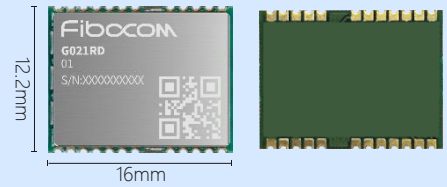


# Fibocom G021RD

High Precision

Dual-band Multi-constellation  
GNSS Module with RTK Functions



Fibocom G021RD is a dual-band, multi-constellation GNSS module that support all global GNSS constellations: GPS、GLONASS、BDS、Galileo and QZSS. Compared to only L1 GNSS signals, G021RD could receive and track a higher number of visible satellites in multiple bands, also it integrates efficient power management architecture.

The module supports Real-Time Kinematic (RTK) functions to provide centimeter-level positioning accuracy. Besides, A-GNSS can enhance the sensibility of acquisition in shorter time even under weak signal environment. The offline ephemeris feature can extend the operating time to up to 6 days. Moreover, G021RD supports antenna detection feature which is able to implement the detection of Open/Short circuit.

It's an ideal solution for navigation applications on vehicles, consumable electronic devices, and outdoor service robots with the advantages of high precision and high sensitivity.

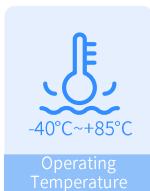
## Key Features



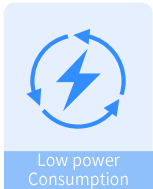
Ultra Compact Size



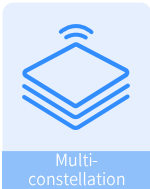
Multi-GNSS



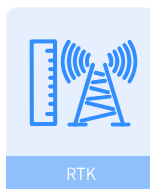
-40°C~+85°C  
Operating Temperature



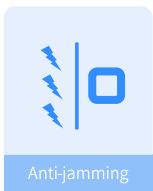
Low power Consumption



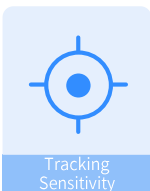
Multi-constellation



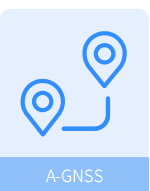
RTK



Anti-jamming



Tracking Sensitivity



A-GNSS

- Compact size: 12.2mm\*16.0mm
- Multi-constellations GNSS: GPS, BDS, GLONASS, Galileo and QZSS
- Concurrent reception of L1+L5/L1+L2 GNSS band signals
- State-of-art low power consumption
- Integrated Real Time Kinematics (RTK)
- Integrated A-GNSS Function
- Highly integrated module, the best cost-effective high precision GNSS solution



GNSS		G021RD-01																
<b>General Specifications</b>																		
Package	24 PIN LCC																	
Dimensions(mm)	12.2*16.0*2.4mm																	
Weight	Appro. x0.9g																	
Position Accuracy	GNSS 2.5m CEP D-GNSS: <1.0m CEP RTK: 1.0cm+1 ppm(H), 3.0cm+1 ppm(V)																	
<b>GNSS Features</b>																		
Product	GPS/QZSS					BDS					GLONASS		Galileo			IRNSS		
	L1C/A	L1C	L2C	L5	L6	B1I	B1C	B2I	B2a	B3I	L1	L2	E1	E5a	E6	L5		
G021RD-01	●		●	●		●		●	●		●	●	●	●				
Accuracy	Centi-Meter																	
GNSS Tracking Channels	40																	
Update Rate	PVT Maximum 10Hz, RTK Maximum 5Hz																	
TTF	Hot Start: 2s Cold Start: 24s RTK Convergence: <10s																	
Power Consumption	GPS+QZSS(L1): 22mA@3.3V GNSS (L1+L5): 34mA@3.3V GNSS (L1+L2): 34mA@3.3V Standby: 13uA@3.3V																	
Antenna	Active antenna																	
Operating temperature	-40°C - +85°C																	
Safety Supervision	Antenna short circuit protection and open circuit detection																	
<b>Sensitivity</b>																		
Cold start	-148dBm																	
Hot start	-158dBm																	
Reacquisition	-160dBm																	
Tracking & Navigation	-162dBm																	
Velocity & Navigation	GNSS: 0.1m/s CEP 1PPS: 20ns																	
<b>Operating Condition</b>																		
Main voltage	2.0~3.6V																	
Digital I/O voltage	1.8~3.6V																	
Backup voltage	1.8~3.6V																	
<b>Operation Limit</b>																		
Velocity	515m/s																	
Altitude	18,000m																	
<b>Features</b>																		
D-GNSS	●																	
Data Logging	●																	
Programmable (Flash)	●																	
Raw Data	●																	
RTK	●																	
<b>Interface</b>																		
USB	*																	
UART	●																	
SPI	*																	
I2C	*																	
<b>Certifications</b>																		
Regulatory	Europe: CE, RoHS*																	

\* =Support upon request with special firmware

