ACCORD
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GPS-GLONASS-GALILEO-NAVIC-SBAS RECEIVER

ACC-DR-HDGR

GPS-GLONASS-GALILEO-NavIC-SBAS Receiver for Launch Vehicle Application

< 10m 3D POSITION ACCURACY	**< 20 cm/s** 3D VELOCITY ACCURACY	**< 100ns** 1PPS ACCURACY	**12 km/s** 3D VELOCITY LIMIT
2,000 kms ALTITUDE LIMIT	**10g** ACCELERATION LIMIT	**20k rad** RADIATION TOLERANCE	**< 2 W** POWER CONSUMPTION

PRODUCT OVERVIEW

ACC-DR-HDGR is a high performance GPS-GLONASS-GALILEO-NavIC-SBAS Receiver with dual antenna support designed specifically for Launch Vehicle Applications



KEY PERFORMANCE FEATURES

- Supports 52 Acquisition and 64 Tracking channels
- Provides precise 1PPS pulse output
- Supports 12 Km/s velocity profile with 10g acceleration support
- Supports 28V avionics power supply
- Consumes less than 2W
- Supports RS-422 serial interface with NMEA and custom binary message output
- MIL grade connector for power, 15-pin D-Sub connector for data interface
- Receiver available in a metallic enclosure

PHYSICAL & ELECTRICAL

Dimensions	**172mm X 134mm X 65mm**
Weight	**950 gms (Approx.)**
Supply Voltage	**28V DC**
Board-to-Board Interface	**15 Pin D-Sub male**
RF connector	**SMA female connector**

UTILITY

- Operation during the launch phase
- Accurate Determination of Orbital Position, Velocity and Time

Specifications of ACC-DR-HDGR

System Specifications

Number of Channels	116 Channels (GPS-GLONASS-GALILEO-NavIC-SBAS)
Cold Start TTFF (without almanac, time, or position)	120 s, open sky
Reacquisition	10 s
Position Accuracy (horizontal)	10m, 1σ
Velocity Accuracy	0.2 m/s, 1σ
Update Rate	1 Hz
Dynamics*	Velocity:12,000 m/s Acceleration: 10 g
Sensitivity (acquisition)	-136 dBm
Sensitivity (tracking)	-145 dBm
Reference Oscillator stability	0.5 ppm

Input Messages

Proprietary ASCII	Reset, Communication port setting, Message configuration, Version query

Output Messages

NMEA Ver 4.10 (ON by default)	GNS, GLL, GSA, GSV, RMC, VTG, ZDA
Proprietary	Position, Velocity in X, Y, Z and other proprietary data

Environmental

Operating Temperature	-40° C to +85° C
Storage temperature	-40°C to +85°C
Vibration	MIL-STD-810G (Ch1), Method 514.7 (Cat 24, 20 g RMS)11 Sinusoidal lEC 60068-2-6
Bump	ISO 9022-31-06 (25 g)
Shock	MIL-STD-810G (Ch1), Method 516.7 (40 g)
Acceleration	MIL-STD-810G (Ch1), Method 513.7 (16 g)

Mechanical

Dimensions	172mm X 134mm X 65mm
Weight	950 gms (Approx.)
Power Connector	3-pin circular MIL
Interface Connector	15-pin D-sub male
Antenna Connector	SMA female

1PPS

1PPS Jitter	100 ns
1PPS pulse width	5 ms

Electrical

Supply Voltage	28V DC (9V to 36V)
Current consumption (excluding antenna current)	50mA (typical) @ 28V

Host Communication over UART

Configuration	TX, RX
Baud Rate	4800-115200 bps; default:115200 bps
Message Formats	8 data bits, 1 start bit, 1 stop bit, no parity

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