Placekiq is an integrated solution to provide GPS position, timing, and reference clock signals in a 30x51x5 mm standards compliant MiniPCIe card. Leveraging the high sensitivity of the uBlox® LEA-6T GPS module, Placekiq can obtain and maintain a GPS fix in challenging environments, providing NMEA sentences, 1PPS, and a GPS phase-locked 40 MHz reference clock to a host system.

Placekiq is ideally suited to drive up to four Epiq Solutions Sidekiq SDR cards, allowing for an exceptionally small form factor system with up to four pairs of phase coherent RF receivers. For applications where a GPS fix is unavailable, Placekiq can also accept external 10 MHz reference clock and external 1PPS signals for phase locking and distribution to the host system.

**KEY FEATURES**

» NMEA sentences providing GPS location and heading information
» Four GPS disciplined 40MHz signals
» Four GPS locked PPS signals
» Support for locking 40MHz signals to an externally provided 10MHz reference
» Support for tuning the 40MHz oscillator with on-board DAC
» Support for using an external PPS to drive the four PPS signals
» USB interface through MiniPCIe edge connector for control/data (appears as USB UART to host system)
» Dimensions: 30mm x 51mm x 5mm
» Weight: 6 grams
» Power: <0.4 W

**HOST OPTIONS**

Laptop  
Website: epiqsolutions.com  
email: sales@epiqsolutions.com

Tablet

XMC Card

PCIe/104

Custom Embedd
GENERAL SPECIFICATION

GPS ANTENNA INPUT ........................................ U.FL connector
NUMBER OF CHANNELS .................................... 50 (GPS L1 frequency, C/A Code)
TIME TO FIRST FIX, COLD START .......................... 26 seconds
COLD START SENSITIVITY .................................. -148 dBm
TRACKING AND NAVIGATION SENSITIVITY ............. -162 dBm
RE-ACQUISITION SENSITIVITY ............................. -160 dBm
MAX NAVIGATION UPDATE RATE ......................... 5 Hz
HORIZONTAL POSITION ACCURACY (WITHOUT AIDING) 2.5m
1PPS ACCURACY .......................... 30 nS RMS (99% < 60 nS)
VELOCITY ACCURACY ..................................... 0.1 m/s
HEADING ACCURACY ..................................... 0.5 degrees
MAX ALTITUDE ........................................ 50,000 meters
MAX VELOCITY ........................................ 500 meters/sec

DIGITAL SPECIFICATION

INTERFACE TO UBLOX MODULE (NMEA, CONFIGURATION) USB UART #1
INTERFACE TO CONTROLLER FOR PPS/REFERENCE SELECTION USB UART #2
HOST POWER SUPPLY REQUIREMENTS ....................... 3.3V @ TBD A
EXTERNAL 1PPS INPUT ................................ U.FL connector
EXTERNAL 10 MHZ REFERENCE INPUT ..................... U.FL connector
1PPS DISTRIBUTION OUTPUT ................................ W.FL connector (x4)
40 MHZ REFERENCE CLOCK OUTPUT ..................... W.FL connector (x4)

PHYSICAL SPECIFICATION

FORM FACTOR .................................. MiniPCIe card with USB 2.0 interface
DIMENSIONS ....................................... 30mm x 51mm x 5mm
WEIGHT ........................................... 6 grams
TYPICAL POWER CONSUMPTION ..................... <0.4 W
OPERATING TEMPERATURE RANGE ....................... -40 deg C to +85 deg C

Specifications subject to change without notice

Epiq Solutions exports its products strictly in accordance with all US Export Control laws and regulations which shall apply to any purchase or order.