

# Geographic Information System (GIS)

Rev. A

Through (23) years, Allis Communications has been specializing in Geographic Information System (GIS) development using Real-time Kinematic (RTK) technology. It's designed in a total solution including 4G LTE Wireless Gateway (MG740) embedded with GNSS Receiver inside, high performance GNSS Antenna (MBA20) and precise RTK software. Besides, the 4G LTE Wireless Gateway is featured with 4G LTE/WCDMA, WiFi 802.11.b/g/n, Serial-to-LAN port, WAN port, Micro SD Card or power USB as storage, connected temperature/ humidity/ voltage sensor (VTH10) in option as add-on value. The user-friendly WEB GUI is easier for setting as Master/ AP/ Client mode, FTP, FOTA, COTA, serial-to-WiFi (UDP/ TCP), free DDNS, DHCP server on LAN, WDS/WISP, PPPoE, IPSEC/ VPN security, manual/or periodical setting for the power or light on/off via GPIO relays. RTK software is comprehensive design supporting N-trip, TCP/IP server/Client mode and serial port. Output data has POSITION result, RAW data to RINEX.

## GNSS RTK APPLICATIONS

- Automotive automatic navigation
- Bridge monitoring
- Building monitoring
- Position surveying
- Landslide monitoring



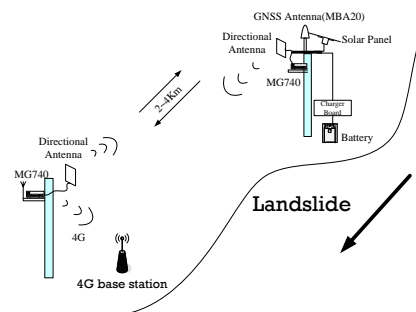
YOUR WIRELESS DESIGN ACHIEVED



- Geographical survey
- Precision positioning
- RTK surveying
- GNSS monitor station
- Machine auto-steering
- Service development and testing

## FEATURE & BENEFITS

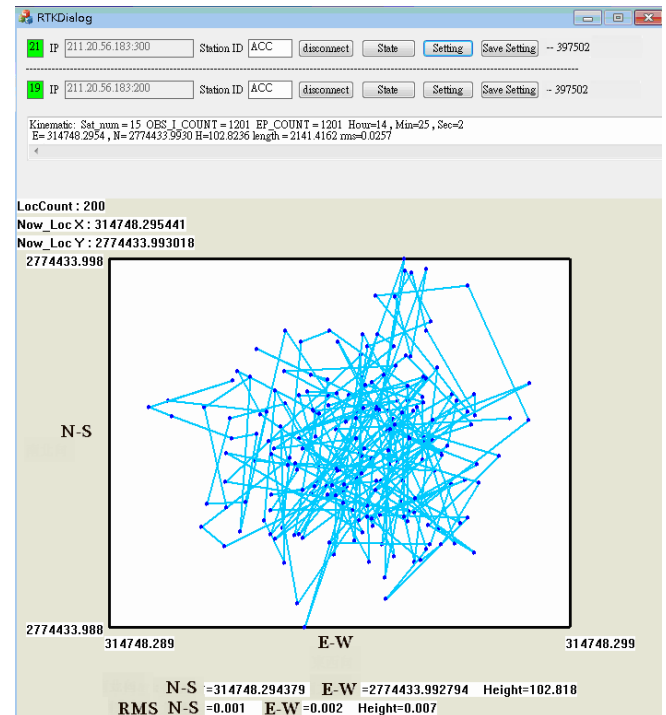
- Low-cost L1 GNSS RTK receiver
- Multi-constellation (GPS, Galileo, BDS, GLONASS, QZSS)
- Centimeter accuracy Integrated 4G LTE modem
- Data storage (64 GB memory card)
- USB storage
- Static Carrier Phase: 5mm+/-1ppm
- Dynamic Carrier Phase : 10mm+/-1ppm
- Robust ALL-IN-ONE design with Cellular, WiFi, GNSS and RTK Algorithm
- Comprehensive protocols support
- Remote management function
- User-friendly GUI
- Compact & light chassis design
- Wide operating temperature from -20 to +65 degree C
- Cost-effective solution
- Customization orientation
- FCC & UL60950 Certified



# HARDWARE INTRODUCTIONS

CPU/Module		
Core	MIPS24KEc,580MHz	
RAM	1G bit DDR2 RAM	
Flash Memory	128M Bit Flash	
Wireless	802.11 b/g/n	
Antenna	2T2R	
Linux OS	Linux 2.6.3	
Cellular		
GSM Module	3G/4G LTE	
Frequency	Band 1/Band2-5.76/7.2 Mbps Band 13 -25/62 Mbps Band7/20-50/100 Mbps	
Connector		
Ethernet Port	2 ports (LAN and WAN)	
Serial Port	3 Ports	
TFlash/Micro SD	1	
USB Port	1	
SIM Card	1	
WiFi Antenna	2	
Cellular Antenna	1	
GPIO/Relay	2( Relay Normal Open)	
Power		
Power In	12V ( 7V ~36V)	
Power consumption	MAX	Max : 4W (4G full run)
	Typical	With 4G Cellular : 2.8W Without 4G Cellular: 2W
GNSS		
Receiver type	L1 frequency C/A Code, 72-Channels GPS, SBAS, GLONASS, BDS, QZZS, Galileo Support DGPS, WAAS, EGNOS, MSAS	
update rate	0.2s (5Hz) 1s ~ 60s	
Accuracy	Static: 5mm+/-1ppm(H) 1cm+/-2ppm(V) Dynamic : 10mm+/-1ppm(H) 3cm+/-	
Sensitivity	Tracking -167 dBm	
Protocols	NMEA, UBX binary, RTCM in	
Serial setting	115200 Baud, 8 bits, no parity bit	

# SOFTWARE INTRODUCTIONS



# RESULTS

## 24 Hours



## 24 Minutes

