Cavli G40 GNSS Module

Reimagining Cellular IoT Solutions

FEATURES
Support BDS / GPS / GLONASS multi-system joint positioning
Independent positioning with a single system
Active antenna detection and protection
Small footprint

TECHNICAL SPECIFICATIONS
High-performance BDS/GNSS multimode guard satellite receiver SoC
Integrated RF front end
32-bit RISC CPU with Digital Baseband Processor
Power Source Management
Supported Constellations: GPS/GLONASS/BeiDou
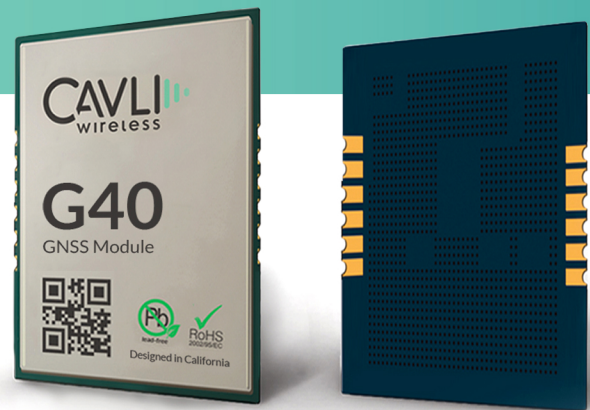Interfaces: UART

TECHNICAL PARAMETERS
Cold start TTFF: ≤32s
Hot start TTFF: ≤1s
Recapture TTFF: ≤1s
Cold start capture sensitivity: -148dBm
Hot start capture sensitivity: -156dBm
Reacquisition sensitivity: -160dBm
Tracking sensitivity: -162dBm
Positioning accuracy: <2m
Speed measurement accuracy: <0.1m/s
Timing accuracy: <30ns
Positioning update rate: 1Hz (maximum 5Hz)

POWER MANAGEMENT
Voltage range: 1.8V - 3.6V
Nominal voltage: 3.3V
RTC & Backup voltage: >1.4V
BDS / GPS dual-mode continuous operation: ~23mA @ 3.3V
Standby power consumption: 8uA @ 3.3V

PHYSICAL CHARACTERISTICS
Dimensions: 13.69*10.18*2.4mm
Temperature range: -40°C ~ +85°C

TECHNICAL HIGHLIGHTS

PARAMETERS	VALUES
COLD START	≤32s
HOT START	≤1s
RECAPTURE	≤1s
POSITIONING ACCURACY	<2m (1σ)
SPEED MEASUREMENT ACCURACY	<0.1m/s
TIMING ACCURACY	<30ns (1σ)
POSITIONING UPDATE RATE	1HZ (MAXIMUM 5HZ)

APPLICATIONS

Vehicle positioning and navigation   Tracking devices   Animal collars   Mobile devices

Asset tracking   Wearable device   Portable devices