.9 GHz PCS Planar Antennas

Features

- Available for all applications
 - Mounts to walls
 - Mounts to 1.6" to 3.0" mast
 - Mounts to any diameter monopole
- Down-tilt can be set from 0° to -15°
- Permanent down-tilt increment gauge
- Easy installation
- Superior mechanical stability



Wind Tunnel Testing

Huber+Suhner subjects all PCS antennas and mounting brackets to wind tunnel tests from 10 to 125 mph. The integrated antenna and down-tilt bracket is attached to a steel mast to simulate a typical installation under conditions of varied wind speed and direction. These tests are designed to duplicate natural environmental wind conditions and vibrations that may be experienced in on-site installations. All testing is performed, documented and witnessed by an independent test facility. Official survivability and test reports may be obtained by contacting a Huber+Suhner representative.

Down-tilt Mounting Kits

For Wall, Mast and Monopole Applications

Backbone Length	Mounting Points	Part Number
1.2 m	4	90389201
1.5 m	6	90389202
1.5 m	4	90389203
0.5 m	4	90389204





Huber + Suhner

70° – 7.8 dBi Circular Polarized

1.9 GHz Microcell PCS Planar Antennas

Part number	
1319.19.0004	SMA female, bottom (lhcp)
1319.19.0005	SMA female, bottom (rhcp)

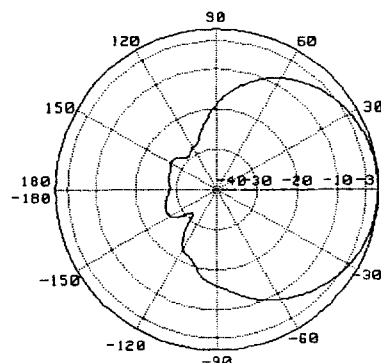


Technical Data

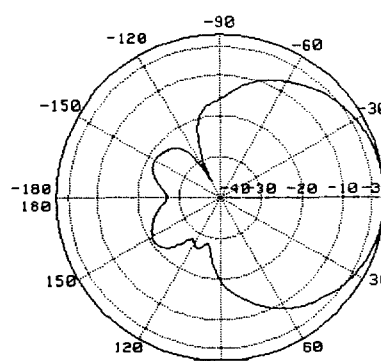
Electrical properties	
Frequency range	1850 – 1990 MHz
Impedance	50 Ω
VSWR	1.5
Polarization	circular (left or right)
Gain	7.8 dBi
3 dB beamwidth horizontal	70°
3 dB beamwidth vertical	70°
Axial ratio	3 dB
Front to back ratio	20 dB
Permitted power on entrance	75 W (CW) at 25 °C
Standard connector	SMA female

Mechanical properties	
Dimensions	101 x 95 x 32 [mm]
Weight	115 g
Housing material	ASA
Antenna color	RAL 7035 (grey)
Mounting bracket color	RAL 7042 (darkgrey)
Operating temperature range	- 40 °C to + 80 °C
Windload	24 N (200 km/h)

Radiation pattern



vertical



horizontal

Note: Antennas may be painted with Imron 5000 or equivalent 2-part enamel on a polyurethane-acrylic base.
Do not use metallic-based paints.

Mounting Brackets

Wall Mounting Kit included with antenna. See following pages for additional factory-provided mounting brackets.

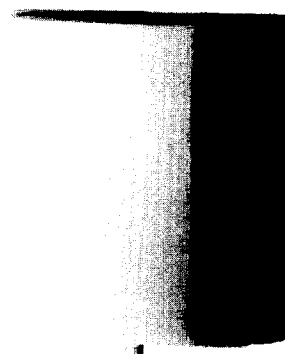




Huber + Suhner

80° – 7.5 dBi Linear Vertical Polarized 1.9 GHz Microcell PCS Planar Antennas

Part number	
1319.19.0003	SMA female, bottom



Technical Data

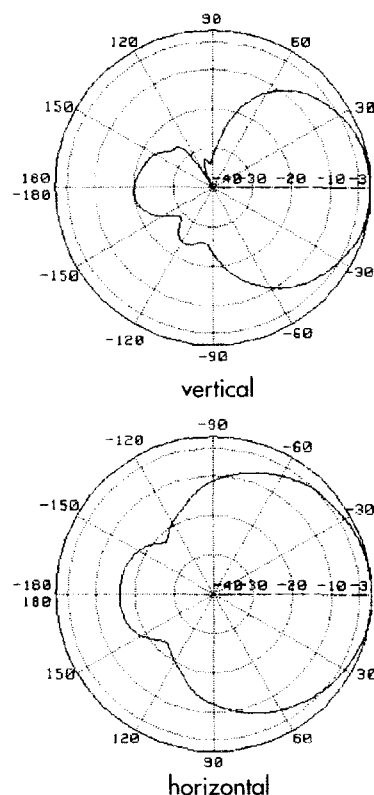
Electrical properties

Frequency range	1850 – 1990 MHz
Impedance	50 Ω
VSWR	1.5
Polarization	vertical
Gain	7.5 dBi
3 dB beamwidth horizontal	80°
3 dB beamwidth vertical	50°
Front to back ratio	15 dB
Permitted power on entrance	75 W (CW) at 25 °C
Standard connector	SMA female

Mechanical properties

Dimensions	101 x 95 x 32 [mm]
Weight	100 g
Housing material	ASA
Antenna color	RAL 7035 (grey)
Mounting bracket color	RAL 7042 (darkgrey)
Operating temperature range	– 40 °C to + 80 °C
Windload	24 N (200 km/h)

Radiation Pattern



Note: Antennas may be painted with Imron 5000 or equivalent 2-part enamel on a polyurethane-acrylic base.
Do not use metallic-based paints.

Mounting Brackets

Wall Mounting Kit included with antenna. See following pages for additional factory-provided mounting brackets.

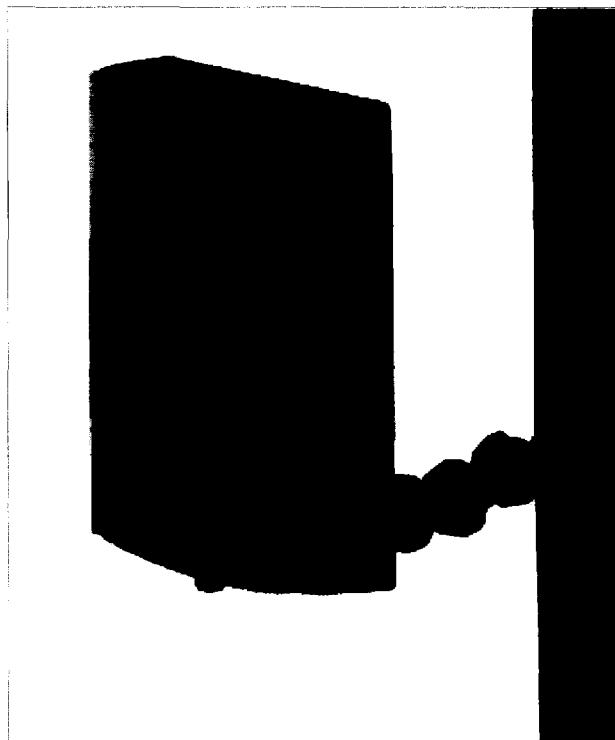
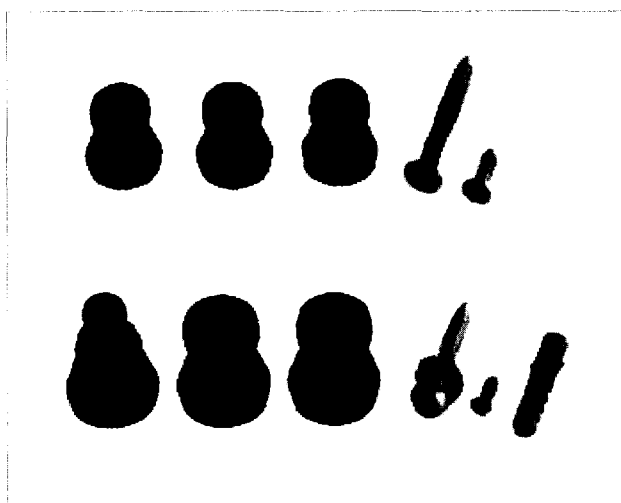






Huber + Suhner Mounting Brackets for Microcell 1.9 GHz PCS Planar Antennas

Pan tilt mounting brackets (snaplock)

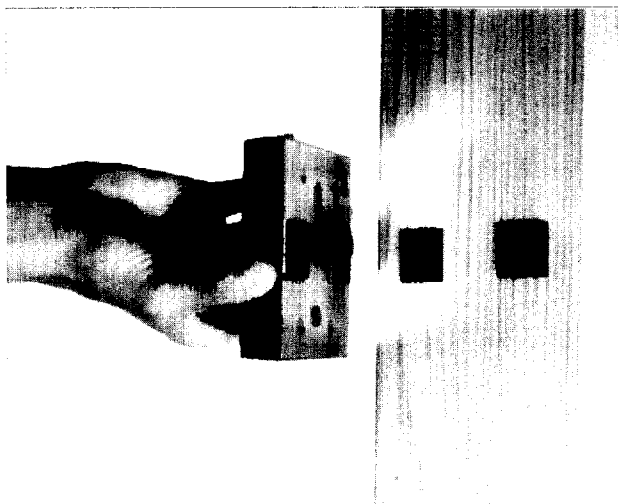
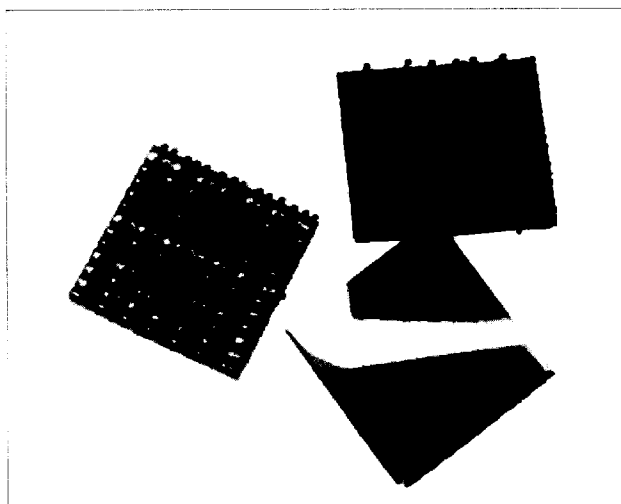


Antenna Type No.	$\pm 30^\circ$	$\pm 60^\circ$	$\pm 90^\circ$	indoor	outdoor	1319.19.0003	1319.19.0004	1319.19.0005
Bracket Type No.								
9091.99.0021	●			●		●	●	●
9091.99.0022		●		●		●	●	●
9091.99.0023			●	●		●	●	●
9091.99.0024	●				●	●	●	●
9091.99.0025		●			●	●	●	●
9091.99.0026			●		●	●	●	●



Mounting Brackets for Microcell Antennas

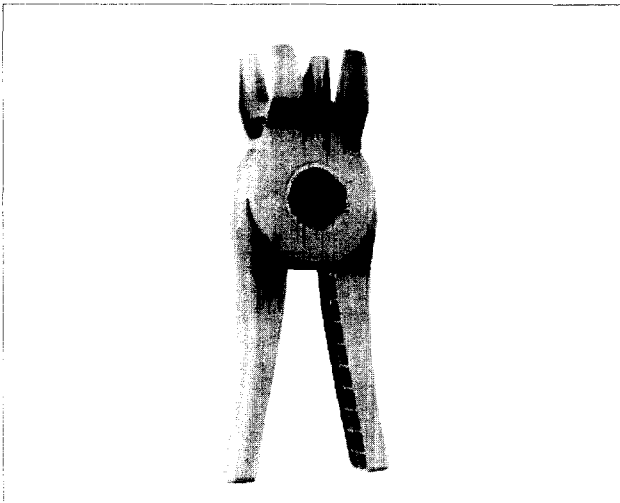
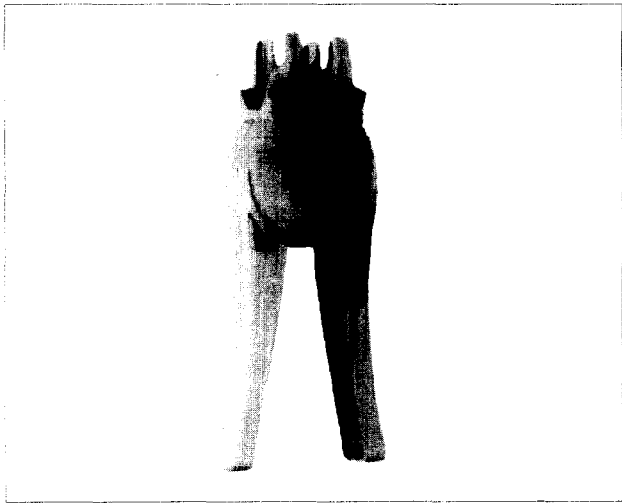
Self adhesive backed velcro (for internal use only)



Antenna Type No.	1319.19.0003	1319.19.0004	1319.19.0005
Bracket Type No.			
9091.99.0019	●	●	●
9091.99.0020	●	●	●



Mounting Tools for Microcell Antennas



Bracket Type No.	Antenna Type No.		
	1319.19.0003	1319.19.0004	1319.19.0005
9091.99.0027	●	●	●
9091.99.0028	●	●	●



Huber + Suhner

Environmental/Mechanical Test Performance

1.9 GHz PCS Planar Antennas

SUHNER planar antennas have been tested according to MIL-Standard 202-F.

Test	MIL-Standard	Con- dition	Duration	Temperature	No. of Cycles	No. of duts	Notes
Salt fog	101D	A	96 h	35 °C	1	3	salt 5 %
Humidity	103B	B	96 h	40 °C	1	3	humidity 90 – 95 %
Thermo shock	107F	A-1	variable depending on weight	85 °C / -55 °C	25	3	temperature change in 5 minutes max.
Life	108A	D	1000 h	100 °C	1	3	temperature tolerance 2°
Vibration (sinus)	204D	A	6 h	—	24	3	frequency 10 – 500 Hz 2 directions
Shock (mechanical)	213B	B	6 ms	—	3 x 3	3	sinus 100 g/s 12.3 ft/s
Ice and snow	no MIL standard available, but re- quested for antennas	—	30 h	-40 °C	1	2	2 – 3 cm ice on radome
UV	no MIL standard available, but re- quested for antennas	—	1000 h	80 °C / -20 °C	250	3	15 mW/cm ² distance 10 cm

The planar antennas have also been tested for lightning according to IEC/TC 81 and VG 0096901, part 4.

Results

These environmental tests have shown no negative influence on the antenna construction and electrical performance. The antennas passed all tests easily. The antenna housing did not show significant marks after the tests.

The following empirical formula shows the relationship between a simulated operation time and test duration and temperature.

$$\text{simulated operation time} \approx (\text{test duration}) \cdot 2^{\text{rise in temperature} / 10}$$

This means:

$$\text{simulated operation time} \approx (1000 \text{ h}) \cdot 2^{6.5} \approx 10 \text{ years}$$

The result of this calculation shows that the antennas will still function after 10 years.



Environmental/Mechanical Test Performance

1.9 GHz PCS Planar Antennas

Comparison between different environmental standards

Test \ Standard	MIL Standard 202F	CECC 22000	IEC 68-2	DIN
Saltfog	101D	4.6.10	68-2-11	50021-SS
Humidity	103B	4.6.6	68-2-3	
Thermoshock	107E	4.6.5 4.6.7	68-2-14	40046/ T14/Nb
Life	108A	4.7.2	60-2-2	
Vibration	204D	4.6.3	68-2-6	
Ice and snow			68-2-1	
Mechanical shock	213 B	4.6.4	68-2-27	

