

## STarGRID™ ST7590 SoC PRIME power line communication demonstration kit

Data brief



### Description

Based on the ST7590 power line communication system-on-chip, the EVALKITST7590-Q1 demonstration kit embeds all the functions required for a turnkey power line communication network: the PLC node based on the ST7590 device, the AC power supply based on the ALTAIR4-900 SMPS controller and the STM32 microcontroller, to implement upper layers of PRIME protocol, and either control the system as a standalone application or to connect the EVALST7590-Q1 to an external host.

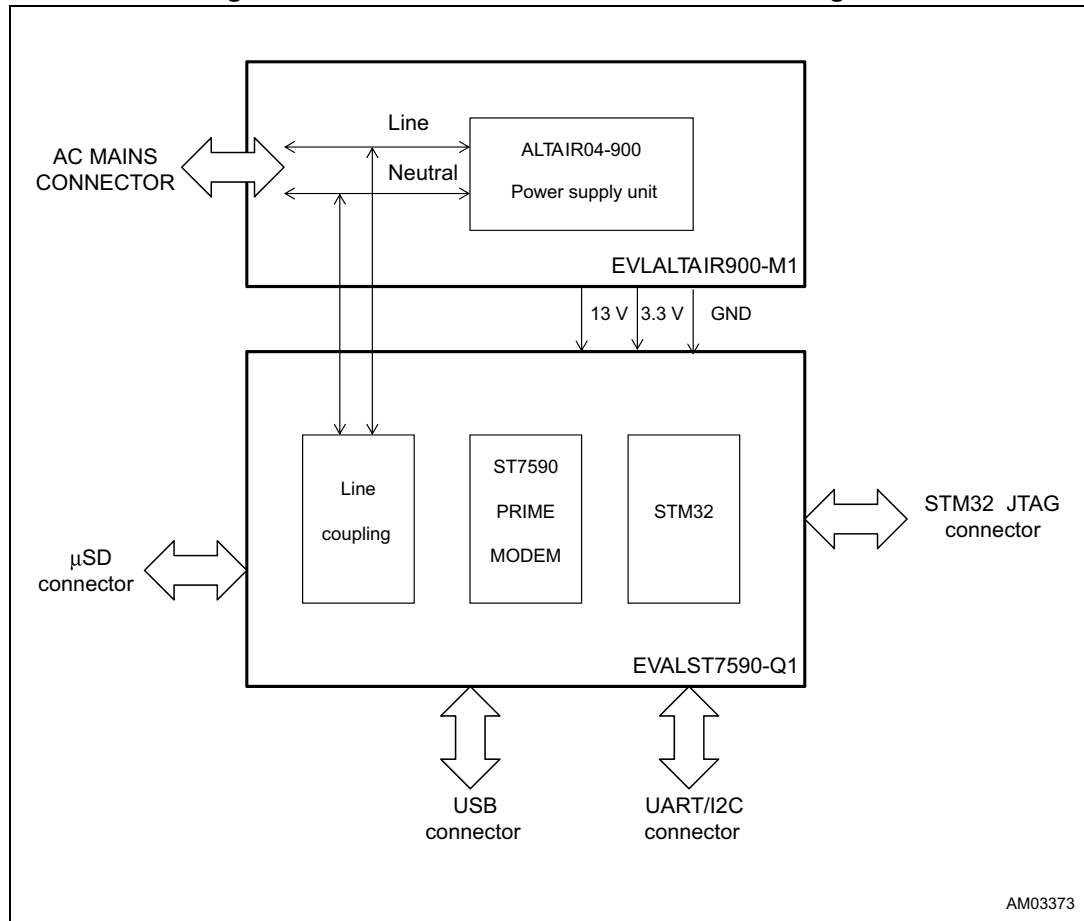
The EVALST7590-Q1 device embeds STMicroelectronics® Full PRIME protocol stack and provides a complete reference for PRIME-based application developments such as smart meters or concentrators, and is an ideal standalone tool for in field PRIME network tests.

### Features

- PRIME power line communication development kit based on STarGRID ST7590 PLC SoC
- Complete EN50065 compliant reference design for modular and integrated PRIME-based application developments
- Onboard STM32™ microcontroller for PRIME upper protocol layers, system management and application host controller
- Flexible 2-board architecture:
  - EVALST7590-Q1, PRIME PLC board based on the ST7590 system-on-chip
  - EVLALTAIR900-M1, wide-range input voltage, 7.5 W power supply board based on the ALTAIR04-900 quasi-resonant
- USB host interface.
- UART/I<sup>2</sup>C connector to interface external boards
- Intuitive “Graphical User Interface” (GUI)
- Suitable for CENELEC EN50065 and FCC part 15 compliant applications

## Block diagram

Figure 1. EVALKITST7590-Q1 functional block diagram



## Revision history

**Table 1. Document revision history**

<b>Date</b>	<b>Revision</b>	<b>Changes</b>
16-Oct-2013	1	Initial release.

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