



HR Smith
(Technical Developments)
Limited

www.hr-smith.com

Ground Plane Independent SATCOM Antennas



HR Smith Group of Companies

Ground Plane Independent SATCOM Antennas

- Ground plane independent
- Versions for Inmarsat and Thuraya systems
- Electronically "steerable"
- Optional switching matrix

HR Smith Technical Developments have developed a range of Ground Plane Independent SATCOM / GPS Antennas based on their successful series of civil airborne antennas. The antennas have been initially developed for use on smaller aircraft and helicopters and come with the additional benefit that the antenna can potentially replace existing GPS antennas, which reduces the amount of mechanical modification to the aircraft.

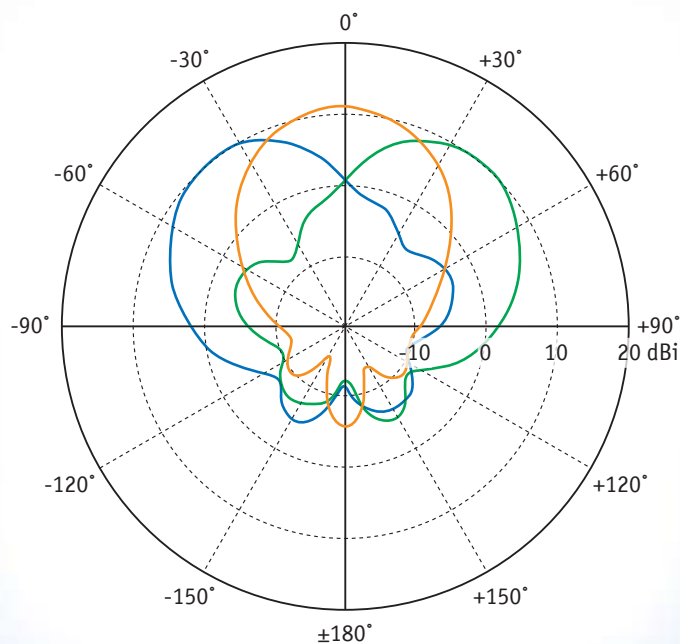
The antennas are available with either right hand or left hand polarisation suitable for the Inmarsat or Thuraya satellite systems, in addition to the GPS capability.

To improve the antenna gain, these high performance antennas use a number of patches and can electronically "steer" nine individually selectable scanning segments for optimal performance dependent on the satellite position. The position of the aircraft is taken from the Flight Management System into the Satellite Transceiver which already has the satellite positions stored in its memory. HR Smith can also offer a Switching Matrix Unit to perform this function, if required. This unit can also perform an automatic scan of the scanning segments to detect the strongest signal and hence "steer" the antenna accordingly.

Specification

Frequency	1530 MHz to 1559 MHz (SATCOM receive) 1626.5 MHz to 1660.5 MHz (SATCOM transmit) 1575.42 MHz (GPS)	
Gain	>+8dBic at BW±50° (SATCOM) >-3dBic (GPS) excluding 10dB pre-amplifier	
	SATCOM	GPS
Polarisation	LHCP / RHCP	RHCP
VSWR	≤2:1	≤2:1
Current	1A (max.)	25mA (max.)
Voltage	+5V, -15V	+5V DC THRU RF
Connectors	TNC (female) SMA (female) 62GB 12E 12 10P	
Weight	1.5Kg (max.)	

Designed in accordance with RTCA/DO-210D, "Minimum Operational Performance Standards (MOPS) for Geosynchronous Orbit Aeronautical Mobile Satellite Services (AMSS) Avionics"



Example elevation beam patterns



**HR Smith
(Technical Developments)
Limited**

Street Court, Kingsland, Leominster
Herefordshire, HR6 9QA, ENGLAND
t. +44 (0) 1568 708 744
f. +44 (0) 1568 708 713
e. sales@hr-smith.com
w. www.hr-smith.com



**Specmat
Technologies Inc.**

215 Dunavant Drive, Rockford
Tennessee, TN 37853, USA
t. (865) 609 1411
f. (865) 609 1911
e. sales@specmatinc.com
w. www.hr-smith.com