



**"Results You Can Count On"**

## **Power Line Communications Testing Solutions**

**For Physical-Layer Testing of  
G.hn Devices Over Power Lines**



*Model GHN-SP-UPLC*

The Model GHN-SP-UPLC Universal Powerline Communications Splitter device is used to provide a controlled AC port to the PLC modem, separate and isolate the high-frequency PLC signal from AC power, and make it accessible on three BNC ports labelled L1, L2 and L3 with a controlled impedance. Having the PLC signal on BNC ports allows using standard instruments and accessories to perform measurements and build controlled topologies. Capable of performing Dynamic PSD Test and Cognitive Frequency Exclusion test (Dynamic Notching) per EN 50561-1 using Model 501 and 501-Probe-Coax.



*Back view of the GHN-SP-UPLC*

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## Main Features

- Similar to AMN / LISN specified in CISPR-16, extending the concept to all three lines
- Suitable for all types of broadband MIMO PLC (not valid for narrowband PLC < 2 MHz)
- Basic building block for TR-208 and EN-50561 tests
- High performance AC filter which provides high isolation with similar common-mode and differential-mode impedance on each line, L1, L2 and L3
- Provides galvanic isolation and common-mode filtering to prevent PLC leakage on data port
- BNC connectors for High Frequency signals on L1, L2, and L3
- Embedded Zero-Cross Detector for AC-synchronized measurements and tests
- Used with Telebyte Noise Generator for WT-208 testing
- Used with Telebyte Digital Analyzer for ITU-G.9964 PSD, CENELEC EN 50561-1, EN 50561-3 measurements



*Adaptors available for multiple regions.*

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*Model GHN-SP-SPLCOMB-UPLC-3*

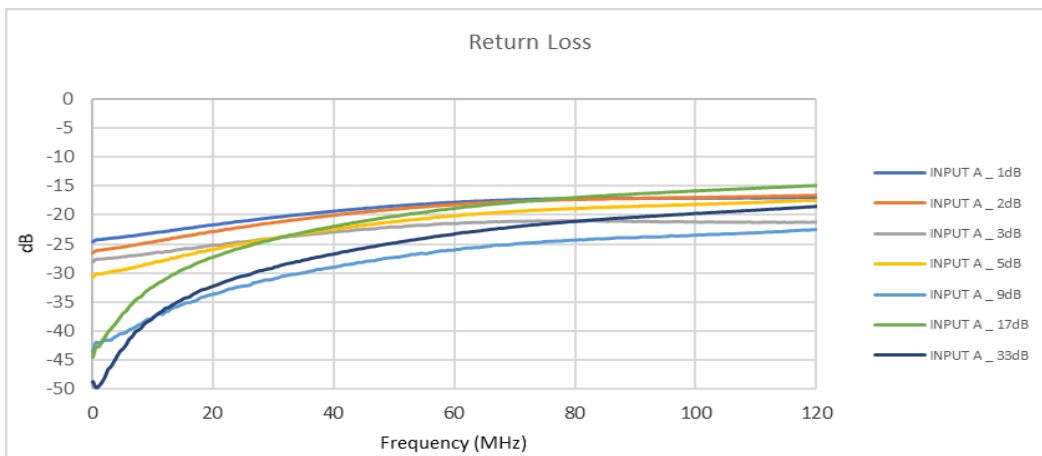
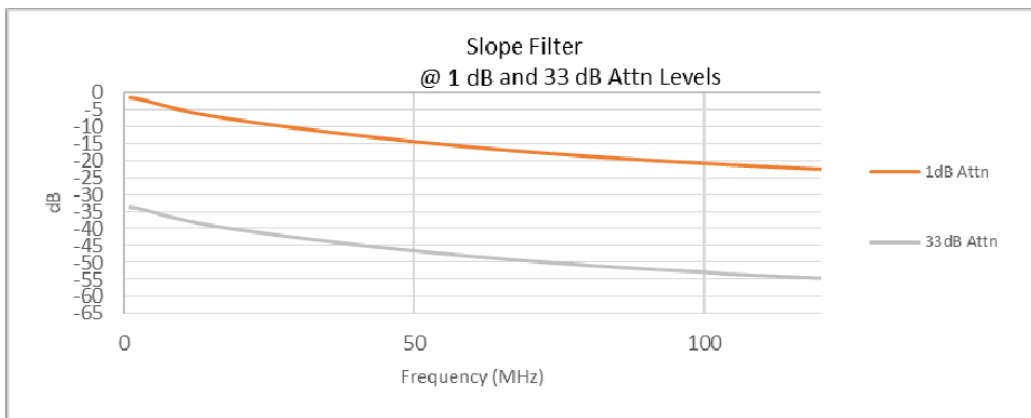
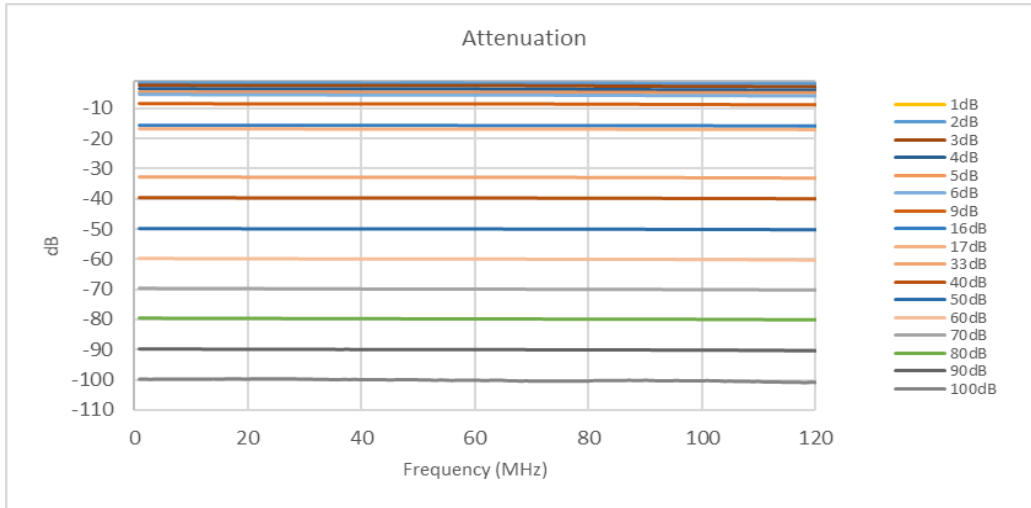
The Model GHN-SP-SPLCOMB-3 3-Channel Splitter/Combiner is a symmetrical power splitter and combiner where all the ports have 6 dB attenuation to each other.

This product provides one set of three BNC ports on one side and two sets on either side. The spacing between connectors is the same as in the GHN-SP-UPLC Universal Powerline Communications Splitter, allowing the device to be connected directly using male-male BNC barrels to reduce the number of cables. (Unused ports of the 3-Channel Power Splitter/Combiner must be terminated with 50Ω.)



*Model GHN-AT-PROG-UPLC-3-SLOPE*

The Model GHN-AT-PROG-UPLC-3-SLOPE 3-Channel Programmable Attenuator is used along with the GHN-SP-UPLC in the PSD Measurement test set up. Offers an attenuation range of 1 to 100 dB in 1-dB increments.

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***Typical Characteristics:***


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## Specifications

<b>GHN-SP-UPLC</b>	
<b>Electrical Safety</b>	Complies with EN 61010-1 : EN 60950-1
<b>Insertion Loss (Single Line)</b>	EUT to BNC OUT (L1-L3): 0.35dB@ 80 MHz, 0.45dB@ 100 MHz
<b>Differential Line Impedance</b>	100 ohm +/- 10% (1MHz to 100 MHz)
<b>Continuous Operating Voltage</b>	90 to 240VAC, 50 Hz/60 Hz
<b>Outputs: L1, L2, L3</b>	BNC-female Connector, 50 Ω Impedance, 1MHz to 100MHz

<b>GHN-AT-PROG-UPLC-3-SLOPE</b>	
<b>Number of Channels</b>	3
<b>Attenuation Range</b>	1 to 100 dB in 1-dB increments
<b>Frequency Response Uniform</b>	± 0.5 dB from 1 MHz to 100 MHz
<b>Impedance</b>	50 ohm
<b>Connectors</b>	SMA Female Connectors ,50 Ohm
<b>Interface</b>	Mini-B USB
<b>Return Loss</b>	≤-15dB
<b>Power Rating</b>	+20dBm
<b>Slope Filter</b>	1dB +/- 1dB at 1MHz 10dB +/- 1dB at 30MHz 20dB +/- 1dB at 100MHz

Specifications are subject to change without notice. Made in USA.

## Ordering Options

<b>MODEL</b>	<b>DESCRIPTION</b>
<b>GHN-SP-UPLC</b>	Universal PLC Splitter with Schuko socket
<b>GHN-ADP-CH_BR</b>	Approved Power Adaptor for GHN-SP-UPLC (Switzerland, Brazil)
<b>GHN-ADP-UK</b>	Approved Power Adaptor for GHN-SP-UPLC (United Kingdom)
<b>GHN-ADP-IT_RCH</b>	Approved Power Adaptor for GHN-SP-UPLC (Italy, Chile)
<b>GHN-ADP-AU_RCN_AR</b>	Approved Power Adaptor for GHN-SP-UPLC (Australia, China, Argentina)
<b>GHN-ADP-NA</b>	Approved Power Adaptor for GHN-SP-UPLC (North America)
<b>GHN-SP-SPLCOMB-UPLC-3</b>	3-Channel Splitter/Combiner
<b>GHN-AT-PROG-UPLC-3-SLOPE</b>	PLC 3-Channel Attenuator with Slope Filter
<b>1XBNCM-1XSAM-1F</b>	BNC(male)-to-SMA(male) cable, length 1 foot
<b>BNC-BNC-BARRELPLUG</b>	BNC Plug-to-BNC Plug in-line barrel
<b>BNC-TERM-50</b>	50-ohm BNC Terminator
<b>1XRJ45M-1XRJ45M-3F</b>	Cat6 Shielded Patch Cable - SSTP Bare Copper, RJ-45 male connectors, length 3 feet