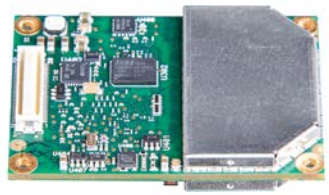
B111



The Topcon B111 GNSS receiver board is a compact positioning engine capable of providing scalable positioning from sub-meter DGPS positioning to sub-centimeter RTK positioning.

Low power consumption and comprehensive communication interfaces and peripheral support make the B111 extremely flexible and easy to integrate into any precise positioning application.

- Compact, lightweight dual-frequency receiver
- Low power consumption
- 226 Universal Tracking Channels™ for reliable, “all in view”, dual-frequency tracking of GPS, GLONASS, BeiDou, Galileo as well as SBAS and QZSS
- High-performance RTK engine with position an update rate of 100 Hz
- Diverse set of interfaces available through a single connector for effective data exchange
- SD card interface support

Tracking	
Channels	226 Universal Tracking Channels™
Signals Tracked	GPS: L1, L2, L2C; GLONASS: L1, L2, L2C; BeiDou: B1, B2; Galileo: E1; SBAS; QZSS: L1, L2C
WAAS/EGNOS/MSAS	Yes
Accuracy	
Standalone[*1]	H: 1.2 m; V: 1.8 m
DGPS	H: 0.3 m; V: 0.5 m
SBAS	H: 0.8 m; V: 1.2 m
RTK	H: 5 mm + 0.5 ppm x baseline; V: 10 mm + 0.8 ppm x baseline
RTK Initialization Time	< 10 seconds
RTK Initialization Reliability	> 99%
Velocity	0.02 m/second
Time	30 nsec
Acquisition Time	
Hot / Warm / Cold Start	< 10 sec / < 35 sec / < 60 sec
Reacquisition	< 1 sec
Communication Interfaces	
RS232	2x ports up to 460.8 kbps
LVTTL UART	2x ports up to 460.8 kbps
USB 2.0 (client)	1x port up to 480 mbps (High Speed)
CAN	1x port (without transceivers), LVTTL, NMEA2000 compliant
PPS	1x port with 5 ns resolution, <30 ns precision, LVTTL, configurable polarity and period
EVENT	1x port with 5 ns resolution, LVTTL, programmable active edge
Data and Memory	
SD card support	Physical interface, 20 Hz writing rate, up to 8GB capacity
Data Update/Output Rate	1 Hz – 100 Hz Selectable
Real Time Data Output	TPS, RTCM SC104 2.x and 3.x, CMR, CMR+
ASCII Output[*2]	NMEA 0183 version 2.x and 3.0
Environmental	
Temperature	Operating: -40°C to 85°C; Storage: -40°C to 85°C
Vibration	4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F)
Humidity	95%, non-condensing
Shock	30g (IEC 68-2-27)
Acceleration	40g
Power	
Voltage / Power Consumption	3.4 VDC to 4.5 VDC / 1.3 W typical
LNA Power	3.3 V (internal), 5.0 V (external) at 0 – 100 mA
Physical	
Dimensions / Weight	40 x 55 x 10 mm / < 20 g
Main Connector	60-pin Hirose
Antenna Inputs	2 (to connect internal or external antenna) ESD protected
Antenna Connectors	Hirose H.FL

1 These specifications will vary depending on the number of satellites used, obstructions, satellite geometry (PDOP), occupation time, multipath effects, and atmospheric conditions. Performance may be degraded in conditions with high ionospheric activity, extreme multipath, or under dense foliage. For maximum system accuracy, always follow best practices for GNSS data collection.

2 CMR/CMR+ is a third-party proprietary format. Use of this format is not recommended and performance cannot be guaranteed. Use of industry standard RTCM 3.x is always recommended for optimal performance.

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For more information:
topconpositioning.com

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