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

HIGH PRECISION GNSS, BACKWARD COMPATIBLE SIZE

The multi-frequency OEM719 offers future ready precise positioning for space constrained applications. Advanced interference mitigation features maintain high performance in challenging environments. Form factor and pin compatible with NovAtel's popular OEM615™ and OEM617™ receivers, the OEM719 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 OEM719 ensures globally available, high performance positioning without the need for expensive network infrastructure. Anywhere. Anytime.

BUILT-IN FLEXIBILITY

The OEM719 uses a 555 channel architecture and can be configured in multiple ways for maximum flexibility. NovAtel's OEM7® firmware provides users with the ability to configure the OEM719 for their unique application needs. The OEM719 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 OEM719 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.
**PERFORMANCE**

### Channel Count
- 555 Channels

### Signal Tracking
- GPS L1 C/A, L1C, L2C, L2P, L5
- BeiDou B1I, B1C, B2I, B2a, B3I
- QZSS L1 C/A, L1C, L2C, L5
- NavIC (IRNSS) L5
- SBAS L1, L5
- L-Band up to 5 channels

### Horizontal Position Accuracy (RMS)
- 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

### Maximum Data Rate
- Measurements: up to 100 Hz
- Position: up to 100 Hz

### Time to First Fix
- Cold start: < 39 s (typical)
- Hot start: < 20 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
- 46 x 71 x 11 mm

### Weight
- 31 g

### Power
- Input voltage: 3.3 VDC ±5%

### 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)

### Antenna Port Power Output
- Output voltage: 5.0 VDC ±5%
- Maximum current: 200 mA

### Connectors
- Main: 20-pin dual row male header
- Antenna input: see RF Connector Variants

### RF CONNECTOR VARIANTS
- OEM719 MCX female
- OEM719A MCX 90° female
- OEM719B MMBX female

### COMMUNICATION PORTS
- 3 LVCMOS up to 460,800 bps
- 2 CAN Bus 1 Mbps
- 1 USB 2.0 (device) FS

### ENVIRONMENTAL

### Temperature
- Operating: -40°C to +85°C
- Storage: -55°C to +95°C

### Humidity
- 95% non-condensing

### Vibration
- Random: MIL-STD-810G (CH1), Method 514.7 (Cat 24, 20 g RMS)
- Sinusoidal: IEC 60068-2-6

### Bump
- ISO 9022-31-06 (25 g)

### Shock
- Operating: MIL-STD-810G (CH1), Method 516.7 (40 g)
- Non-operating: MIL-STD-810G (CH1), Method 516.7 (75 g)-Survival

### Acceleration
- Operating: MIL-STD-810G (CH1), Method 513.7 (16 g)

### FEATURES
- Field upgradeable software
- Differential GPS positioning
- Differential correction support for RTCM 2.1, 2.3, 3.0, 3.1, 3.2, 3.3, 3.4, CMR, CMR+, RTCA and NOVATELX
- Navigation output support for NMEA 0183 and detailed NovAtel ASCII and binary logs
- Receiver Autonomous Integrity Monitoring (RAIM)
- GLIDE and STEADYLINE smoothing algorithms
- Interference Toolkit
- Outputs to drive external LEDs
- 2 Event inputs
- 1 Event output
- Pulse Per Second (PPS) output

### FIRMWARE SOLUTIONS
- ALIGN
- SPAN
- RTK
- RTK ASSIST™
- TerraStar PPP
- API

### OPTIONAL ACCESSORIES
- VEXXIS® GNSS-500 and GNSS-800 series antennas
- Compact GNSS antennas
- Mechanical mounting rails
- OEM7 Development Kit

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

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Version 4 Specifications subject to change without notice

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