ST8500
HYBRID PLC & RF

Development ecosystem

Turn-key ST8500 G3 Hybrid PLC&RF development ecosystem for smart infrastructures

The ST8500 SoC platform implements automatic communication channel selection between powerline communication (PLC) and RF networks.
This hybrid PLC&RF solution can integrate seamlessly into a very wide range of contexts, with support for open G3, IEEE 802.15.4, 6LowPAN and IPv6 standards.
You can easily assess the potential benefits of the ST8500 in your applications using the EVLKTST8500GH-2 board with STSW-ST8500GH-2 firmware, with comprehensive ST sales and technical support.

KEY FEATURES & BENEFITS

- Full coverage and high resilience
- Solution for the “last 1% connectivity” to meet >99% connectivity requirements in AMI
- Enables low density PLC deployments
- Suitable for integration of RF-only sensor nodes
- Fully backwards compatible and interoperable with any G3 standard-based network
- ST field proven technology
- ST8500, STLD1 and S2-LP connectivity chipsets certified G3-PLC Hybrid standard

KEY APPLICATIONS

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

G3-PLC CERTIFIED CEN A HYB

G3-PLC CERTIFIED FCC HYB

www.st.com/powerline

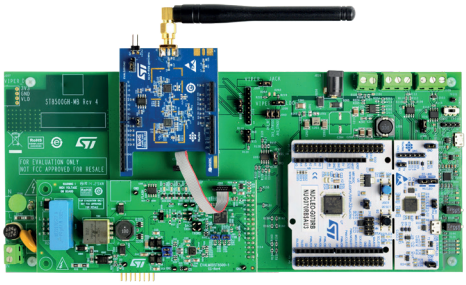
Overview

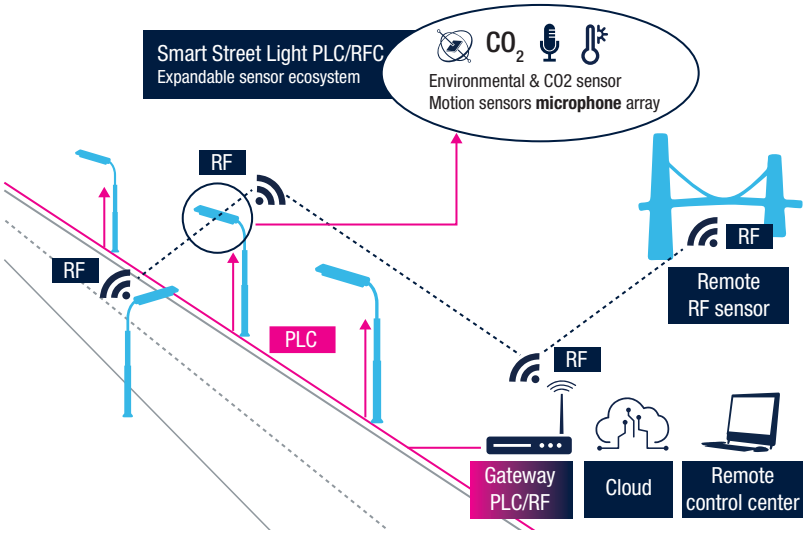
The package facilitates smarter city and industry infrastructures through the combination of powerline and wireless communication. Based on ST market-proven and widely used ST8500, STLD1 and S2-LP connectivity chipsets as protocol controller, PLC line driver and RF transceiver, respectively.
The package enables testing and developing of smart nodes able to communicate through existing power cables or radio frequency (RF) waves, combining the advantages of both types of connection.
In cases where exclusive PLC solutions may not be viable or regulatory requirements apply, equipment makers can implement wireless and PLC quickly and efficiently using the ST8500 SoC. In addition, the RF capability lets equipment designers leverage the many features integrated in the ST8500 and ease of use in other smart devices such as smart gas and water meters, environmental monitors, lighting controllers, and industrial sensors.
By embedding support for RF Mesh in the physical (PHY) layer and in the data-link layer (Media Access Control, MAC, and 6LoWPAN), the ST8500 gives developers extra flexibility to leverage the strengths of combined powerline and wireless mesh networking for communication between smart nodes and data collectors.
Unlike simple point-to-point links, hybrid mesh networking interconnects nodes with more reliable and fault-tolerant connections and extends communication distances.

Ecosystem content

The STSW-ST85000GH-2 package includes the STM32 application firmware example code and ST8500 firmware binaries with relative documentation for ST G3 Hybrid technology development, based on the hardware kit, working at 868 MHz and 915 MHz frequency range.
The EVLKST8500GH-2 kit uses consolidated ST modules to provide PLC and RF connectivity, as well as application processing. The boards are supplied by an external DC source, and can be used with STM32 NUCLEO platforms as the application processor as well as several suitable X-NUCLEO extensions to allow fully scalable application development with extensive functionality.
At least two EVLKTST8500GH-2 kits are required to test Hybrid PLC and RF connectivity between two nodes.

EVLKST8500GH-2: IPv6 PLC&RF connectivity for cities, buildings, utilities, industrial & commercial areas





Product table

Order code	Description	Note
STSW-ST8500GH-2	Software framework and documentation for EVLKST8500GH-2	Download from www.st.com/powerline
EVLKST8500GH-2	Hardware development kit	Suitable for 868 and 915 MHz RF

MIX
Paper from responsible sources
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