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.
PERFORMANCE

Channel Count
555 Channels

Signal Tracking
GPS L1 C/A, L1C, L2C, L2P, L5
GLONASS L1 C/A, L1C, L2C, L2P, L3, L5
Galileo E1, E5 AltBOC, E5a, E5b, E6
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
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 < 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

POWER AND ELECTRICAL

Dimensions 60 x 100 x 9 mm
Weight 48 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 24-pin dual row male header
Antenna Input MMCX female Aux
16-pin dual row male header
External oscillator input MMCX female

COMMUNICATION PORTS

1 RS232/RS422 up to 460,800 bps
2 LVCMOS up to 460,800 bps
2 CAN Bus 1 Mbps
1 USB 2.0 (device) FS
1 Ethernet 10/100 Mbps

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

FIRMWARE SOLUTIONS

• 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
• WEB GUI
• Outputs to drive external LEDs
• 2 Event inputs
• 1 Event output
• Pulse Per Second (PPS) output
• External Oscillator input

OPTIONAL ACCESSORIES

• VEXXIS GNSS-500 and GNSS-800 series antennas
• Compact GNSS antennas
• OEM7 Development Kit

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

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