RS485 TO PLC TRANSPARENT BRIDGE

Yitran provides a new platform that enables a seamless migration from wired RS485 and from RF applications to a PLC based ready to use solution. The PLC transparent adapters are completely plug and play units. All the user has to do is to connect two adapters or more to an existing RS485 wired or RF based system plugs. This will initiate an instant full Networking Communication over the powerline grid. The PLC Transparent platform can be used with any existing system/device, such as IHD, Split Meters , pre-paid Meters and more.

MAIN FEATURES

- Transparent interface with RS485 existing meters.
- Full, low cost PLC modem and applications solution in a single chip.
- Includes PIM (Plug In Module) that can be used later for HW implementation.
- Very High connectivity and reliability.
- No need for line of sight so display can be placed within the home.
- Ideal for a "No New Wires" applications utilizing existing electrical wiring and grids such as Split Display Meters, Prepaid Meters, Anti Energy Theft Systems, AMR and other Energy Management solutions.
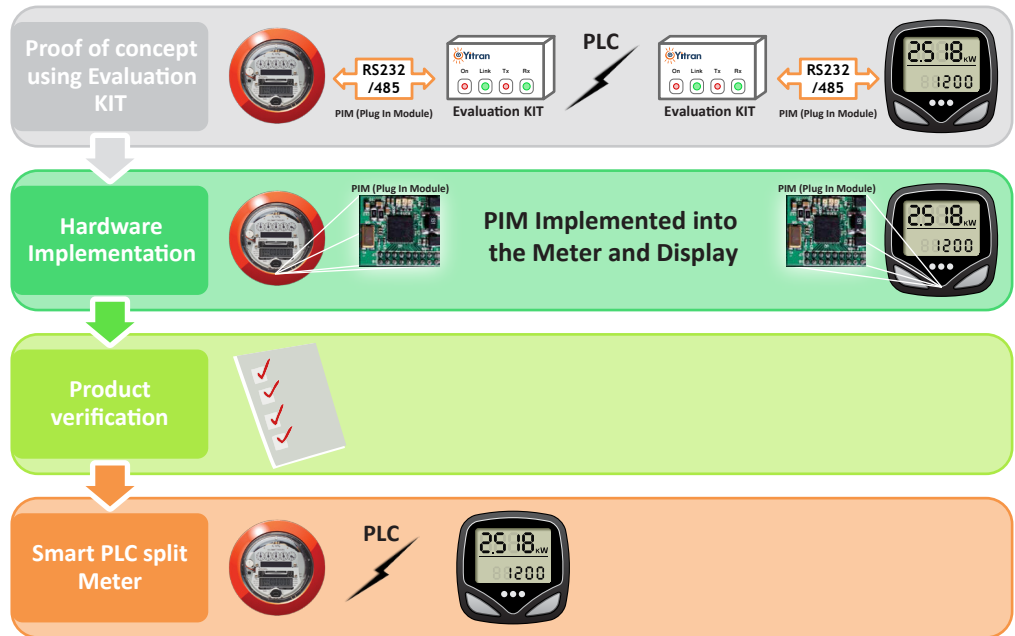
The Old Way
RF or Dedicated wires used for installation

The New Way
PLC Based Easy installation

Technology	Easy Installation	Connectivity
Wired	—	+
RF	+	—
PLC	+	+

RS232/485 METER

IN HOME RS232/485 DISPLAY

RF METER

IN HOME RF DISPLAY

PLC METER

IN HOME PLC DISPLAY

WHAT'S IN THE BOX

- STK Unit x2
- IT700 PIM x2
- Software
- Power Supply x2
- RS232/485 Cable Adapter

ROAD TO PLC METER

Proof of concept using Evaluation KIT

PIM (Plug In Module)   RS232 /485   Evaluation KIT   PLC   Evaluation KIT   RS232 /485   PIM (Plug In Module)

Hardware Implementation

PIM (Plug In Module)   **PIM Implemented into the Meter and Display**   PIM (Plug In Module)

Product verification

Smart PLC split Meter

PLC

TECHNICAL SPECIFICATIONS

PARAMETER	VALUE	NOTE
Modulation	DCSK	Patented modulation technique HomePlug C&C ready
Frequency Operation Band	Within 100–400 kHz Within 9–95 kHz Within 95–125 kHz	FCC/ARIB Bands CENELEC Band A CENELEC Band B
Bit Rate	Standard Mode (SM) – 7.5 Kbps Robust Mode (RM) – 5 Kbps Extremely Robust Mode (ERM) – 1.25 Kbps Robust Mode (RM) – 2.5 Kbps Extremely Robust Mode (ERM) – 0.625 Kbps	FCC/ARIB Bands CENELEC Bands A and B
Error Correction	Forward short-block soft decoding error correction code and CRC-16	
Receiver Sensitivity	<1mV PTP	
Dynamic Range	>85dB	
Single Supply Voltage	+3.3V	
Interface	UART / SPI / I^{2}C / JTAG / dedicated A/D	Simple command language
Package	QFN 56 (56 pins)	
I/Os	24 general purpose I/Os	

YITRAN COMMUNICATIONS
POWERING THE SMART GRID

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