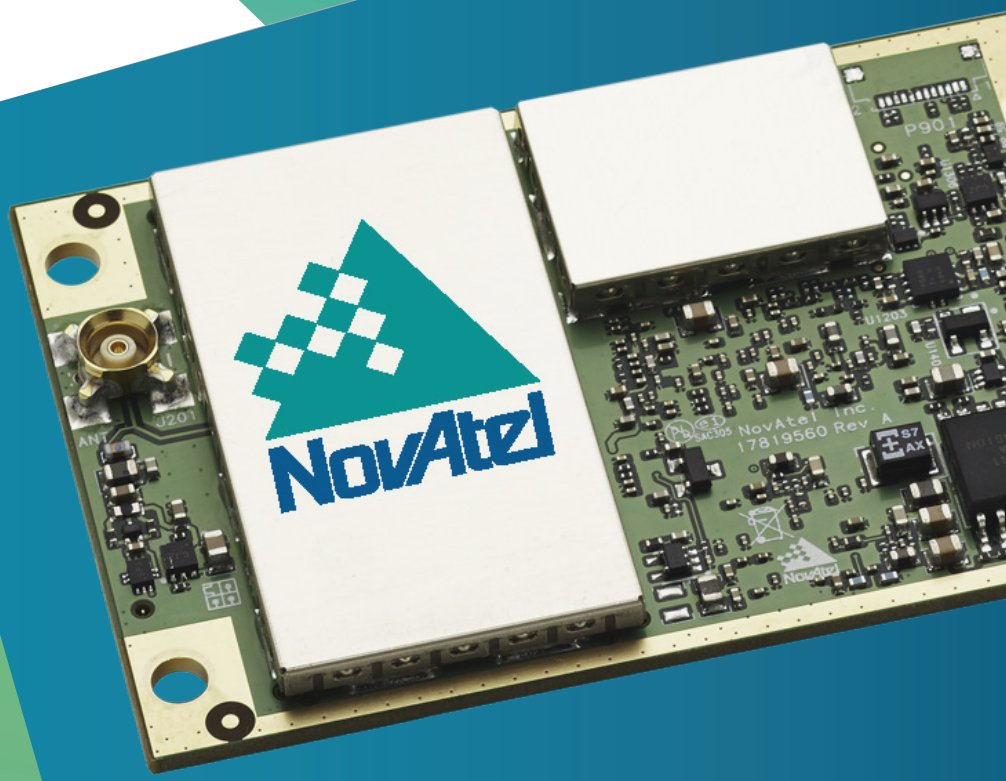
OEM7 Receivers

Setting the standard in positioning and performance



Hexagon | NovAtel OEM7 GNSS Receivers

OEM7 GNSS RECEIVERS SET THE STANDARD IN POSITIONING PERFORMANCE, FEATURES AND EASE OF INTEGRATION.

Leveraging six previous generations of precise positioning expertise, OEM7 receivers incorporate innovative capabilities and features to enhance positioning reliability, accuracy and availability.

Cornerstones of the OEM7 family include advanced interference detection and mitigation, with L-Band and SPAN GNSS+INS functionality on every receiver.

SPAN technology

SPAN GNSS+INS technology by NovAtel provides continuous 3D positioning, velocity and attitude determination even when satellite reception may be compromised for short periods of time.

Our SPAN technology integrates Inertial Measurement Units (IMUs) with OEM7 receivers to create a deeply coupled GNSS+INS solution at data rates up to 200 Hz.

The accuracy of our SPAN technology-enabled products can be optimised with our best-in-class Waypoint post-processing software.

To learn more about SPAN technology, please visit novatel.com/span.

Precision Time Protocol (PTP)

GNSS Time, based on atomic clocks on satellites, is known to be one of the most accurate timing sources available commercially. PTP functionality from NovAtel, provided on Ethernet capable receivers, brings precise timing to synchronise all your devices on your system network.

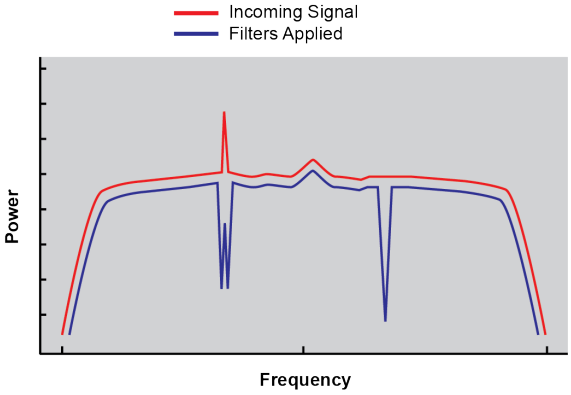
Flexible positioning options

NovAtel provides state-of-the-art positioning algorithms to optimise corrections from Real-Time Kinematic (RTK), Precise Point Positioning (PPP), Space-Based Augmentation Systems (SBAS) and Differential Global Navigation Satellite Systems (DGNSS).

NovAtel ensures you receive the positioning accuracy needed for your application, whether that is metre, decimetre or centimetre-level.

To learn more about NovAtel positioning, please visit novatel.com/solutions/about-positioning.

GNSS Resilience and Integrity Technology

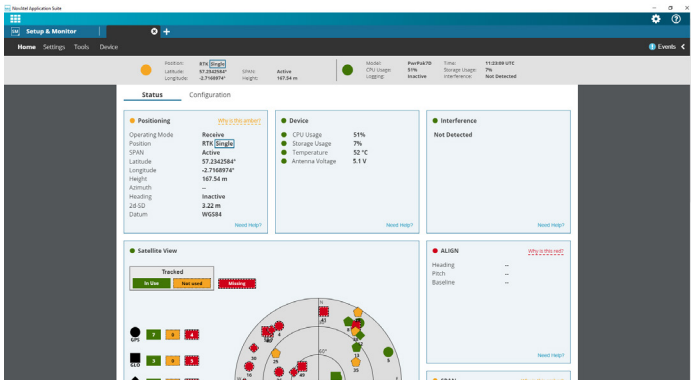


In today's crowded frequency spectrum, the potential for interference is high.

GNSS Resilience and Integrity Technology (GRIT) is a firmware suite to enable detailed situational awareness and interference mitigation solution to protect against GNSS interference. GRIT includes NovAtel's successful Interference Toolkit (ITK), spoofing detection and time-tagged digitised samples to identify when your GNSS signal is under threat and protect your positioning, navigation and timing measurements.

To learn more about GRIT, please visit novatel.com/products/grit

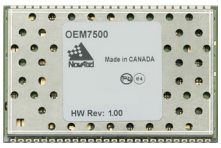
NovAtel Application Suite and Setup & Monitor (Web)



NovAtel provides two user interface tools to ease your receiver configuration and monitoring tasks. NovAtel Application Suite is a computer-based application that manages OEM7 receivers connected to the computer using either a serial, USB or Ethernet connection. Setup & Monitor (Web) is a browser-based interface that operates on any device connected to the receiver using Wi-Fi or Ethernet. These tools have a common look and feel, providing the following main features:

- Position configurations and display status
- Logging control
- Storage management
- Mobile platform support
- Upgrade receiver firmware

OEM7 GNSS Series
Cards

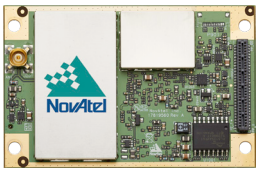


OEM7500
Multi-frequency GNSS receiver delivers precise positioning in a single-sided Surface Mount Device (SMD) package

Size: 35 × 55 × 4 mm
Weight: 12 g

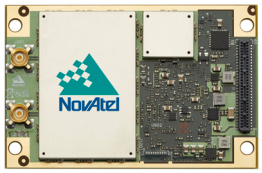
OEM7600
Multi-frequency GNSS receiver delivers precise positioning in an extremely compact form factor

Size: 35 × 55 × 13 mm
Weight: 31 g



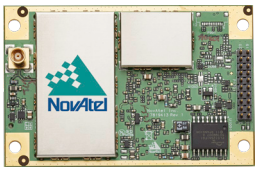
OEM7700
Multi-frequency GNSS receiver delivers precise positioning and simplifies integration

Size: 46 × 71 × 8 mm
Weight: 31 g



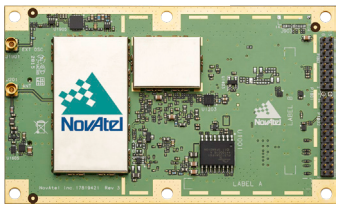
OEM7720
Dual-antenna, multi-frequency GNSS receiver delivers robust heading and positioning

Size: 46 × 71 × 8 mm
Weight: 29 g



OEM719
Multi-frequency GNSS receiver includes all modern signals and is backward compatible with the OEM615/OEM617 receiver

Size: 46 × 71 × 11 mm
Weight: 31 g



OEM729
Multi-frequency GNSS receiver includes all modern signals and is backward compatible with the OEM628 receiver

Size: 60 × 100 × 9 mm
Weight: 48 g

POSITIONING ACCURACY (LEVEL)

	Metre (RMS/95%)		Sub Metre (RMS/95%)			Centimetre (RMS/95%)		
	Single Point L1	Single Point L1/L2	SBAS	DGPS	TerraStar-L[a]	TerraStar-C PRO[a]	TerraStar-X[a]	RTK
OEM7500	1.5 m 2.5 m	1.2 m 2.4 m	60 cm 120 cm	40 cm 80 cm	40 cm 50 cm	2.5 cm 3 cm		1 cm + 1 ppm 2.5 cm + 1 ppm
OEM7600	1.5 m 2.5 m	1.2 m 2.4 m	60 cm 120 cm	40 cm 80 cm	40 cm 50 cm	2.5 cm 3 cm		1 cm + 1 ppm 2.5 cm + 1 ppm
OEM7700	1.5 m 2.5 m	1.2 m 2.4 m	60 cm 120 cm	40 cm 80 cm	40 cm 50 cm	2.5 cm 3 cm	2 cm 2.5 cm	1 cm + 1 ppm 2.5 cm + 1 ppm
OEM7720	1.5 m 2.5 m	1.2 m 2.4 m	60 cm 120 cm	40 cm 80 cm	40 cm 50 cm	2.5 cm 3 cm		1 cm + 1 ppm 2.5 cm + 1 ppm
OEM719	1.5 m 2.5 m	1.2 m 2.4 m	60 cm 120 cm	40 cm 80 cm	40 cm 50 cm	2.5 cm 3 cm	2 cm 2.5 cm	1 cm + 1 ppm 2.5 cm + 1 ppm
OEM729	1.5 m 2.5 m	1.2 m 2.4 m	60 cm 120 cm	40 cm 80 cm	40 cm 50 cm	2.5 cm 3 cm	2 cm 2.5 cm	1 cm + 1 ppm 2.5 cm + 1 ppm

a. Requires subscription to TerraStar data service. Subscriptions available from NovAtel.
b. Hardware ready for L5.
c. Typical value. GPS L1 only.

+	+	+	+	+	+	ALIGN Heading and Relative Positioning	SOLUTIONS
		+				Integrated ALIGN Heading	
+	+	+	+	+	+	GLIDE	
+	+	+	+	+	+	RAIM	
+	+	+	+	+	+	SPAN	
+	+	+	+	+	+	GRIT	
+		+	+	+		PTP	
L1 C/A, L1C, L2C, L2P, L5	L1 C/A, L1C, L2C, L2P, L5	L1 C/A, L1C, L2C, L2P, L5	L1 C/A, L1C, L2C, L2P, L5	L1 C/A, L1C, L2C, L2P, L5	L1 C/A, L1C, L2C, L2P, L5	GPS	SIGNAL TRACKING
L1 C/A, L2 C/A, L2P, L3, L5	L1 C/A, L2 C/A, L2P, L3, L5	L1 C/A, L2 C/A, L2P, L3, L5	L1 C/A, L2 C/A, L2P, L3, L5	L1 C/A, L2 C/A, L2P, L3, L5	L1 C/A, L2 C/A, L2P, L3, L5	GLONASS[b]	
E1, E5 AltBOC, E5a, E5b, E6	E1, E5 AltBOC, E5a, E5b, E6	E1, E5 AltBOC, E5a, E5b	E1, E5 AltBOC, E5a, E5b, E6	E1, E5 AltBOC, E5a, E5b	E1, E5 AltBOC, E5a, E5b	Galileo	
B1I, B1C, B2I, B2a, B2b, B3I	B1I, B1C, B2I, B2a, B2b, B3I	B1I, B1C, B2I, B2a, B2b	B1I, B1C, B2I, B2a, B2b, B3I	B1I, B1C, B2I, B2a, B2b	B1I, B1C, B2I, B2a, B2b	BeiDou	
L1 C/A, L1C, L1S, L2C, L5, L6	L1 C/A, L1C, L1S, L2C, L5, L6	L1 C/A, L1C, L1S, L2C, L5	L1 C/A, L1C, L1S, L2C, L5, L6	L1 C/A, L1C, L1S, L2C, L5	L1 C/A, L1C, L1S, L2C, L5	QZSS	
L5	L5	L5	L5	L5	L5	NavIC (IRNSS)	
L1, L5	L1, L5	L1, L5	L1, L5	L1, L5	L1, L5	SBAS	
Up to 5 channels	Up to 5 channels	Up to 5 channels	Up to 5 channels	Up to 5 channels	Up to 5 channels	L-Band	
2 LVCMOS, 1 RS-232/RS-422	3 LVCMOS	5 LVCMOS	5 LVCMOS	5 LVCMOS	3 UART, 1 SPI	Serial Ports	INTERFACES
1 Device	1 Device	1 Device, 1 Host	1 Device, 1 Host	1 Device, 1 Host	1 Device	USB Ports	
2	2	2	2	2	1	CAN Ports	
1		1	1	1		Ethernet	
100 Hz	100 Hz	100 Hz	100 Hz	100 Hz	100 Hz	Maximum Data Rate	
+3.3 VDC [±5%]	+3.3 VDC [±5%]	+3.0 to 5.0 VDC	+3.3 VDC [±5%]	+3.3 VDC [±5%]	+3.3 VDC [±5%] (VCC) +1.2 VDC [+5%/-3%] (VDD)	Input Voltage	
0.9 W	0.9 W	1.6 W	0.9 W	0.9 W	0.9 W	Power Consumption[c]	

OEM7 GNSS Series
Enclosures

PwrPak7

Rugged, compact enclosure delivers scalable GNSS solutions with internal storage and GNSS+INS options

Size: 147 × 125 × 55 mm
Weight: 500 g

PwrPak7D

Rugged, compact, dual antenna enclosure delivers scalable GNSS solutions with internal storage and GNSS+INS options

Size: 147 × 125 × 55 mm
Weight: 500 g

POSITIONING ACCURACY (LEVEL)								
Metre (RMS/95%)		Sub Metre (RMS/95%)			Centimetre (RMS/95%)		
Single Point L1	Single Point L1/L2	SBAS	DGPS	TerraStar-L[a]	TerraStar-C PRO[a]	TerraStar-X[a]	RTK
1.5 m 2.5 m	1.2 m 2.4 m	60 cm 120 cm	40 cm 80 cm	40 cm 50 cm	2.5 cm 3 cm	2 cm 2.5 cm	1 cm + 1 ppm 2.5 cm + 1 ppm
1.5 m 2.5 m	1.2 m 2.4 m	60 cm 120 cm	40 cm 80 cm	40 cm 50 cm	2.5 cm 3 cm		1 cm + 1 ppm 2.5 cm + 1 ppm

a. Requires subscription to TerraStar data service. Subscriptions available from NovAtel.
b. Hardware ready for L5.
c. Typical value. GPS L1 only.

+	+	ALIGN Heading and Relative Positioning	SOLUTIONS
+		Integrated ALIGN Heading	
+	+	GLIDE	
+	+	RAIM	
+	+	SPAN	
+	+	GRIT	
+	+	PTP	
L1 C/A, L1C, L2C, L2P, L5	L1 C/A, L1C, L2C, L2P, L5	GPS	SIGNAL TRACKING
L1 C/A, L2 C/A, L2P, L3, L5	L1 C/A, L2 C/A, L2P, L3, L5	GLONASS[b]	
E1, E5 AltBOC, E5a, E5b	E1, E5 AltBOC, E5a, E5b, E6	Galileo	
B1I, B1C, B2I, B2a, B2b	B1I, B1C, B2I, B2a, B2b, B3I	BeiDou	
L1 C/A, L1C, L1S, L2C, L5	L1 C/A, L1C, L1S, L2C, L5, L6	QZSS	
L5	L5	NavIC (IRNSS)	
L1, L5	L1, L5	SBAS	
Up to 5 channels	Up to 5 channels	L-Band	
1 RS-232, 2 RS-232/RS-422	1 RS-232, 2 RS-232/RS-422	Serial Ports	INTERFACES
1 Device, 1 Host	1 Device, 1 Host	USB Ports	
1	1	CAN Ports	
1	1	Ethernet	
+	+	Wi-Fi	
16 GB	16 GB	Memory	
100 Hz	100 Hz	Maximum Data Rate	
+9 to +36 VDC	+9 to +36 VDC	Input Voltage	
3.95 W	3.25 W	Power Consumption[c]	

About Hexagon | NovAtel

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications.

Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

NovAtel, part of Hexagon, is a global technology leader, pioneering end-to-end solutions for assured positioning for land, sea, and air. NovAtel designs, manufactures and sells high precision positioning technology developed for efficient and rapid integration. Its solutions are empowering intelligent positioning ecosystems in vital industries that depend on the ability to tackle the most complex challenges in the most demanding environments. Learn more at novatel.com.

Novatel Inc.
Hexagon Calgary Campus | 10921 14th St. NE | Calgary, Alberta, Canada T3K 2L5

Contact Information
US & Canada 1-800-NOVATEL or 403-295-4900
China 0086-21-68882300 | Europe 44-1993-848-736 | SE Asia & Australia 61-400-883-601
Website: novatel.com | Email: sales.nov.ap@hexagon.com

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