

# OEM7600

## Compact, Multi-Frequency, GNSS Receiver Delivers Robust Positioning



### High Precision GNSS, Compact Size

The multi-frequency OEM7600 offers future ready precise positioning for space constrained applications with an extremely small form factor. Advanced interference mitigation features maintain high performance in challenging environments. With a variety of interface options to facilitate system integration, the OEM7600 provides the most efficient way to bring powerful Global Navigation Satellite System (GNSS) capable products to market quickly. With centimeter level positioning utilizing TerraStar satellite-delivered correction services, the OEM7600 ensures globally available, high performance positioning without the need for expensive network infrastructure. Anywhere. Anytime.

### Built-In Flexibility

OEM7 firmware from Hexagon | NovAtel gives users the flexibility to configure the OEM7600 for their unique application needs. The OEM7600 is scalable to offer sub-meter to centimeter level positioning, and is field upgradeable to all OEM7 family software options. These options include ALIGN for precise heading and relative positioning, GLIDE for decimeter level pass-to-pass accuracy and SPAN GNSS+INS technology for continuous 3D position, velocity and attitude. RTK delivers centimeter level real-time positioning, or go base-free for centimeter and decimeter PPP solutions using TerraStar corrections.

To learn more about how our firmware solutions can enhance your positioning, visit [novatel.com/products/firmware-options-pc-software/gnss-receiver-firmware-options](https://novatel.com/products/firmware-options-pc-software/gnss-receiver-firmware-options).

### Designed With The Future In Mind

The OEM7600 features configurable channels to optimize satellite availability in any condition, no matter how challenging. It tracks current and upcoming GNSS constellations and satellite signals including GPS, GLONASS, Galileo, BeiDou, NavIC and QZSS. The OEM7600 is software upgradeable to track future signals as they become available.

### Features

- All-constellation, multi-frequency positioning solution
- TerraStar correction services supported over multi-channel L-Band and IP connections
- Serial, USB, CAN and Ethernet connectivity with Web interface
- Advanced interference visualization and mitigation features
- RTK, GLIDE and STEADYLINE firmware options
- Simple to integrate, small form factor with 20 g vibration performance rating
- SPAN GNSS+INS functionality



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**Performance<sup>1</sup>****Signal Tracking<sup>2</sup>**

GPS	L1 C/A, L1C, L2C, L2P, L5
GLONASS <sup>3</sup>	L1 C/A, L2 C/A, L2P, L3, L5
Galileo <sup>4</sup>	E1, E5 AltBOC, E5a, E5b
BeiDou	B1I, B1C, B2I, B2a, B2b
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 <sup>5</sup>	60 cm
DGPS	40 cm
TerraStar-L <sup>6</sup>	40 cm
TerraStar-C PRO <sup>6</sup>	2.5 cm
TerraStar-X <sup>6</sup>	2 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 <sup>7</sup>	< 39 s (typ)
Hot start <sup>8</sup>	< 20 s (typ)

**Signal reacquisition**

L1	< 0.5 s (typ)
L2	< 1.0 s (typ)

**Time Accuracy<sup>9</sup>** 20 ns RMS

**Velocity Accuracy**  
< 0.03 m/s RMS

**Velocity Limit<sup>10</sup>** 515 m/s

**Physical and Electrical**

**Dimensions** 35 x 55 x 13 mm

**Weight** 31 g

**Power**

Input voltage 3.3 VDC ±5%

**Power Consumption<sup>11</sup>**

GPS L1	0.9 W (typ)
GPS/GLONASS L1/L2	1.3 W (typ)
All frequencies/All constellations with L-Band	1.8 W (typ)

**Antenna Port Power Output**

Output voltage	3.3 VDC ±5%
Maximum current	100 mA

**Connectors**

Main	60-pin dual row female socket
Antenna Input	RA MMCX female

**Communication Ports**

5 LVCMOS Serial	up to 460,800 bps
2 CAN Bus	1 Mbps
1 USB 2.0 (device)	HS
1 USB 2.0 (host)	HS
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

**Acceleration**

Operating	MIL-STD-810G (CH1), Method 513.7 (16 g)
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**Compliance**

FCC, ISED, CE and Global Type Approvals

**Features**

- Field upgradeable software
- Differential GNSS 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
- 4 Event inputs
- 4 Event outputs
- Pulse Per Second (PPS) output

**Firmware Solutions**

- ALIGN
- SPAN GNSS+INS technology
- RTK
- RTK ASSIST
- TerraStar PPP
- API

**Optional Accessories**

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