

octoBox[®] OB-MPE2

Broadband (DC – 7.5 GHz) multipath emulator

octoBox multipath emulator (MPE) module uses innovative patented ([US9130667](#)) techniques to emulate indoor multipath in the RF domain keeping the signal pathwide-band and bi-directional. This low-cost yet powerful fader consists of passive circuitry and uses high grade cabling to accurately model the power delay profile (PDP) of IEEE 802.11n/ac model of a typical house, Model B.

The MPE stacks with octoBoxes and other testbed components to add realism to the testbed by emulating multipath reflections. Together with the octoBox [quadAtten module](#), the MPE can accurately model the house or office wireless channel environments according to the standards based models.

- Broadband (DC – 7.5 GHz) multipath emulator
- Accurately emulates a home channel model (IEEE802.11 model B)



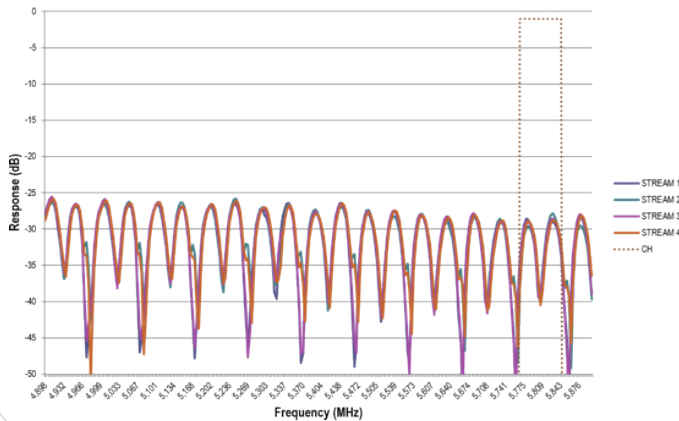
Applications

- Test any wireless devices including mobile phones and access points in a lab in conditions emulating a home

Benefits

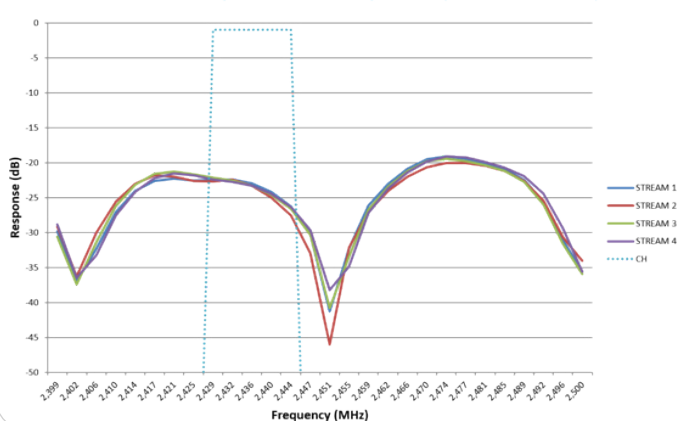
- Allows emulation of multipath conditions typical of a home
- Shortens test time because product can be tested in a lab instead of in a real home

MPE + quadAtten Response (5GHz Band)



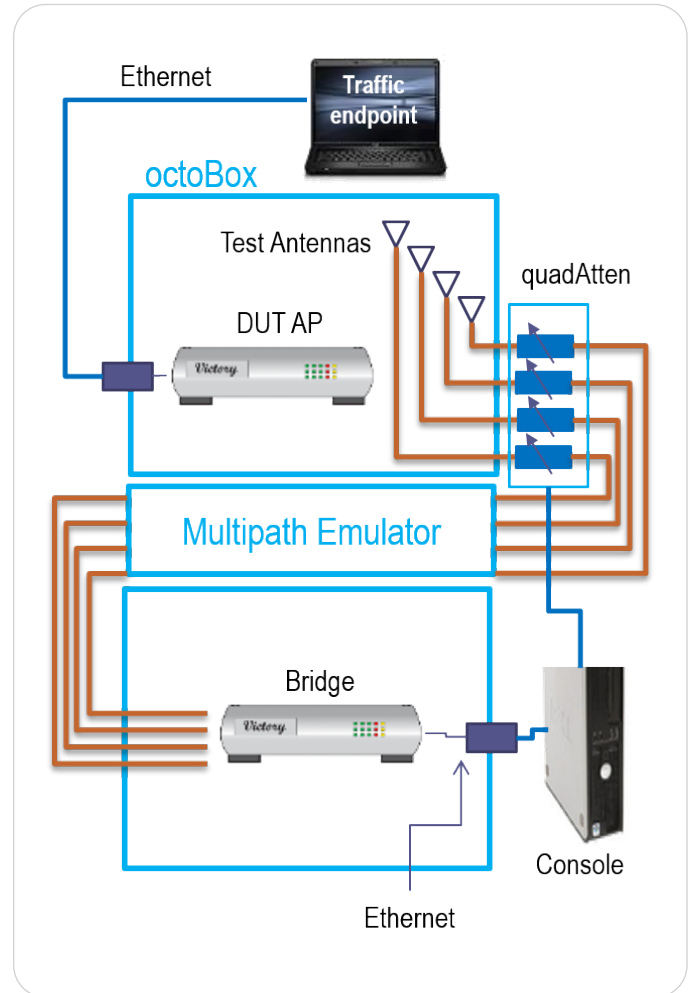
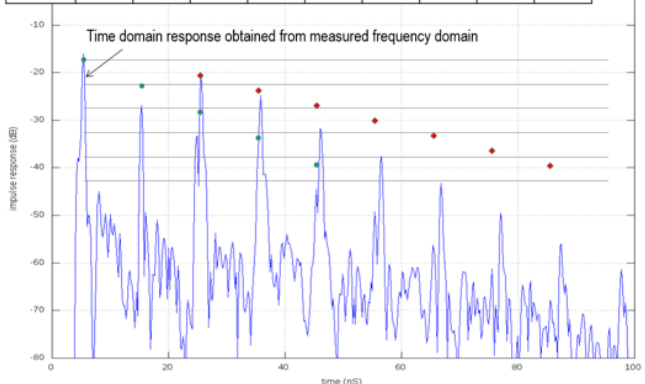
- Built-in bypass switch for LOS conditions
- Built-in programmable quadAtten programmable attenuators for range testing
- 4x4 MIMO link

MPE + quadAtten Response (2.4 GHz Band)



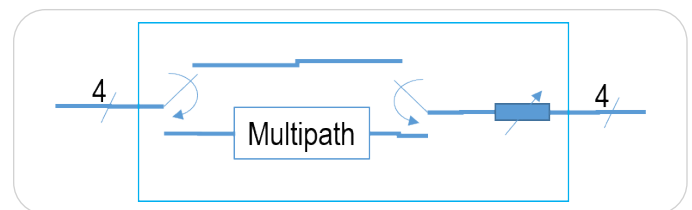
octoBox-MPE vs. IEEE Model B

Model B	0ns	10 ns	20ns	30ns	40ns	50ns	60ns	70ns	80ns
Cluster 1	0	-5.4	-10.8	-16.2	-21.7				
Cluster 2			-3.2	-6.3	-9.4	-12.5	-15.6	-18.7	-21.8



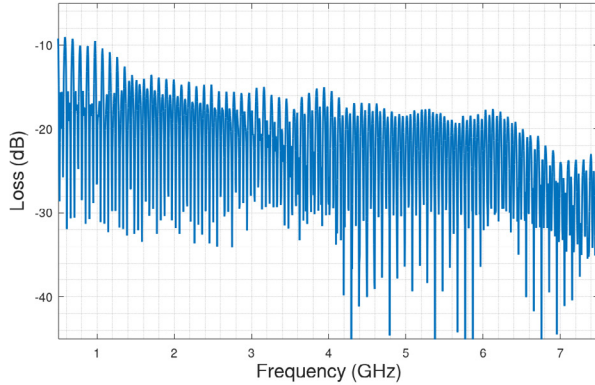
The octoBox testbed frequency response measurements shown above are for the four conducted paths between the RF connectors in the lower chamber and the RF connectors in the upper chamber.

The path over which path loss is measured is represented by the red lines in the STACK-TT-MPE diagram on the left. The path includes the MPE and quadAtten modules.

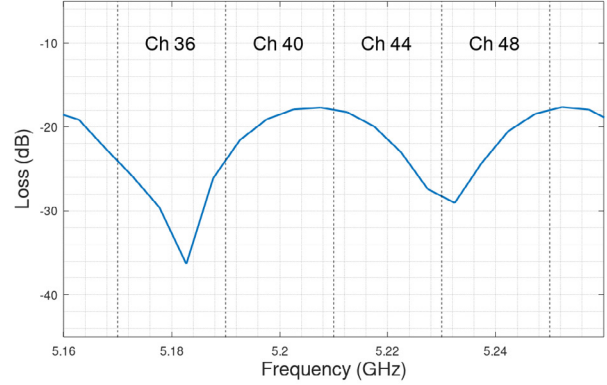


Frequency Charts

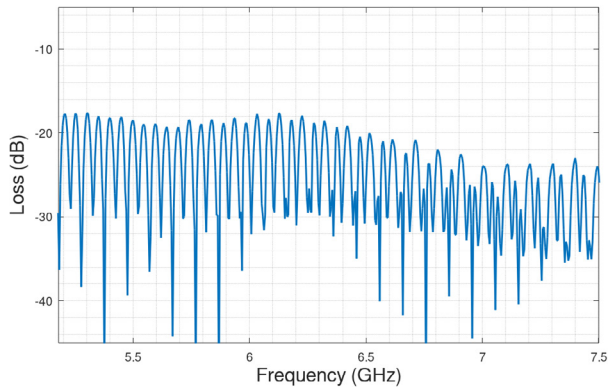
**Typical channel response for MPE NLOS
IEEE channel model B - full bandwidth**



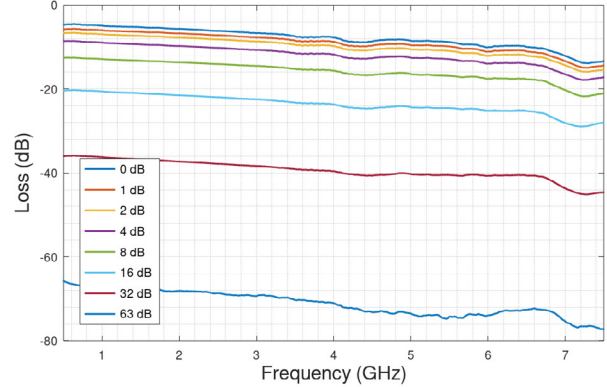
**Typical channel response for MPE NLOS
IEEE channel model B - channel 36 - 48**



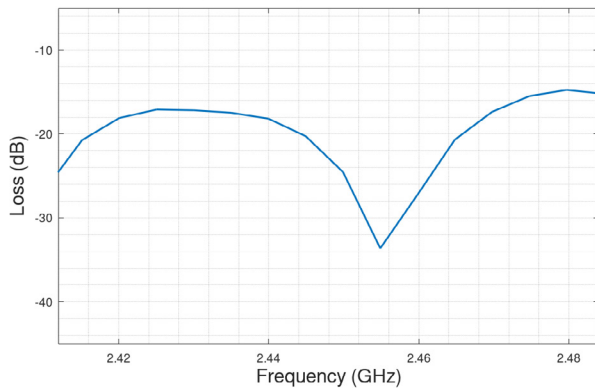
**Typical channel response for MPE NLOS
IEEE channel model B - 5 & 6 GHz bands**



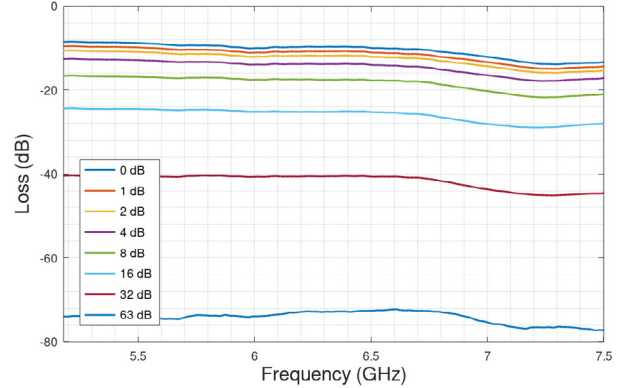
**Typical Insertion loss for MPE LOS mode
IEEE Channel model A - full bandwidth**



**Typical channel response for MPE NLOS
IEEE channel model B - 2.4 GHz ISM Band**



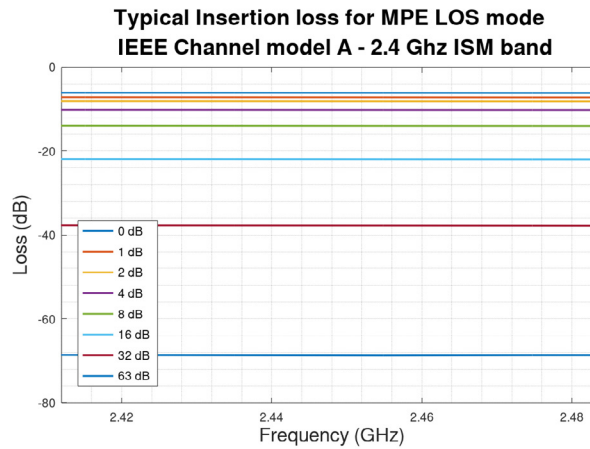
**Typical Insertion loss for MPE LOS mode
IEEE Channel model A - 5 & 6 GHz bands**



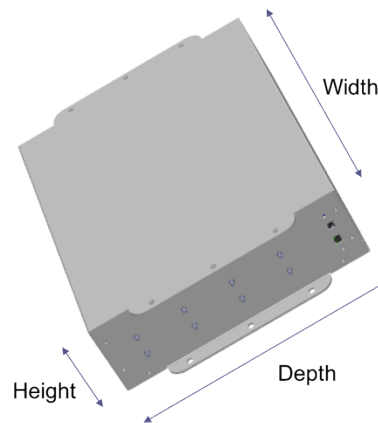
About octoScope

[octoScope, a Spirent Company](#), is the market leader in automated testbeds for accurate, repeatable testing of Wi-Fi and 5G network functions and devices. Our highly-realistic, automated test suites save service providers, and device and network vendors millions in troubleshooting and customer care costs by enabling them to identify problems early in the development cycle before customers are impacted. Our patented testbed technology recreates real-world conditions in controlled testing environments to evaluate the performance of the latest Wi-Fi 6 and 6E, and 5G network equipment and devices. The combination of our solutions with Spirent's test portfolio enhances our automation and emulation capabilities, bringing even greater realism to our test suites and helping our customers innovate with unprecedented speed and efficiency.

Frequency Charts (cont'd)



Dimensions



	American	Metric
OB-MPE2-26	26"W x 18"D x 5.5"H	66 x 46 x 14 cm
OB-MPE2-38	38"W x 24"D x 5.5"H	96 x 61 x 14 cm

About Spirent Communications

Spirent Communications (LSE: SPT) is a global leader with deep expertise and decades of experience in testing, assurance, analytics and security, serving developers, service providers, and enterprise networks. We help bring clarity to increasingly complex technological and business challenges. Spirent's customers have made a promise to their customers to deliver superior performance. Spirent assures that those promises are fulfilled. For more information visit: www.spirent.com

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