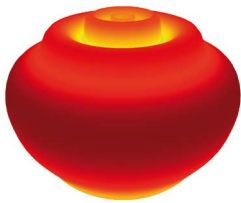


# Monopoles

Typical 3D radiation pattern



Monopole over ground plane



## SOLUTION FOR

- Gain reference
- Particularly suitable for automotive test ranges

## Main features

### Technical performance

- Low loss and high efficiency
- Azimuth pattern symmetry

### Design

- Precision circular flange to mate with MVG ground planes
- Axially symmetrical design

### Surface treatment

- Surtec 650 according to MIL-C 5541E class 3
- Polyurethane paint

### Repeatability

- Stiff and robust mechanical design
- Minimum use of dielectric material
- Precision machined
- High-reliability connector

### Delivered documents

- Typical performance data (TYMEDA™)
- Measured return loss data

## Product configuration

### Equipment

- High precision circular ground plane

### Related services

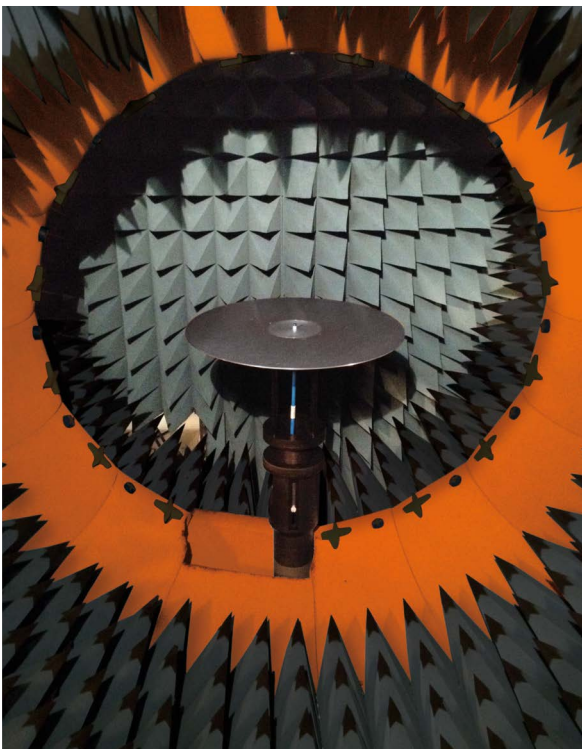
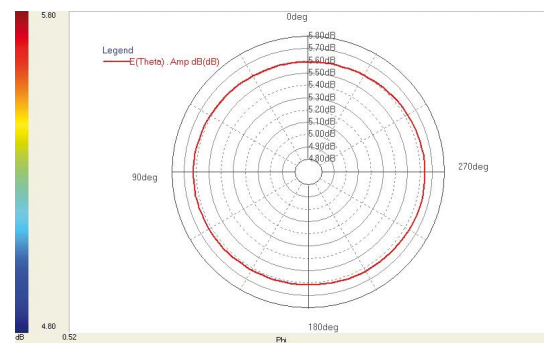
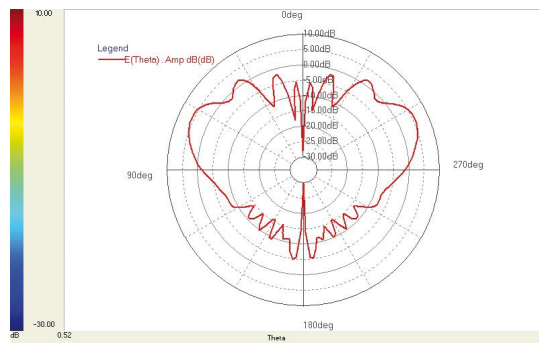
- Calibration and maintenance
- Customization

■ Included □ Optional

## Electrical characteristics

Type of antenna	Monopoles
Frequency range	76 MHz – 18 GHz
Gain variation over azimuth	$< \pm 0.1$ dB
Efficiency	92%
VSWR (at center frequency)	$< 1.9$
Return loss (at center frequency)	$< -10$ dB
Impedance	50 Ohms
Frequency bandwidth (ret. loss $< -15$ dB)	10%

Monopoles typical elevation and azimuth radiation pattern

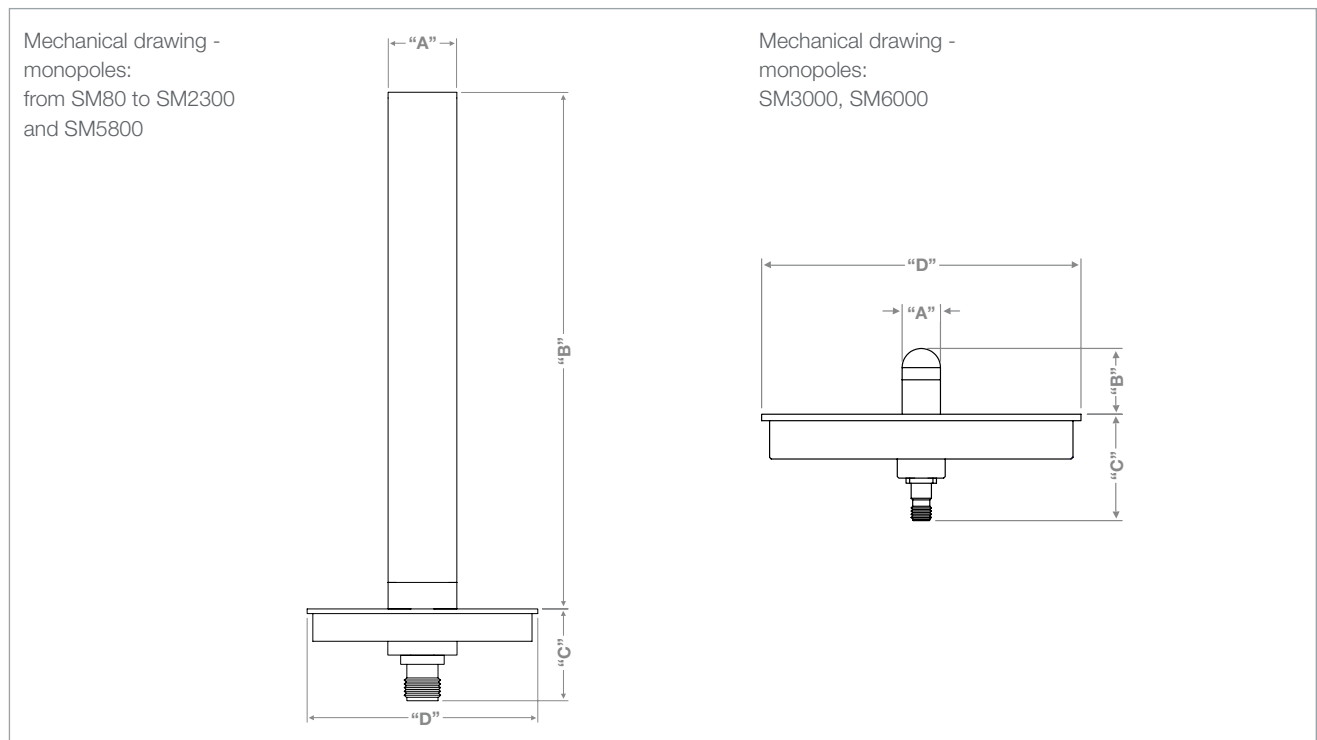


## Mechanical characteristics

Part number	Frequency range	Dimensions [mm]				RF connector	Recommended Ground Plane
		A	B	C	D		
SM80	76 – 83 MHz	50	855	40	100	N-type Female <sup>(1)</sup>	GP400
SM85	82 – 90 MHz	50	804	40	100	N-type Female <sup>(1)</sup>	GP400
SM90	87 – 98 MHz	50	760	40	100	N-type Female <sup>(1)</sup>	GP400
SM100	97 – 108 MHz	50	684	40	100	N-type Female <sup>(1)</sup>	GP400
SM180	170 – 198 MHz	30	380	40	100	N-type Female <sup>(1)</sup>	GP400
SM210	198 – 230 MHz	30	325	40	100	N-type Female <sup>(1)</sup>	GP400
SM315	295 – 340 MHz	30	217	40	100	N-type Female <sup>(1)</sup>	GP400
SM433	408 – 463 MHz	20	157	40	100	N-type Female <sup>(1)</sup>	GP100
SM470	440 – 500 MHz	20	145	40	100	N-type Female <sup>(1)</sup>	GP100
SM540	500 – 582 MHz	20	126	40	100	N-type Female <sup>(1)</sup>	GP100
SM630	582 – 680 MHz	20	108	40	100	N-type Female <sup>(1)</sup>	GP100
SM740	680 – 800 MHz	20	92	40	100	N-type Female <sup>(1)</sup>	GP100
SM850	800 – 900 MHz	20	80	40	100	N-type Female <sup>(1)</sup>	GP100
SM920	850 – 1000 MHz	20	74	40	100	N-type Female <sup>(1)</sup>	GP100
SM1220	1150 – 1300 MHz	20	56	40	100	N-type Female <sup>(1)</sup>	GP100
SM1500	1400 – 1600 MHz	8	45	40	100	N-type Female <sup>(1)</sup>	GP100
SM1800	1700 – 1900 MHz	8	38	40	100	N-type Female <sup>(1)</sup>	GP100
SM2000	1850 – 2150 MHz	8	34	40	100	N-type Female <sup>(1)</sup>	GP100
SM2300	2100 – 2500 MHz	8	29	40	100	N-type Female <sup>(1)</sup>	GP100
SM3000	3000 – 9000 MHz	12	20	30	100	PC 3.5 Female <sup>(2)</sup>	GP40
SM5800	5700 – 5900 MHz	6	10	40	100	N-type Female <sup>(1)</sup>	GP40
SM6000	6000 – 18000 MHz	6	10	30	100	PC 3.5 Female <sup>(2)</sup>	GP40

(1) Southwest 312-04SF

(2) Huber+Suhner type 23 PC35-50-0-51/199UE



## Ground planes

### Main Features

- High surface flatness
- Well-defined electrical continuity between coupled parts
- Precise mechanical alignments
- Easy mounting procedure

### Equipment

#### GP100

- Lightweight aluminum sandwich panel
- Tripod with adjustable height (1.5 m – 2.1 m wrt ground)

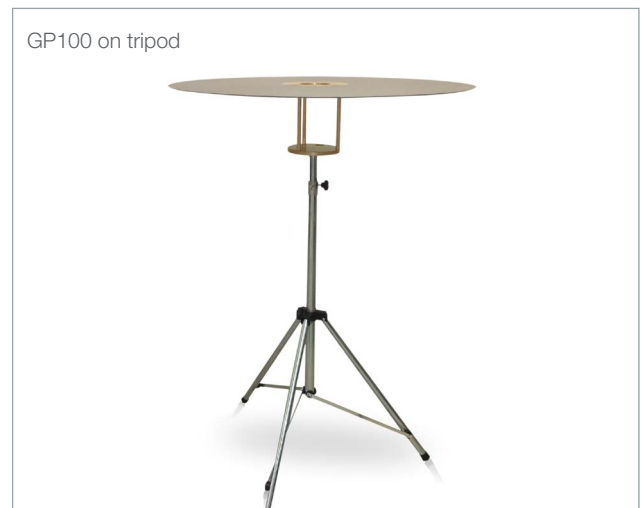
#### GP400

- Lightweight aluminum sandwich panel
- Stowable/deployable for fast installation and compact storage
- Integrated wheeled support structure

### Mechanical characteristics

Part number	GP40	GP60	GP100	GP400
Weight (approx)	100 g	200 g	2.5 Kg	220 Kg
Diameter	40 cm	60 cm	1 m	4 m
Material	Aluminum	Aluminum	Aluminum	Aluminum
Treatment	Surtec 650 <sup>(1)</sup>	Surtec 650 <sup>(1)</sup>	Surtec 650 <sup>(1)</sup>	Surtec 650 <sup>(1)</sup>

(1) Equivalent to MIL- C5541E class 3



Contact your local sales representative for more information  
[www.mvg-world.com/antennas](http://www.mvg-world.com/antennas)  
[salesteam@mvg-world.com](mailto:salesteam@mvg-world.com)

