

# GPS / GNSS MODULES



## Outstanding performance from first fix

The GPS/GNSS modules achieve improved time to first fix (TTFF) and highly accurate real-time positioning of approximately 1.5m, enhanced signal-to-noise ratio (SNR), and a position fix of 1sec (hot start).



## The world's smallest form factor

The miniature GPS/GNSS modules integrate an LNA, SAW filter, TCXO, RTC crystal, and a power management unit, in addition to the GNSS SOC.



## Ultra-sensitivity is key

OriginGPS proprietary Noise-Free Zone™ technology enhances sensitivity and noise immunity, both essential under challenging signal conditions such as those in urban canyons.



## Integrated and simple to integrate

Designed for a simple integration process, the modules offer a complete system-in-package (SIP) with an industry-leading small surface-mount technology (SMT) footprint.



## Low power consumption saves resources

Requiring a very short acquisition time for TTFF, OriginGPS modules consume substantially less battery power. In addition, all modules include a range of low power modes.



## Multi-constellation

OriginGPS modules simultaneously support multi-constellations, enabling continuous tracking of all satellites in view.

## Why choose an OriginGPS GPS/GNSS module?

### + Small form factor

Utilizing the smallest PCB space possible enables end product miniaturization and plenty of space to design.

### + Minimizes RF design challenges

Modules RF front-end, LNA, SAW filter, TCXO and RTC are all integrated, while Hornet modules also include an integrated antenna.

### + Superior RF performance

Noise Free Zone (NFZ) technology eliminates ground currents, lowering noise floor, which results in superior C /No - the leading performance indicator in GPS/GNSS receivers.

### + Fast TTM

A true plug-and-play solution with commands and data communicated over UART/I2C/SPI in standard NMEA format.

### + Design review included

Our technical team will review your schematic and board layout files. We are RF experts, so you don't have to be.

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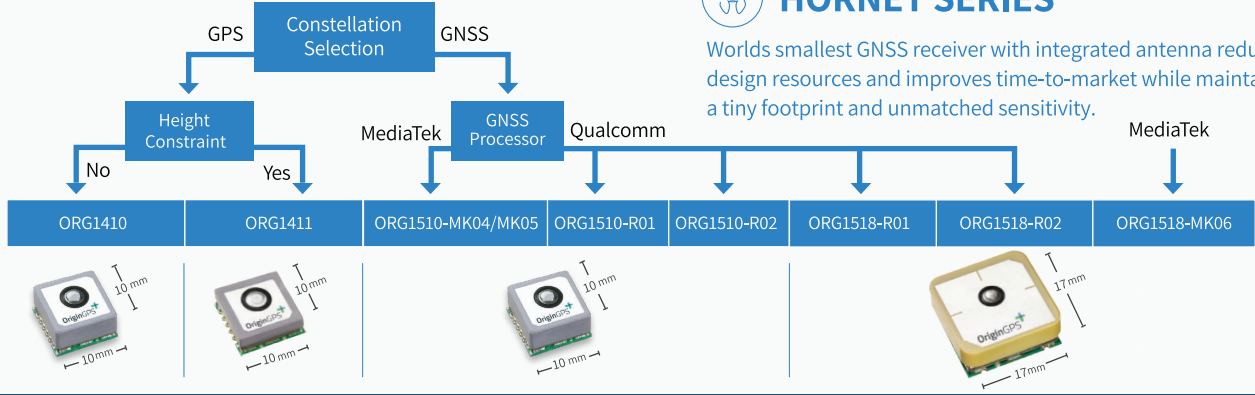
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# MODULE FEATURES



## HORNET SERIES

World's smallest GNSS receiver with integrated antenna reduces design resources and improves time-to-market while maintaining a tiny footprint and unmatched sensitivity.



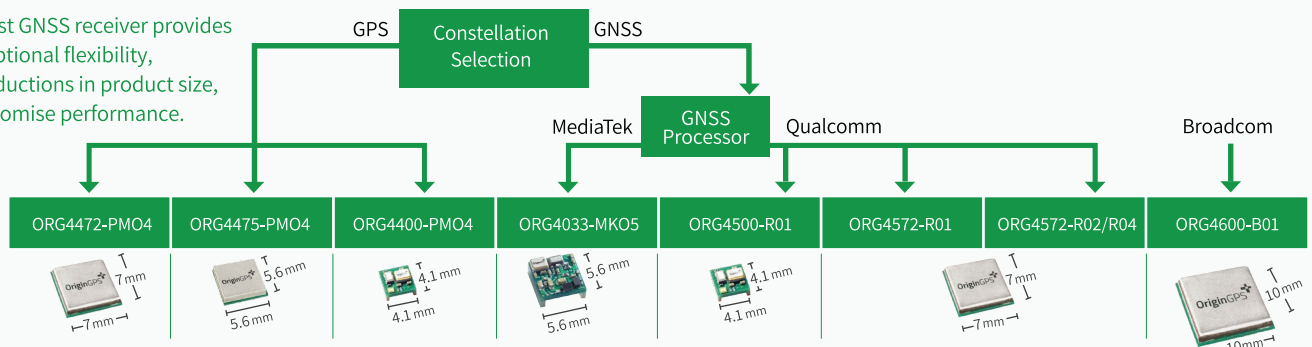
	ORG1410 -PM01	ORG1410 -PM04	ORG1411 -PM01	ORG1411 -PM04	ORG1510 -MK04/MK05	ORG1510 -R01	ORG1510 -R02	ORG1518 -R01	ORG1518 -R02	ORG1518 -MK06
Dimensions (LxWxH) mm	10x10x5.8	10x10x5.8	10x10x3.8	10x10x3.8	10x10x6.1	10x10x5.9	10x10x5.9	17x17x6.4	17x17x6.4	17x17x6.4
Weight (gr)	2.34	2.34	1.35	1.35	2.4	2.37	2.37	8	8	8
DC supply (v)	1.8	2-5.5	1.8	2-5.5	3.3	1.8	1.8	1.8	3.3	3.3
Interface	UART/SPI/I2C	UART/SPI/I2C	UART/SPI/I2C	UART/SPI/I2C	UART/I2C or UART/SPI	UART/SPI/I2C	UART/SPI/I2C	UART/SPI/I2C	UART/SPI/I2C	UART/I2C or UART/SPI
Accuracy (m)	<2.5	<2.5	<2.5	<2.5	<2.5	<1.5	<1.5	<1.5	<1.5	<2.5
I/O voltage level (V)	1.8	1.8	1.8	1.8	3.3	1.8	1.8	1.8	1.8	3.3
Max update rate (Hz)	1-5	1-5	1-5	1-5	1-10	1-5	1-10	1-5	1-10	1-10
Internal memory	ROM	ROM	ROM	ROM	Flash	ROM	Flash	ROM	Flash	Flash
Constellation*	GPS	GPS	GPS	GPS	GPS+GAL+GLO/BDS	GPS+GLO	GPS+GAL+GLO/BDS	GPS+GLO	GPS+GAL+GLO/BDS	GPS+GAL+GLO/BDS
GNSS SOC	SiRFstar IV B01	SiRFstar IV B01	SiRFstar IV B01	SiRFstar IV B01	MT3333	SiRFstar V B01	SiRFstar V B02	SiRFstar V B01	SiRFstar V B02	MT3333

\*All OriginGPS GNSS modules support QZSS



## SPIDER SERIES

World's smallest GNSS receiver provides designer exceptional flexibility, substantial reductions in product size, and no-compromise performance.



	ORG4472 -PM04	ORG4475 -PM04	ORG4400 -PM04	ORG4033 -MK05	ORG4500 -R01	ORG4572 -R01	ORG4572 -R02/R04	ORG4600 -B01
Dimensions (LxWxH) mm	7x7x1.4	5.6x5.6x1.4	4.1x4.1x2.1	5.6x5.6x2.6	4.1x4.1x2.1	7x7x1.4	7x7x1.4	10x10x1.95
Weight (gr)	0.2	0.1	0.1	0.13	0.1	0.2	0.2	0.4
DC supply (v)	1.8	1.8	1.8	3.3	1.8	1.8	1.8 / 3.3	2-5.5
Interface	UART/SPI/I2C	UART/SPI/I2C	UART/SPI/I2C	UART/I2C or UART/SPI	UART/SPI/I2C	UART/SPI/I2C	UART/SPI/I2C	UART/I2C
Accuracy	<2.5	<2.5	<2.5	<2.5	<1.5	<1.5	<1.5	<1
I/O voltage level	1.8	1.8	1.8	3.3	1.8	1.8	1.8	1.8
Max update rate (Hz)	1-5	1-5	1-5	1-10	1-5	1-5	1-10	1
Internal memory	ROM	ROM	ROM	Flash	ROM	ROM	Flash	Flash
Constellation*	GPS	GPS	GPS	GPS+GAL+GLO/BDS	GPS+GLO	GPS+GLO	GPS+GAL+GLO/BDS	GPS+GLO/GAL/QZSS/IRNSS
GNSS SOC	SiRFstar IV B01	SiRFstar IV B01	SiRFstar IV B01	MT3333	SiRFstar V B01	SiRFstar V B01	SiRFstar B02	BCM47758

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