Features

• Complete power line communication (PLC) package for G3-PLC:
  – Plug and play
  – Certified ST G3-PLC technology supporting worldwide band plan up to 500kHz: FCC (default), CENELEC A, CENELEC B
  – Support for multiple regions and applications with a single design
• Suitable for data communication over AC or DC power line for:
  – Smart home
  – Smart building
  – Smart lighting
  – Smart city
  – Smart railway
  – Energy management systems
  – Smart solar
  – Smart metering
  – Smart grid
• Developed for EVALKITST8500-1 power line communication evaluation kit based on ST8500 and STLD1 devices
• Single modem protocol engine and real time engine firmware images (binaries) for both PAN coordinator and device
• Compatible with the user-friendly STSW-SGKITGUI SmartGrid LabTool PC GUI:
  – Easy modem firmware download
  – Simplified configuration
  – PLC application example panel: command and control, data transfer
• Full open source firmware framework:
  – Based on STM32 general purpose companion microcontroller
  – Command and control and data transfer application firmware example
  – Ready for customer application firmware development and integration
• Full documentation
  – STM32 firmware user manual
  – G3-PLC host interface driver application note
1 Description

The package includes the documentation and firmware framework for ST G3-PLC technology evaluation, based on the EVALKITST8500-1 kit that embeds all the functions required for plug-and-play G3-PLC power line communication networking.

An intuitive user-friendly graphical user interface (GUI) for the Windows® environment allows the user to upgrade the firmware release, configure and control the evaluation kit and run application commands.

The STM32 application firmware example implements a UDP/IPv6 protocol on top of the 6LowPAN adaptation layer of the G3-PLC communication layers running on ST8500 device.

The G3-PLC stack is configured to work in FCC band-plan by default and can be easily configured to work in CEN-A and CEN-B as well.

The application example includes remote LEDs control and RTC configuration, nodes ping and string data transfer.

At least two EVALKITST8500-1 kits must be separately ordered in order to run the firmware and application example.

Figure 1. Block diagram

Figure 2. Basic demo setup
Revision history

**Table 1. Document revision history**

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<thead>
<tr>
<th>Date</th>
<th>Version</th>
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<tbody>
<tr>
<td>10-May-2019</td>
<td>1</td>
<td>Initial release</td>
</tr>
<tr>
<td>14-June-2019</td>
<td>2</td>
<td>Features updated</td>
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