

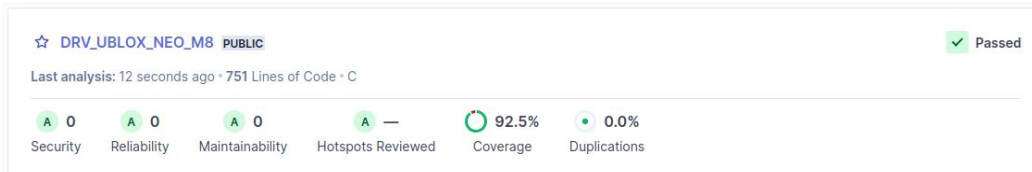
u-blox NEO-M8 :: GPS Receiver

The [u-blox NEO-M8](#) module series is built on the high-performance u-blox M8 engine in the proven NEO form factor. It supports concurrent reception of up to three GNSS systems (GPS, Galileo with BeiDou or GLONASS), improving accuracy and reliability in weak signal and urban environments. It also includes message integrity protection, geofencing, and spoofing detection, with flexible interfaces for easy integration.

This driver provides structured NMEA v2.30 sentence parsing with a clean hardware abstraction layer, ensuring deterministic execution and reliable integration into commercial and industrial embedded applications.

The software is architected with long-term maintainability, portability across MCU platforms, and adherence to high software quality standards as core design principles.

- ✓ Layered architecture with clear HAL abstraction
- ✓ Conforms to ISO C99 standard
- ✓ Portable across multiple MCU platforms
- ✓ Supports both RTOS and bare-metal environments
- ✓ CMake build system for scalable integration
- ✓ Seamless integration with GCC toolchain
- ✓ Statically analyzed for MISRA, CERT, and CWE compliance



Initialization Interface

```
neo_m8_result_t neo_m8_init( neo_m8_handle_t*, neo_m8_attr_t )
```

Data Retrieval Interface

```
neo_m8_result_t neo_m8_zda( neo_m8_handle_t*, neo_m8_zda_data_t*, ... )
neo_m8_result_t neo_m8_rmc( neo_m8_handle_t*, neo_m8_rmc_data_t*, ... )
neo_m8_result_t neo_m8_gga( neo_m8_handle_t*, neo_m8_gga_data_t*, ... )
neo_m8_result_t neo_m8_gns( neo_m8_handle_t*, neo_m8_gns_data_t*, ... )
neo_m8_result_t neo_m8_gsa( neo_m8_handle_t*, neo_m8_gsa_data_t*, ... )
neo_m8_result_t neo_m8_gsv( neo_m8_handle_t*, neo_m8_gsv_data_t*, ... )
neo_m8_result_t neo_m8_gst( neo_m8_handle_t*, neo_m8_gst_data_t*, ... )
neo_m8_result_t neo_m8_gbs( neo_m8_handle_t*, neo_m8_gbs_data_t*, ... )
neo_m8_result_t neo_m8_vtg( neo_m8_handle_t*, neo_m8_vtg_data_t*, ... )
neo_m8_result_t neo_m8_dtm( neo_m8_handle_t*, neo_m8_dtm_data_t*, ... )
neo_m8_result_t neo_m8_grs( neo_m8_handle_t*, neo_m8_grs_data_t*, ... )
neo_m8_result_t neo_m8_gll( neo_m8_handle_t*, neo_m8_gll_data_t*, ... )
```

Communication Interface:

UART