Smiths microwave



Planar Cavity-Backed Spiral Antennas



- Broadband
- Repeatable
- · Compact, Light Weight, and Rugged

The Planar Cavity-Backed Spirals are circularly polarized, either RHCP or LHCP, antennas. Their compact size, light weight, and rugged construction make them ideally suited for flush-mount airborne applications. These broadband antennas offer excellent repeatability and are frequently used for amplitude matched elements for radar warning receiver systems or phased matched elements for interferometer direction finding systems.

These are medium gain antennas, up to +4dBi, and are available with SMA connectors and optional hemispherical radomes. They can be used individually, as a feed for reflector type antennas, or as elements in an array. These antennas meet the requirements of MIL-E-5400 and MIL-E-16400 for either airborne or ground-based applications.

RHCP

201350-3

201354-1

201478-3

TECOM Type 201350 and 201354 Planar Cavity-Backed Spiral Antennas cover the 2.0 - 18.0 GHz and the 5.0 - 11.0 GHz frequency ranges respectively. Other frequency ranges are available such as the Type 201534 that covers 1.0 - 18.0 GHz and the Type 201524 that covers 8.0 - 18.0 GHz.

Electrical Performance Specifications				
Type Number	201350	201354	201478	
Frequency:	2.0 - 18.0 GHz	5.0 - 11.0 GHz	2.5 - 4.0 GHz	
VSWR:	2.5:1, Max (2 - 12 GHz)	1.5:1, typical	1.5:1, Max (2.9 - 3.6 GHz)	
	3.0:1, Max (12 - 18 GHz)	2.0:1, Max	1.6:1, Max (2.5 - 4.0 GHz)	
Beamwidth, 3 dB:	110° to 60°	90° to 60°	110° to 85°	
Gain:	+2.0 dBLi, nominal	+4.0 dBLi, nominal	+1.0 dBLi, nominal	
Gain Tracking:	± 1.0 dB on axis	≤± 1.0 dB on axis	≤± 1.0 dB on axis	
Polarization:	LHCP or RHCP*	LHCP or RHCP*	LHCP or RHCP*	
Axial Ratio:	1.5 dB on axis	1.0 dB on axis	1.0 dB on axis	
	< 4.0 dB @ 60°	4.0 dB @ 60°	< 3.0 dB @ 60°	
Squint:	± 4.0°	4.0°	5.0°	
Power:	1.0 W CW	1.0 W CW	2.0 W CW	
Connector:	SMA Jack	SMA Jack	SMA Jack	

Innovative Antenna Solutions

*Add Dash Number to specify polarization

201350-4

201354-2

201478-4

LHCP

	Mech	Mechanical Specifications		
Type Number	201350	201354	201478	
Diameter:	2.44 inches	1.25 inches	1.70 inches	
Length:	2.15 inches	2.32 inches	2.65 inches	
Weight:	9.0 ounces	3.0 ounces	4.0 ounces	

	Environmental Specifications		
Type Number	201350	201354	201478
Airborne Use:	MIL-E-5400	MIL-E-5400	MIL-E-5400
Vibration, 3 Axes:	90g	20g	20g
Shock, 3 Axes:	30g for 11 ms	20g for 11 ms	20g for 11 ms
Altitude:	80,000 ft	80,000 ft	80,000 ft
Temperature:	-60°to +120°C	-60°to +120°C	-60°to +120°C