MULTI-FREQUENCY, BACKWARD COMPATIBLE GNSS RECEIVER
INCLUDES ALL MODERN SIGNALS

HIGH PRECISION GNSS, BACKWARD COMPATIBLE SIZE
The multi-frequency OEM729 offers future ready precise positioning. Advanced interference mitigation features maintain high performance in challenging environments. Form factor and pin compatible with NovAtel's previous generation OEM628™ receiver, the OEM729 provides the most efficient way to bring powerful Global Navigation Satellite System (GNSS) capable products to market quickly. With centimetre level positioning utilizing TerraStar satellite-delivered correction services, the OEM729 ensures globally available, high performance positioning without the need for expensive network infrastructure. Anywhere. Anytime.

BUILT-IN FLEXIBILITY
The OEM729 uses a 555 channel architecture and can be configured in multiple ways for maximum flexibility. NovAtel's OEM7® firmware provides users the ability to configure the OEM729 for their unique application needs. The OEM729 is scalable to offer sub-metre to centimetre level positioning, and is field upgradable to all OEM7 family software options. These options include ALIGN® for precise heading and relative positioning, GLIDE® for decimetre level pass-to-pass accuracy and SPAN® GNSS+INS for continuous 3D position, velocity and attitude. NovAtel CORRECT® with RTK delivers centimetre level real-time positioning, or go base-free for centimetre and decimetre PPP solutions using TerraStar corrections.
To learn more about how our firmware solutions can enhance your positioning, please visit novatel.com/products/firmware-options.

DESIGNED WITH THE FUTURE IN MIND
The OEM729 is capable of tracking all current and upcoming GNSS constellations including GPS, GLONASS, Galileo, BeiDou, QZSS and NavIC. It is software upgradable to track upcoming signals as they become available.

FEATURES
+ 555 channel, all-constellation, multi-frequency positioning solution
+ Multi-channel L-Band supports TerraStar correction services
+ Serial, USB, CAN and Ethernet connectivity with Web interface
+ Advanced interference visualization and mitigation features
+ RTK, GLIDE and STEADYLINE® firmware options
+ Simple to integrate, industry common form factor with 20 g vibration performance rating
+ Compatible with existing OEM628 integrations
+ Supports external oscillator input
+ SPAN GNSS+INS functionality

If you require more information about our receivers, visit novatel.com/oem7
**PERFORMANCE**

<table>
<thead>
<tr>
<th>Channel Count</th>
<th>555 Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPS L1</td>
<td>0.9 W (typical)</td>
</tr>
<tr>
<td>GPS/GLONASS L1/L2</td>
<td>1.3 W (typical)</td>
</tr>
<tr>
<td>All frequencies/All constellations with L-Band</td>
<td>1.8 W (typical)</td>
</tr>
<tr>
<td>Antenna Port Power Output</td>
<td>Output voltage 5.0 VDC ±5%</td>
</tr>
<tr>
<td>Maximum current</td>
<td>200 mA</td>
</tr>
<tr>
<td>Connectors</td>
<td>Main</td>
</tr>
<tr>
<td>- 24-pin dual row male header</td>
<td></td>
</tr>
<tr>
<td>- Antenna Input MMCX female Aux</td>
<td></td>
</tr>
<tr>
<td>- 16-pin dual row male header</td>
<td></td>
</tr>
<tr>
<td>- External oscillator input MMCX female</td>
<td></td>
</tr>
<tr>
<td>COMMUNICATION PORTS</td>
<td>1 RS232/RS422 up to 460,800 bps</td>
</tr>
<tr>
<td>2 LVCMOS up to 460,800 bps</td>
<td></td>
</tr>
<tr>
<td>2 CAN Bus 1 Mbps</td>
<td></td>
</tr>
<tr>
<td>1 USB 2.0 (device) F5</td>
<td></td>
</tr>
<tr>
<td>1 Ethernet 10/100 Mbps</td>
<td></td>
</tr>
<tr>
<td>ENVIRONMENTAL</td>
<td>Temperature -40°C to +85°C</td>
</tr>
<tr>
<td>Storage -55°C to +95°C</td>
<td></td>
</tr>
<tr>
<td>Humidity 95% non-condensing</td>
<td></td>
</tr>
<tr>
<td>Vibration Random MIL-STD-810G, Method 514.7 (Cat 24, 20 g)</td>
<td></td>
</tr>
<tr>
<td>Sinusoidal IEC 60068-2-6</td>
<td></td>
</tr>
<tr>
<td>Bump ISO 9022-31-06 (25 g)</td>
<td></td>
</tr>
<tr>
<td>Shock Operating MIL-STD-810G (40 g)</td>
<td></td>
</tr>
<tr>
<td>Non-operating MIL-STD-810G, Method 516.7 (75 g) Survival</td>
<td></td>
</tr>
<tr>
<td>Acceleration Operating MIL-STD-810G, Method 513.7 (16 g)</td>
<td></td>
</tr>
</tbody>
</table>

**PHYSICAL AND ELECTRICAL**

- Dimensions: 60 × 100 × 9 mm
- Weight: 48 g
- Power Consumption:
  - GPS L1: 0.9 W (typical)
  - GPS/GLONASS L1/L2: 1.3 W (typical)
- All frequencies/All constellations with L-Band: 1.8 W (typical)
- Maximum data rate:
  - Single Point L1: 1.5 m
  - Single Point L1/L2: 1.2 m
  - SBAS: 60 cm
  - DGPS: 40 cm
  - TerraStar-L: 40 cm
  - TerraStar-C PRO: 2.5 cm
  - RTK: 1 cm + 1 ppm
  - Initialization time: < 10 s
  - Initialization reliability: > 99.9%
- Maximum data rate:
  - Measurements up to 100 Hz
  - Position up to 100 Hz
- Time to First Fix:
  - Cold start: < 40 s (typical)
  - Hot start: < 19 s (typical)
- Signal Reacquisition:
  - L1: < 0.5 s (typical)
  - L2: < 1.0 s (typical)
- Time accuracy: 20 ns RMS
- Velocity accuracy:
  - 0.03 m/s RMS
- Velocity limit: 515 m/s
- Physical and electrical:
  - Dimensions: 60 × 100 × 9 mm
  - Weight: 48 g
  - Power consumption:
    - GPS L1: 0.9 W (typical)
    - GPS/GLONASS L1/L2: 1.3 W (typical)
    - All frequencies/All constellations with L-Band: 1.8 W (typical)
  - Maximum data rate:
    - Single Point L1: 1.5 m
    - Single Point L1/L2: 1.2 m
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    - 0.03 m/s RMS
  - Velocity limit: 515 m/s

**FEATURES**

- Field upgradeable software
- Differential GPS positioning
- Differential correction support for RTCM 2.1, 2.3, 3.0, 3.1, 3.2, 3.3, CMR, CMR+, RTCA and NOVATELX
- Navigation output support
- Receiver Autonomous Integrity Monitoring (RAIM)
- GLIDE and STEADYLINE smoothing algorithms
- Interface Toolkit
- Web GUI
- Outputs to drive external LEDs
- 2 Event inputs
- 1 Event output
- Pulse Per Second (PPS) output
- External Oscillator input

**FIRMWARE SOLUTIONS**

- ALIGN
- SPAN
- RTK
- RTK ASSIST™
- TerraStar PPP
- API

**OPTIONAL ACCESSORIES**

- VEXXIS® GNSS-500 and
- GNSS-800 series antennas
- ANT series antennas
- OEM7 Development Kit

For the most recent details of this product: novatel.com/oem7

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