



LAAS Ground Station GPS Receiver (LGR)

Benefits

Designed for GPS sensor LAAS/
GBAS ground station applications

Two L1 RF decks support single
feed or dual feed antennas

Safety critical design with
comprehensive end-to-end Built
In Test (BIT)

Features

GPS L1 C/A satellite code and
carrier phase measurements
(growth to SBAS L1)

24-channel Narrow Correlator
with Signal Quality Monitoring
(SQM) technology

Eight SQM sample points per
channel, five of which are user
programmable

Designed For Ground Station Applications

NovAtel Inc. and CMC Electronics have collaborated to provide a high performance precision GPS receiver for LAAS/GBAS ground station applications. The CMA-4048 LGR delivers state of the art RF front-end and Narrow Correlator® tracking technology. Its development is the result of over 20 years of CMC Electronics experience in the design of certified airborne and ground GPS products and NovAtel's industry leading GNSS technology.

Rigorous Certification Standards

The CMA-4048 LGR meets or exceeds RTCA/DO-229 Airborne Accuracy Designator B (AAD-B). It also meets or exceeds RTCA/DO-278B Assurance Level 2 and RTCA/DO-254A Level B standards, and meets the same rigorous DO-160E environmental requirements as CMC Electronics' airborne receivers.

Signal Quality Monitoring (SQM)

The CMA-4048 signal processing provides 24 SQM GPS L1 C/A code channels. Eight SQM sample points are available per channel: three SQM points are fixed (Early/Prompt/Late with 50 nsec spacing) five SQM points are end-user programmable, settable in steps of 25 nsec.

If you require more information about our receivers, visit
novatel.com/products/gnss-receivers/oem-receiver-boards



novatel.com

sales@novatel.com

1-800-NOVATEL (U.S. and Canada)

or 403-295-4900

China 0086-21-54452990-8011

Europe 44-1993-848-736

SE Asia and Australia 61-400-833-601



Performance

Frequency	
L1	1575.42 MHz
C/A code	
Sensitivity	RTCA/DO-229D DO-253 B
Time Mark Accuracy	2 usec, 95%
Time Integrity Alert Limit	10 usec
Pseudorange Bias	<2 cm
Measurement Update	2 Hz

Physical

Size	16.76 x 10.16 x 1.63 cm
Weight	<340 g
Power	
Input Voltage	+3.3 VDC +5%/-12%
Power Consumption	13.0 W (maximum) 10.0 W (typical)
MTBF	116,000 hrs

Communication Ports

Inputs	1 RS-422
Outputs	1 RS-422 1 Time Mark (1 Hz)

Environmental

The CMA-4048 LGR receiver is designed to meet the following FAA-G-2100G (section 4.3.4.4) environmental requirements when properly installed in a unit enclosure.

Temperature	-40°C to +55°C
Altitude	-92 to 4,572 m
Humidity	19% to 97 (Non-condensing)

Certification

RTCA	DO-278 Assurance Level 2
DO-254	Level B

Features

- 2 Independent GPS L1 active antenna ports
- 2 GPS L1 RF channels
- 24 channel Narrow Correlator® with SQM signal processing
- TIM (Time Integrity Monitoring) ensures integrity of the Time-Mark

Software

Language	Ada
Level	DO-278 Assurance Level 2 Certified
Processor	64-bit Pentium Compatible



Version 2 - Specifications subject to change without notice.
 ©2011 NovAtel Inc. All rights reserved.
 NovAtel and Narrow Correlator are registered trademarks of NovAtel Inc.
 Printed in Canada. D13880
 CMA-4048 April 2011
 For the most recent details of this product:
novatel.com/Documents/Papers/CMA-4048.pdf

