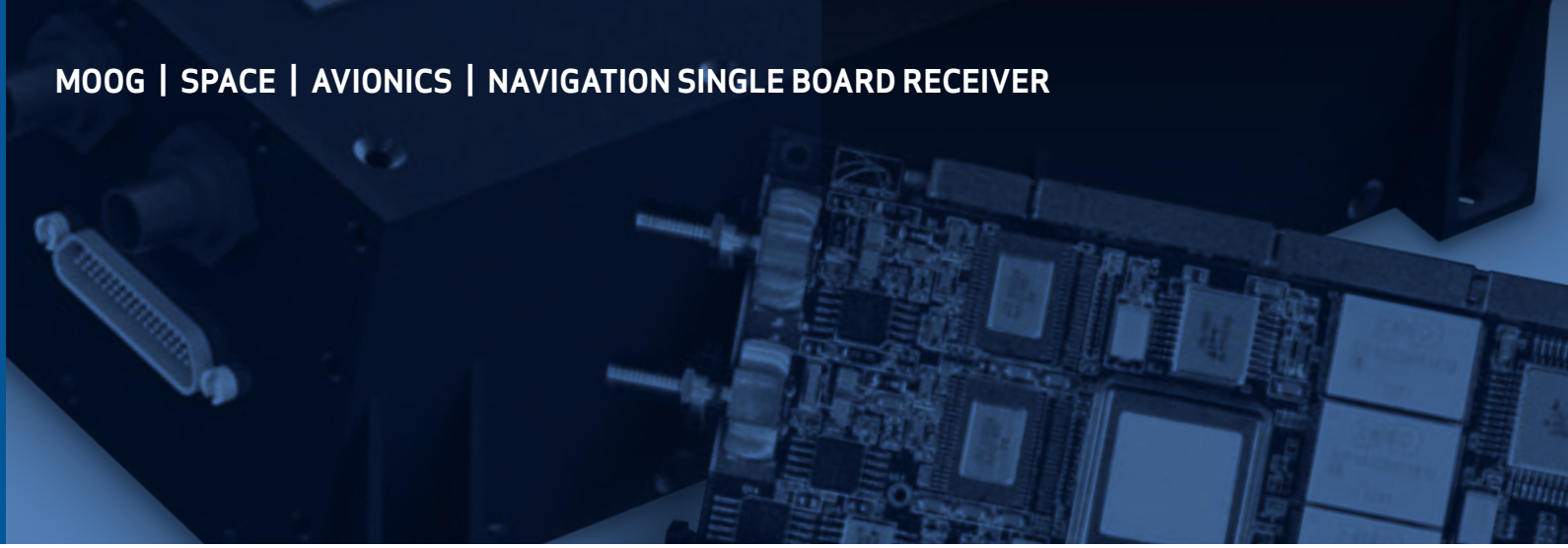
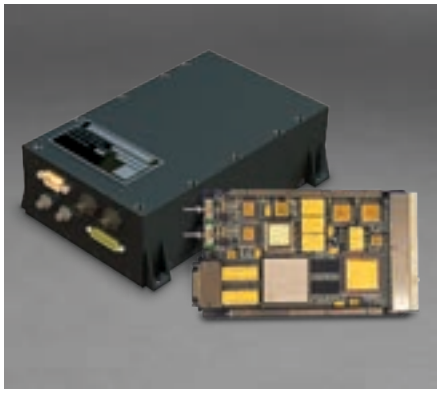


NAVIGATION SINGLE BOARD RECEIVER NavSBR™



The Moog NavSBR GPS is a POD receiver optimized for fast signal acquisition and weak signal tracking. The NavSBR is the result of our successful collaboration with NASA/Goddard. The Moog NavSBR has been qualified and operated in GEO orbit.

Moog implemented the receiver as an embedded single frequency 12-Channel GPS receiver ported to a single 3U cPCI card. The NavSBR is available as a standalone assembly or a single 3U cPCI card for direct chassis integration.

Generated observables are filtered using GPS-Enhanced Onboard Navigation System (GEONS) technology (under license from GSFC) providing high-quality solutions by employing an extended Kalman filter (EKF) augmented with physically representative models for gravity, atmospheric drag, solar radiation pressure, clock bias, and drift to provide accurate state estimation and a realistic state error covariance.

MOOG

NAVIGATION SINGLE BOARD RECEIVER NavSBR

PERFORMANCE CHARACTERISTICS

NavSBR

Family	Goddard Navigator
Freq	L1 CA
Antennas	2
Orbit	LEO-GEO
CPU	1
Digital Signal Proc.	FPGA
Heritage	1 Flight
Accuracy Position Velocity	real-time accuracy <10m GEO, <30m HEO, <7m LEO <0.2 cm/sec GEO, <0.5 cm/s, HEO, <0.6cm/sec LEO
Power	12W
Size Mass	19x24x8 or 3U card 2.3Kg, 0.342Kg
PPS	One PPS out synchronized to GPS
Interfaces Supported	RS422 Serial Port, LVDS, MIL-STD 1553 Option
Number of Channels	12
Time Accuracy	<50nSec
Acquisition Time	<10 min GEO, cold start <2 min LEO

Cold Start Capability – Yes, No Seeding Necessary
PPS Accuracy – <0.2 microseconds
Sensitivity – Better than -146 dBm

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