

ST8500 hybrid PLC&RF connectivity development kit: G3-Hybrid PLC&RF software package



Features

- Complete software package for evaluation and application development based on STMicroelectronic's G3-Hybrid PLC&RF connectivity solution.
- Developed for the [EVLKST8500GH-2](#) hybrid PLC&RF connectivity development kit based on [ST8500](#), [STLD1](#) and [S2-LP](#) devices, as protocol controller, PLC line driver and RF transceiver, and [STM32G07RB](#) host controller (can be adapted to be retro-compatible with the previous [ELVKST8500GH868](#), [EVLKST8500GH915](#) kits).
- The package includes a single set of Protocol Engine and Real-Time Engine modem firmware images (binaries) for G3-Hybrid PLC&RF PAN Coordinator and Device.
- A complete firmware framework based on CubeMX, ready for customer application firmware development and integration, is included as source code for the host controller.
- Easy expansion of the application functionalities is possible through the STM32 Nucleo Open Development Ecosystem, with a wide choice of specialized X-NUCLEO modules that can be connected to the NUCLEO host MCU board.
- Hardware compatibility with multiple NUCLEO boards: [NUCLEO-G070RB](#) (included in the [EVLKST8500GH-2](#) kit), [NUCLEO-G474RE](#), [NUCLEO-L476RG](#)

Product status link

[STSW-ST8500GH-2](#)

Related products

[EVLKST8500GH-2](#)

[ST8500](#)

[NUCLEO-G070RB](#)

[NUCLEO-G474RE](#)

[STLD1](#)

[S2-LP](#)

[STM32G07RB](#)

Applications

- Smart infrastructure
- Smart industrial
- Smart metering
- Smart grid
- Smart city
- Smart lighting

Description

The [STSW-ST8500GH-2](#) package provides the software ecosystem for STMicroelectronic's G3-Hybrid PLC&RF connectivity technology evaluation, based on the kit that includes all the functions required for plug-and-play communication networking.

The host controller application firmware example allows testing the PLC and RF communication, exploiting the IPv6 layer interface of the [ST8500](#) modem.

The G3-Hybrid PLC&RF communication stack has full flexibility to be configured in any of the available bandplans for both PLC (CEN-A, CEN-B, or FCC) and RF (according to the RF sub-GHz module selection).

Messages between two nodes in the PLC&RF hybrid network are sent over the best available medium: PLC or RF. The media selection for each link in the network is done automatically and adjusted dynamically, enabling highly efficient hybrid mesh networking.

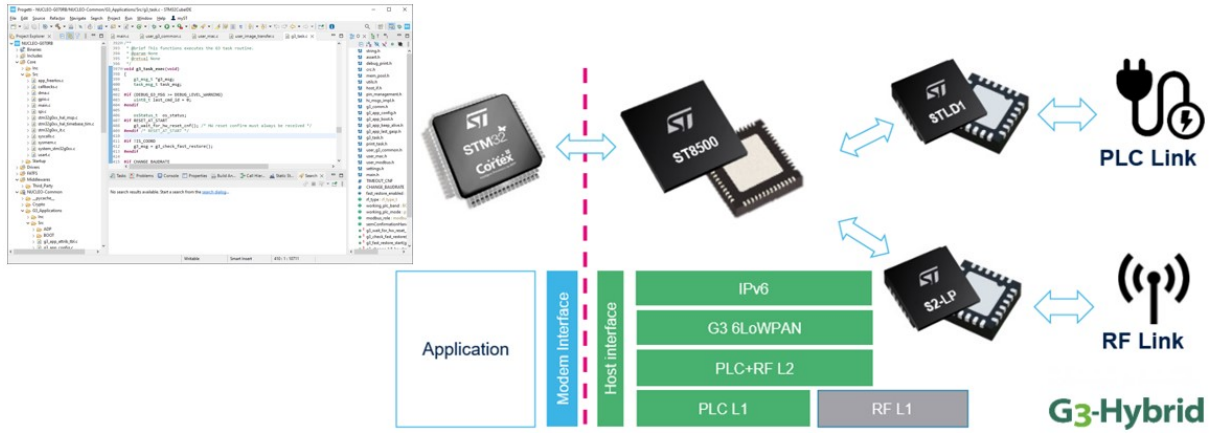
The STMicroelectronic's hybrid PLC&RF solution is based on open standards and enables seamless integration into existing G3-PLC networks and adoption in multiple applications and systems. For more information on the G3-Hybrid PLC&RF solution, visit the G3-Alliance website: <https://g3-plc.com/g3-technologies/hybrid-plc-rf-2/>.

Note that at least two **EVLKST8500GH-2** kits must be ordered to test hybrid PLC&RF connectivity between two nodes.

The **STSW-ST8500GH-2** package can also be adapted to be compatible with the previous **ELVKST8500GH868** and **EVLKST8500GH915** kits by re-mapping its pinout.

1 Block diagram

Figure 1. Block diagram



Revision history

Table 1. Document revision history

| Date | Version | Changes |
|-------------|---------|------------------|
| 01-Sep-2023 | 1 | Initial release. |



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