

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.

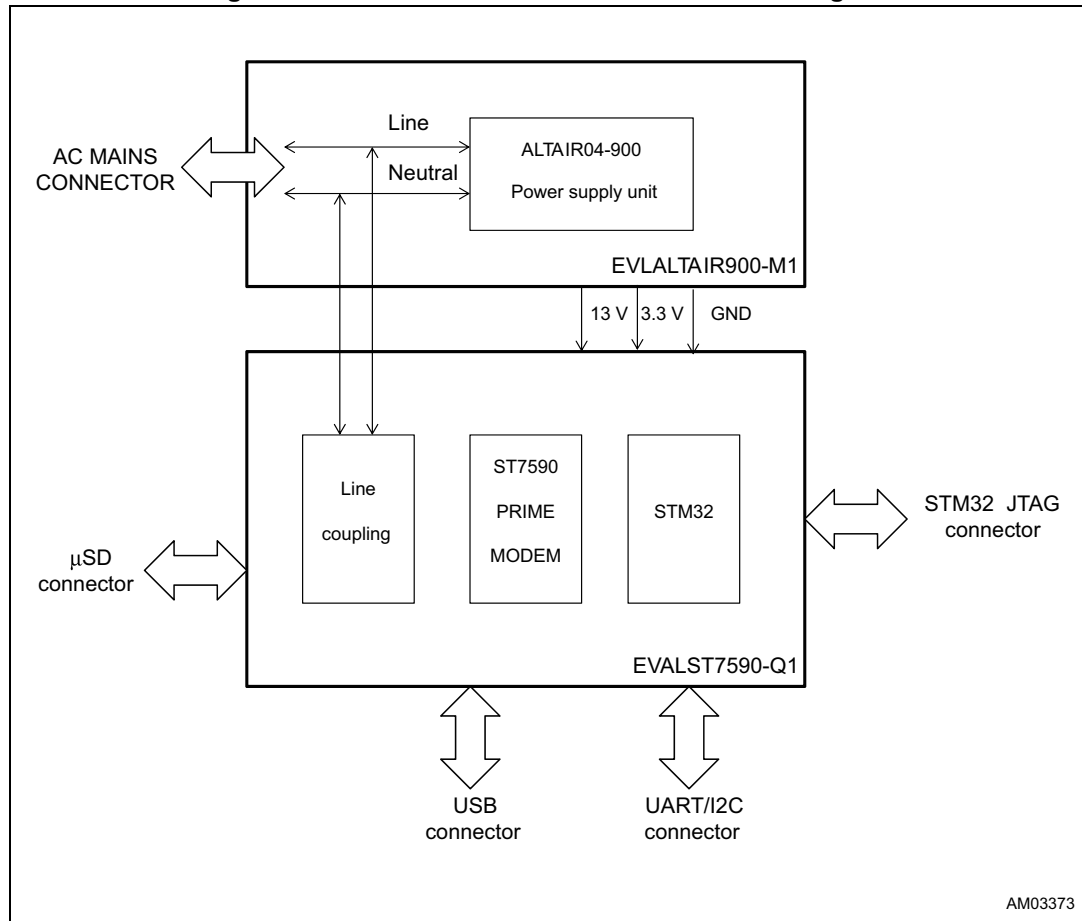
The EVALST7590-Q1 device embeds STMicroelectronics® Full PRIME protocol stack and provides a complete reference for PRIME-based application developments such as smart meters or concentrators, and is an ideal standalone tool for in field PRIME network tests.

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/I²C 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

Date	Revision	Changes
16-Oct-2013	1	Initial release.

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

ST PRODUCTS ARE NOT DESIGNED OR AUTHORIZED FOR USE IN: (A) SAFETY CRITICAL APPLICATIONS SUCH AS LIFE SUPPORTING, ACTIVE IMPLANTED DEVICES OR SYSTEMS WITH PRODUCT FUNCTIONAL SAFETY REQUIREMENTS; (B) AERONAUTIC APPLICATIONS; (C) AUTOMOTIVE APPLICATIONS OR ENVIRONMENTS, AND/OR (D) AEROSPACE APPLICATIONS OR ENVIRONMENTS. WHERE ST PRODUCTS ARE NOT DESIGNED FOR SUCH USE, THE PURCHASER SHALL USE PRODUCTS AT PURCHASER'S SOLE RISK, EVEN IF ST HAS BEEN INFORMED IN WRITING OF SUCH USAGE, UNLESS A PRODUCT IS EXPRESSLY DESIGNATED BY ST AS BEING INTENDED FOR "AUTOMOTIVE, AUTOMOTIVE SAFETY OR MEDICAL" INDUSTRY DOMAINS ACCORDING TO ST PRODUCT DESIGN SPECIFICATIONS. PRODUCTS FORMALLY ESCC, QML OR JAN QUALIFIED ARE DEEMED SUITABLE FOR USE IN AEROSPACE BY THE CORRESPONDING GOVERNMENTAL AGENCY.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2013 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com