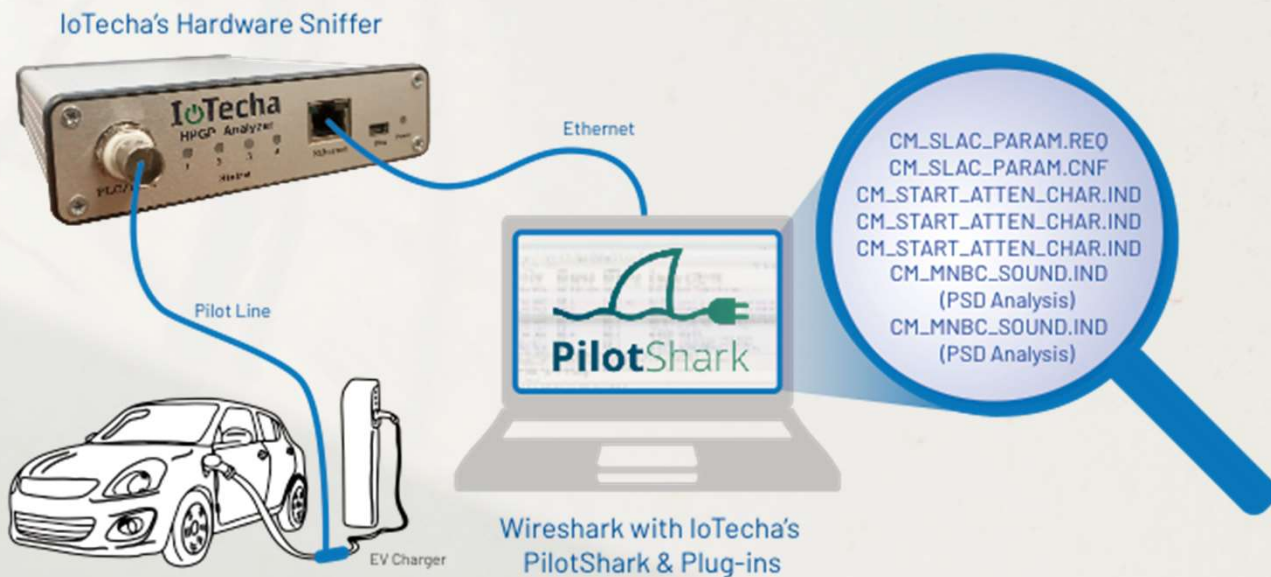


IoTecha HomePlug GreenPHY+V2G Analyzer for ISO/IEC 15118 V2G



IoTecha's HPGP analyzer enables in-depth analysis of HPGP and V2G communication with a non-invasive packet capture and protocol analyzer. It is capable of displaying low-level HPGP MPDUs (Frames transmitted on the PLC) as well as decrypted / re-assembled L2 traffic.

Non-invasive packet capture means that there is no "man in the middle" device. The communication is directly between EV and EVSE. There is an insignificant impact on the signal attenuation between EV and EVSE. The result is simple, with the IoTecha HomePlug GreenPHY + V2G Analyzer one can see a true picture and find issues related to signal attenuation and noise with the resolution down to the MPDU level.



Features:

Non-invasive capturing of HPGP messages

Two simultaneous capture outputs:

- Low level HomePlug MPDU message display with complete Frame Control, PHY block payload, and management messages.
- Re-assembled MPDUs into L2 frames (MSDUs).
- Back reference to physical layer frames from L2 frames.

8-12V DC power input, or 90-250V AC with supplied AC-DC adapter

Direct electrical connection to pilot line via supplied BNC to banana plug, or connection to pilot via optional passive inductive coupler

Enhanced SLAC protocol analysis

- Expert analysis of SLAC messages for NMK change which can allow the sniffer to understand HPGP key changes and capture the resultant PHY encrypted exchange.
- PLC signal level measurement can be performed on all received packets containing ROBO modulated payload, allowing for external verification of the SLAC power level data. This mode is also useful in development to ensure the proper PSD and to diagnose communication issues.

Data visualization and decoding in Wireshark

- Plug-ins to decode HPGP MPDU messaging.
- Enables use of standard Wireshark packet dissectors and filters available to decode and display re-assembled MSDU traffic.
- PilotShark V2G option enables full decode and display of V2G EXI encoded data including DIN 70121 and ISO/IEC 15118.

Contact us for further information and availability:

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The screenshot displays the IoTecha HPGP Analyzer software interface, which is used for analyzing HomePlug GreenPHY+V2G signals. The interface is divided into several main sections:

- Running Configuration:** Shows the source as 'LocalFile' and the output name as '20200817140746-TestDemo2'. It includes a 'Live Wireshark Enable' section with checkboxes for MPDU, MSDU, and Extended MSDU.
- Settings | SLAC Info | Channel Data | Device Configuration:** Contains a 'PSD Summary' table with columns for PSD Beacon, PSD 7:TEI0 (D0), PSD 7:TEI0 (ZT1), and PSD Beacon. Below this is a 'Power' graph showing signal power in dBm over a frequency range from 2 to 30 MHz. The graph includes a legend for 7:TEI0 (min), 7:TEI0 (max), and 7:TEI0 (avg).
- Status:** Displays 'MPDUs In: 4968', 'MSDUs Out: 566', and 'Beacon Rx Level: 0 dB'. It also shows a 'Measurement Name: TestDemo2' and 'Start/Stop' buttons.
- Packet List (Wireshark):** A table showing captured packets with columns for No., Time, Source, Length, and Info. The table lists various protocols including CM_STA_IDENTIFY_IND, SDP Request, Neighbor Solicitation, Neighbor Advertisement, and SDP Response.
- Decrypted PHY Blocks:** Shows the raw PHY block data, including the AES Key and the PHY Block Header. The header includes fields like Segment Sequence Number, MAC Frame Boundary Offset, and Management Message Queue Flag.
- Packet Details:** A detailed view of a selected packet (Frame 59) showing the Ethernet II, Internet Protocol Version 6, and Transmission Control Protocol headers, along with the V2GTP payload.

Hardware and Accessories:

The following items are included with each order:

- HPGP Analyzer hardware
- AC/DC Universal input 12V power supply
- Vehicle power adapter
- USB cable for diagnostics / firmware update
- Ethernet cable (6ft)
- BNC cable (6ft) (Male-Male)
- BNC barrel connector (Female-Female)
- BNC (Male) Banana plug stackable lead cable

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