# SPECIFICATIONS

## GNSS Features

Channels..... 1598
GPS..... L1, L1C, L2C, L2P, L5
GLONASS..... G1, G2, G3
BDS..... BDS-2: B1I, B2I, B3I
BDS-3: B1I, B3I, B1C, B2a, B2b*
GALILEOS..... E1, E5A, E5B, E6C, AltBOC*
SBAS(WAAS/MSAS/EGNOS/GAGAN)..... L1*
IRNSS..... L5*
QZSS..... L1, L2C, L5*
MSS L-band..... BDS-PPP
Positioning output rate..... 1Hz~20Hz
Initialization time..... < 10s
Initialization reliability..... > 99.99%

## Positioning Precision

Code differential GNSS..... Horizontal: 0.25 m + 1 ppm RMS
Vertical: 0.50 m + 1 ppm RMS
Static(long observations)..... Horizontal: 2.5 mm + 0.1 ppm RMS
Vertical: 3 mm + 0.4 ppm RMS
Static..... Horizontal: 2.5 mm + 0.5 ppm RMS
Vertical: 3.5 mm + 0.5 ppm RMS
Rapid static..... Horizontal: 2.5 mm + 0.5 ppm RMS
Vertical: 5 mm + 0.5 ppm RMS
PPK..... Horizontal: 3 mm + 1 ppm RMS
Vertical: 5 mm + 1 ppm RMS
RTK(UHF)..... Horizontal: 8 mm + 1 ppm RMS
Vertical: 15 mm + 1 ppm RMS
RTK(NTRIP)..... Horizontal: 8 mm + 0.5 ppm RMS
Vertical: 15 mm + 0.5 ppm RMS
RTK initialization time..... 2 ~ 8s
SBAS positioning..... Typically < 5m 3DRMS
BANDA-L..... Horizontal: 5-10cm (5-30min)
Vertical: 10-30cm (5-30min)
IMU..... Less than 10mm + 0.7 mm/° tilt to 30°
IMU tilt angle..... 0° ~ 60°

## Hardware Performance

Dimension..... 130.5mm(φ) × 84mm(H)
Weight..... 850g (battery included)
Material..... Magnesium aluminum alloy shell
Operating temperature..... -25℃ ~ +65℃
Storage temperature..... -35℃ ~ +80℃
Humidity..... 100% Non-condensing
Waterproof/Dustproof..... IP68 standard, protected from long time immersion to depth of 1m
IP68 standard, fully protected against blowing dust
Shock/Vibration..... Withstand 2 meters pole drop onto the cement ground naturally
MIL-STD 810G
Power supply..... 6-28V DC, overvoltage protection
Battery..... Inbuilt 6800mAh rechargeable, Li-ion battery
Battery life..... Single battery: 16h (static mode)
8h (Base + UHF)
12h (Rover + UHF), 15h (Rover + Bluetooth)

## WIFI

Modem..... 802.11 b/g standard
WIFI hotspot..... Receiver broadcasts its hotspot form web UI accessing with any mobile terminals
WIFI datalink..... Receiver can transmit and receive correction data stream via WiFi datalink

## Communications

I/O Port..... 5PIN LEMO external power port + Rs232
Type-C interface (charge + OTG + Ethernet)
1 UHF antenna interface
SIM card slot (Micro SIM)
Internal UHF..... 2W radio, receive and transmit, radio router and radio repeater
Frequency range..... 410 - 470MHz
Communication protocol..... Farlink, Trimtalk450s, SOUTH, SOUTH+, SOUTHx, HUACE, Hi-target, Satel
Communication range..... Typically 8km with Farlink protocol
Cellular mobile network..... 4G cellular module standard
Bluetooth..... Bluetooth 3.0/4.1 standard, Bluetooth 2.1 + EDR
NFC Communication..... Realizing close range (shorter than 10cm) automatic pair between receiver and controller (controller requires NFC wireless communication module else)

## Data Storage/Transmission

Storage... 8GB SSD internal storage standard, extendable up to 64GB
Automatic cycle storage (The earliest data files will be removed automatically while the memory is not enough)
Support external USB storage
The customizable sample interval is up to 20Hz
Data transmission..... Plug and play mode of USB data transmission
Supports FTP/HTTP data download
Data format..... Static data format: STH, Rinex2.01, Rinex3.02 and etc.
Differential data format: RTCM 2.1,RTCM 2.3, RTCM 3.0, RTCM 3.1, RTCM 3.2
Output format: ASIC (NMEA-0813), Binary code (SOUTH Binary)
Network model support: VRS, FKP, MAC, fully support NTRIP protocol

## Sensors

Electronic bubble..... Controller software can display electronic bubble, checking leveling status of the carbon pole in real-time
IMU..... Built-in IMU module, calibration-free and immue to magnetic interference
Thermometer..... Built-in thermometer sensor, adopting intelligent temperature control technology, monitoring and adjusting the receiver temperature

## User Interaction

Operating system..... Linux
Buttons..... Single button
Indicators..... 5 LED indicators
Web interaction..... With the access of the internal web interface management via WiFi or USB connection, users are able to monitor the receiver status and change the configurations freely
Voice guidance..... It provides status and operation voice guidance, and supports Chinese/English/Korean/Spanish/Portuguese/Russian/Turkish
Secondary development..... Provides secondary development package, and opens the OpenSIC observation data format and interaction interface definition
Cloud service..... The powerful cloud platform provides online services like remote manage, firmware update, online register and etc.

*Items marked with * will be upgraded with the update of the firmware version*

*The data comes from the SOUTH GNSS product laboratory, and the specific situation is subject to local actual usage. The measurement accuracy, precision and reliability are associated to various factors, including number of satellite tracking, observation time, multi-path, etc.*

CE FC MIL-STD 810G


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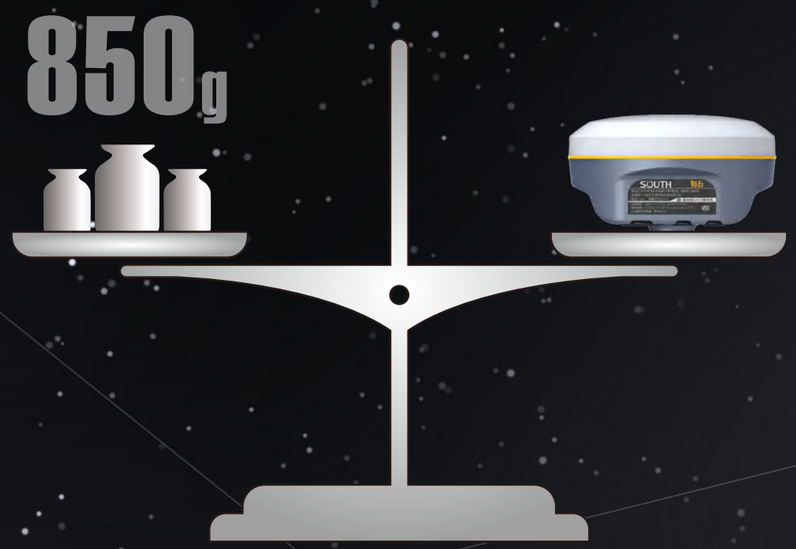
# GALAXY G2

— Brand new diminutive RTK receiver —

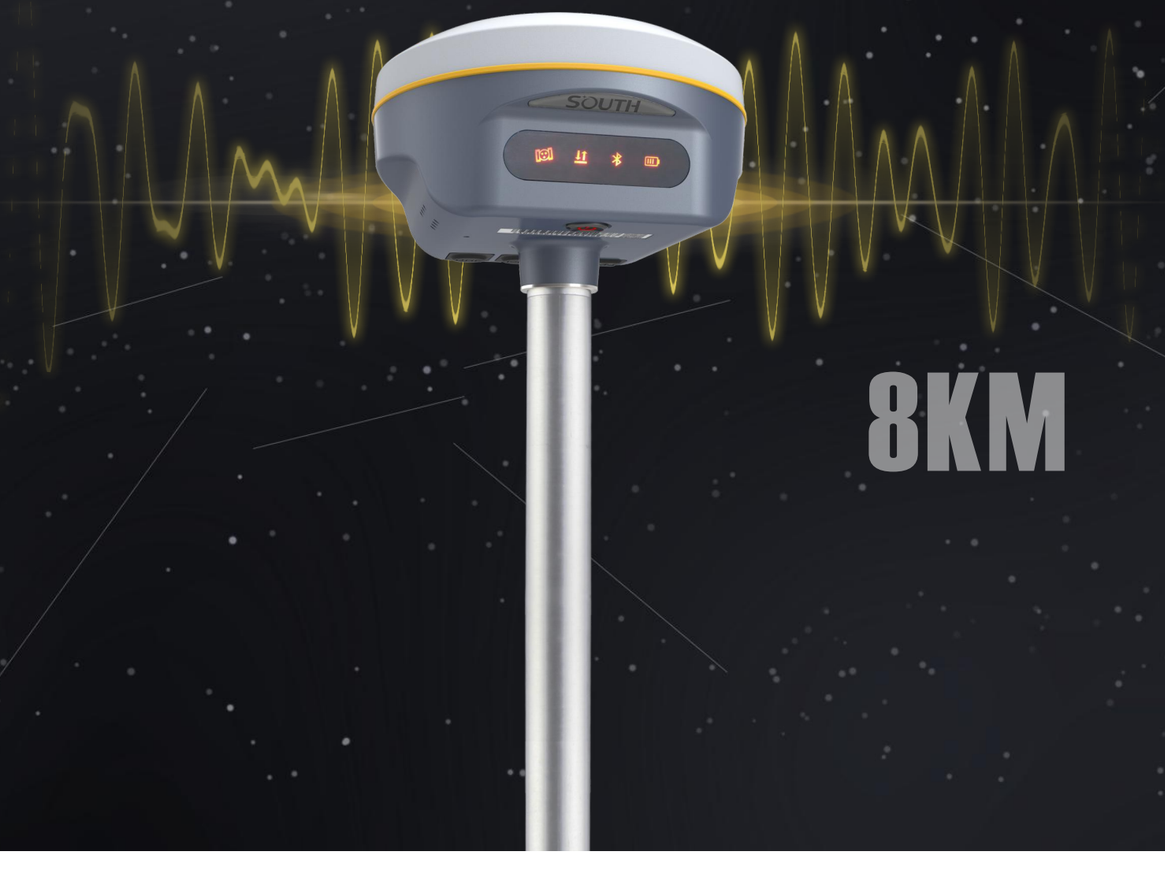



# The extraordinary inbuilt radio

Galaxy G2 adopts a new self-developed digital radio module with **“Farlink”** protocol to achieve the typical working range as 8km. The transmission bandwidth of **“Farlink”** becomes large, which perfectly solves the problem of large data volume of multiple constellations transmission. And the power consumption can reduce about 60% in the same amount of data transmission compare to the traditional RTK.

# Ingenious & stylish design

With highly integrated and layered design, Galaxy G2 is smaller than typical Galaxy series receivers. And coupled with the magnesium alloy body shell, the weight of G2 is only **850g** including internal battery, extremely light and convenient to carry.

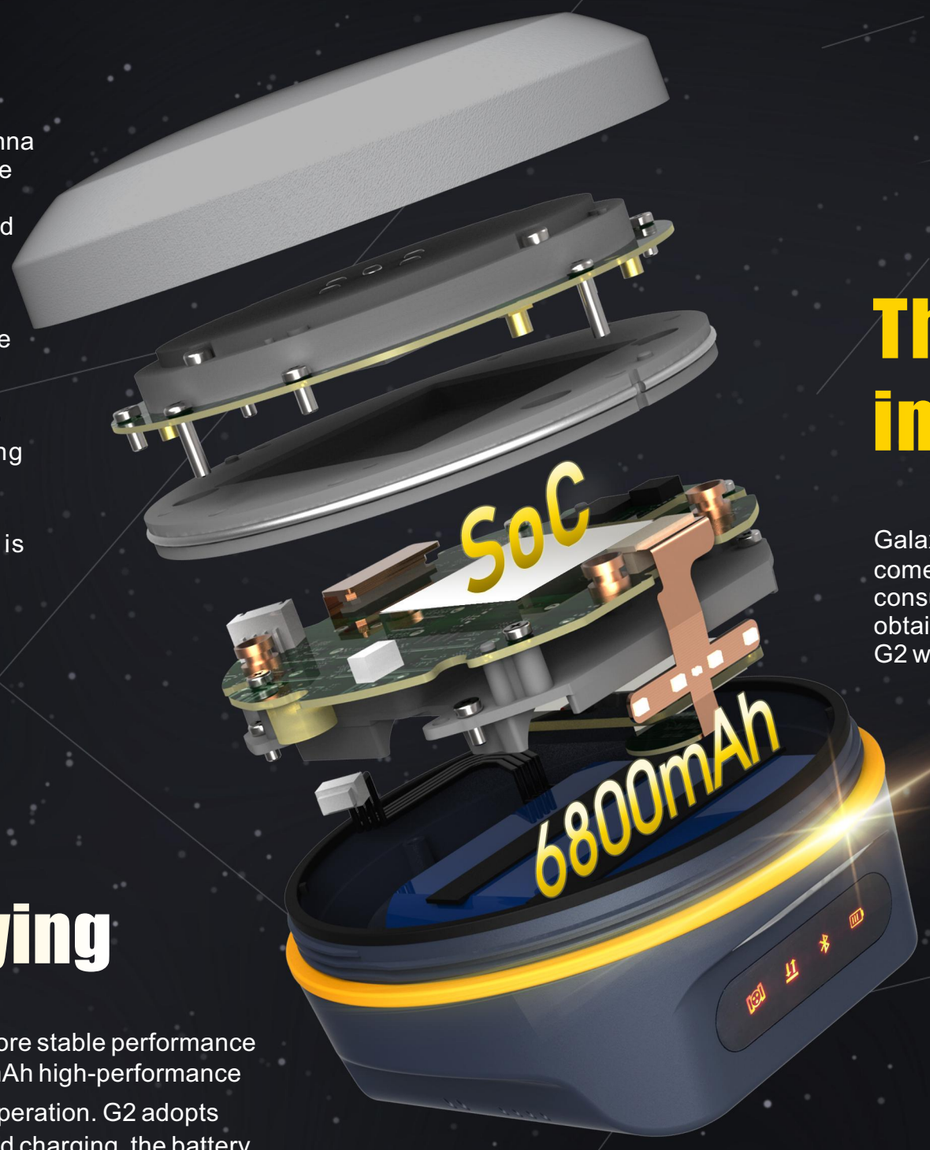


# Ultimate goals of full signals tracking

Galaxy G2 adopts high and low frequency integrated antenna design, which using low profile design technology to reduce the physical difference between high and low frequency bands, improves phase center consistency. And the applied frequency selective radiation mechanism would enhance antenna anti-interference ability. And combines with high-performance GNSS board, G2 fully supports all of running satellite constellations, especially BeiDou III global satellite signals.

Now G2 supports the BeiDou-3 B2b L-band BDS-PPP corrections to get real-time centimeter level positioning services.

Thanks to the new function **"Fixed-keep"**, now it is possible for G2 to keep centimeter-level accuracy for few minutes when the RTK corrections is missing.




# The fact moving ahead into the future

Galaxy G2 is integrated with an advanced **SoC** which is a chip comes with the advantage of high integration and low power consumption, efficiently suppress the interference signals, and obtain higher quality observation data from satellite constellations. G2 will bring a leap-forward experience of RTK performance.

# Worry-free surveying

The new generation of SoC platform gives RTK more stable performance and lower power consumption. The built-in 6800mAh high-performance battery can support **15 hours*** of continuous operation. G2 adopts Type-C charging interface which supports PD rapid charging, the battery can be full charged in 3 hours that supports full-day work.

* Working time should depend on the use of datalink on Rover, generally, the typically working time of Bluetooth mode is around 15hrs.

# Measure whatever you want

Galaxy G2 is integrated with a new generation **Inertial Measurement Unit** which makes tilt measurement more stable and accurate, the coordinates would be corrected automatically according to the inclination direction and angle of the pole, without strict leveling the receiver to measure the point at will, it helps surveyors boost productivity by 30 percent.


# Smart reminder of base station attitude

Built-in high-precision tilt attitude module which associates with receiver attitude, when the base station moves or falls, it can accurately distinguish and promptly remind.