ACCORD
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GPS-GLONASS-GAGAN-NAVIC RECEIVER

ACC-G3IHD

GPS-GLONASS-GAGAN-NavIC Receiver for Launch Vehicle Application

< 10m 3D POSITION ACCURACY	**< 20 cm/s** 3D VELOCITY ACCURACY	**< 100ns** 1PPS ACCURACY	**10 km/s** 3D VELOCITY LIMIT
1,200 kms ALTITUDE LIMIT	**10g** ACCELERATION LIMIT	**20k rad** RADIATION TOLERANCE	**< 2 W** POWER CONSUMPTION

PRODUCT OVERVIEW

ACC-G3IHD is a miniature high performance GPS-GLONASS-GAGAN-NAVIC Receiver designed specifically for Launch Vehicle Applications



KEY PERFORMANCE FEATURES

- **Space Heritage:** Deployed as part of customer's Launch vehicle and operated successfully for the complete mission duration
- Supports 40 Acquisition and 40 Tracking channels
- Provides precise 1PPS pulse output
- Supports 10 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, 9-pin D-Sub connector for data interface
- Receiver available in a metallic enclosure

PHYSICAL & ELECTRICAL

Dimensions	**137mm X 90mm X 48mm**
Weight	**530 gms (Approx.)**
Supply Voltage	**28V DC**
Board-to-Board Interface	**9 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-G3IHD

System Specifications	
Number of Channels	40 Channels (GPS, GLONASS, GAGAN, NavIC)
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:10000 m/s Acceleration: 10 g
Sensitivity (acquisition)	-136 dBm
Sensitivity (tracking)	-148 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 +71° 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	lSO 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	137mm X 90mm X 48mm
Weight	530 gms (Approx.)
Power Connector	3-pin circular MIL
Interface Connector	9-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)	100mA (max) @ 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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