

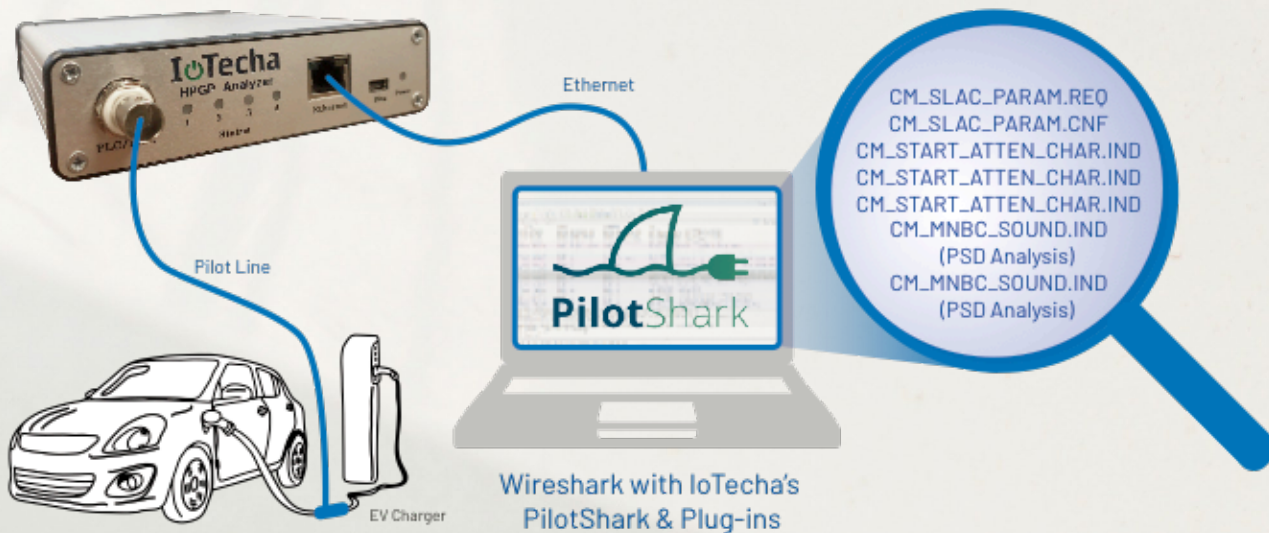
# IoTecha HomePlug GreenPHY+V2G Analyzer for ISO/IEC 15118-2 & 15118-20 V2G



IoTecha's HPGP analyzer enables in-depth analysis of HPGP and V2G communication with non-invasive packet capture and protocol analysis. 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.

## IoTecha's Hardware Sniffer



Wireshark with IoTecha's PilotShark & Plug-ins

**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.**

### 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 15118-2 and 15118-20.

**Contact us for further information and availability:**

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# IoTecha HomePlug GreenPHY+V2G Analyzer for ISO 15118-2 & 15118-20 V2G



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 name as '20200817140746-TestDemo2'. It includes options for 'Live Wireshark Enable' (MPDU, MSDU, Extended MSDU) and a 'Status' section with 'MPDUs in: 4968' and 'MSDUs Out: 566'.
- Settings / SLAC Info / Channel Data / Device Configuration:** Contains tabs for configuration, including 'Clear All', 'Avg Window: 10 samples', and 'Samples: 271'. It also has 'Reset Axis', 'Save', and 'Remove' buttons.
- PSD Summary:** A table showing PSD for different channels: PSD Beacon9, PSD Beacon7, and PSD Beacon7. The plot below shows Power (dBm/Hz) vs Frequency (MHz) with four traces: 7.1E60 (min), 7.1E60 (max), 7.1E61, and 7.1E60 (avg).
- Packet Capture:** A table of captured packets with columns for No., Time, Source, Length, and Info. It shows various protocols like 802.11, SDP, and V2G.
- Decrypted PHY Blocks:** Shows the structure of a PHY block, including Segment Sequence Number, MAC Frame Boundary, and Management Message Queue Flag.
- V2GTP Message Analysis:** A detailed view of a V2GTP message (SessionID: 3f3d209ba2635960) showing fields like DC\_EVStatus, EVTargetVoltage, and EVTargetCurrent.

## 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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