The C631 is Hemisphere’s all-new multi-GNSS, multi-frequency smart antenna. The C631 provides robust performance and high precision in a compact and rugged package. With multiple wireless communication ports and an open GNSS interface, the C631 can be used in a variety of operating modes. Use the C631 as a precise base station sending RTK to your existing rover network. Turn C631 into a lightweight and easy to use rover by connecting it to your base via UHF radio or cellular network. The built-in web user interface (WebUI) can be used to monitor and control the receiver status and operation, as well as to upgrade the C631 with new firmware and activations. C631 is Athena™-enabled and Atlas®-capable (subscription required).

**Key Features**
- Multi-frequency GPS, GLONASS, BeiDou, Galileo, QZSS, IRNSS, and Atlas L-band
- Long-range RTK baselines up to 50 km with fast acquisition times
- UHF (400 MHz & 900 MHz), cellular, Bluetooth, and Wi-Fi wireless communication
- Athena GNSS engine providing best-in-class RTK performance
- Internal sensor corrects collected point coordinates to within 2 cm
1. Depends on multipath environment, number of satellites in view, satellite geometry, and ionospheric activity
2. Depends also on baseline length
3. Requires a subscription from Hemisphere GNSS

**Connector Ports**
- TNC: For connecting to UHF radio antenna
- LEMO 5-pin: For connecting to external power supply, external radio
- LEMO 7-pin: For serial port, USB
- Card Slots: For Micro SIM card and Micro SD card

**Data & Storage**
- Storage Type: 8 GB internal, SD card up to 32 GB

**Physical**
- Weight: 1.19 kg (1 battery), 1.30 kg (2 batteries)
- Dimensions: 156 x 76 mm

**Environmental**
- Operating Temperature: -30°C ~ +65°C
- Storage Temperature: -40°C ~ +80°C
- Protection: IP67. Protected from temporary immersion to a depth of 1 m
- Shock Resistance: MIL-STD-810G, method 516.6. Designed to survive a 2 m pole drop on concrete floor. Designed to survive a 1 m free drop on hardwood floor
- Humidity: Up to 100%
- Vibration: MIL-STD-810G, method 514.6E-I
- Inflammability: UL recognized, 94HB Flame Class Rating (3) 1.49 mm
- Chemical Resistance: Cleaning agents, soapy water, industrial alcohol, water vapor, solar radiation (UV)

**Electrical**
- Input Voltage: 9 to 28 V DC
- Battery: With removable dual battery, for single battery parameter: 7.2 V, 3400 mAh, 24.48 Wh
- Working Time: 12 hours in Rover UHF mode (2 batteries)

**User Interface**
- Button: Switch receiver on/off, broadcast current operation mode and status
- LEDs: Power, Satellite, Data Link, Bluetooth
- WebUI: Supports software updates, receiver status and settings, and data downloads via smartphones, tablets, or other Wi-Fi capable devices.

**L-Band Receiver Specifications**
- Receiver Type: Single Channel
- Frequency Range: 1525 to 1560 MHz
- Sensitivity: -130 dBm
- Channel Spacing: 5.0 kHz
- Satellite Selection: Manual and Automatic
- Reacquisition Time: < 10 s

**Communications**
- Bluetooth: Bluetooth 2.1+EDR / 4.0 LE
- Wi-Fi: 802.11 b/g
- Radio: Frequency range: 410MHz ~ 470MHz and 902.4MHz ~ 928MHz
- Channel Spacing: 12.5 KHz / 25 KHz
- Protocol: TrimTalk 4505, PCC EOT, TrimMark III (19200)
- WebUI: To upgrade software, manage settings, data download, via smartphone, tablet or other electronic device, configure advanced radio settings

**Accuracy**
- Positioning: RMS (67%) 2DRMS (95%)
  - Autonomous, no SA: 1.2 m 2.4 m
  - SBAS: 0.3 m 0.6 m
  - Atlas (H10): 0.04 m 0.08 m
  - RTK: 8 mm + 1 ppm 15 mm + 2 ppm
  - Static Performance: 2.5 mm + 1 ppm 5 mm + 1 ppm
  - Tilt Compensation (within 30°): 2 cm [with 1.8 m pole]
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- Initialization Time: < 10 s

**GNSS Receiver Specifications**
- Receiver Type: Multi-Frequency GPS, GLONASS, BeiDou, Galileo, QZSS, IRNSS, and Atlas L-band
- Signals Received: GPS L1CA/L1P/L1C/L2P/L2C/L5, GLONASS G1/G2/G3, P1/P2, BeiDou B1i/B2i/B3i/B1OC/B2A/B2B/ACEBOC, GALILEO E1B/E5a/E5b/E68C/ALTBOC, QZSS L1CA/L2C/L5/L1C/LEX, IRNSS L5, Atlas
- Channels: 800+
- RTK Formats: RTCM2.1, RTCM2.3, RTCM3.0, RTCM3.1, RTCM3.2 including MSM
- Recording Intervals: Selectable from 1, 2, 4, 5, 10 Hz (20 Hz or 50 Hz optional)

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