u-blox NEO-6 :: GPS Receiver

th muda engineering

The u-blox NEO-6 module series is a family of stand-alone GPS receivers featuring the high performance u-blox 6 positioning engine. These flexible and cost effective receivers offer numerous connectivity options in a miniature 16 x 12.2 x 2.4 mm package. Their compact architecture and power and memory options make NEO-6 modules ideal for battery operated mobile devices with very strict cost and space constraints.

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.

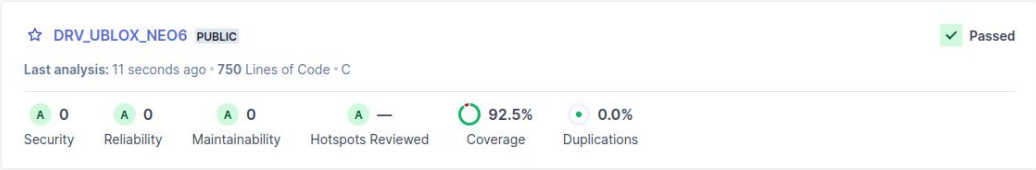
- ✅ Layered architecture with clear HAL abstraction
- ✅ Conforms to ISO C99 standard
- ✅ Portable across multiple MCU platforms
- ✅ Supports both RTOS and bare-metal environments
- ✅ CMake build system for scalable integration
- ✅ Seamless integration with GCC toolchain
- ✅ Statically analyzed for MISRA,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

Initialization Interface

```
neo6_result_t neo6_init( neo6_handle_t*, neo6_attr_t )
```

Data Retrieval Interface

```
neo6_result_t neo6_zda( neo6_handle_t*, neo6_zda_data_t*, ... )
neo6_result_t neo6_rmc( neo6_handle_t*, neo6_rmc_data_t*, ... )
neo6_result_t neo6_gga( neo6_handle_t*, neo6_gga_data_t*, ... )
neo6_result_t neo6_gns( neo6_handle_t*, neo6_gns_data_t*, ... )
neo6_result_t neo6_gsa( neo6_handle_t*, neo6_gsa_data_t*, ... )
neo6_result_t neo6_gsv( neo6_handle_t*, neo6_gsv_data_t*, ... )
neo6_result_t neo6_gst( neo6_handle_t*, neo6_gst_data_t*, ... )
neo6_result_t neo6_gbs( neo6_handle_t*, neo6_gbs_data_t*, ... )
neo6_result_t neo6_vtg( neo6_handle_t*, neo6_vtg_data_t*, ... )
neo6_result_t neo6_dtm( neo6_handle_t*, neo6_dtm_data_t*, ... )
neo6_result_t neo6_grs( neo6_handle_t*, neo6_grs_data_t*, ... )
neo6_result_t neo6_gll( neo6_handle_t*, neo6_gll_data_t*, ... )
```



Communication Interface:
UART