



## **octoScope Introduces Industry's First MIMO (Multiple Input Multiple Output) Multipath Emulator**

### ***octoBox MPE (multi path emulator) enables MIMO Over the Air testing of 802.11 n/ac devices***

Marlborough, MA -May 13, 2013 - octoScope, Inc., a wireless solutions and services company, announced today octoBox MPE (multi path emulator) wireless testbed. octoBox MPE emulates propagation conditions in a typical home or office and is used for testing Wi-Fi technologies under realistic but controlled laboratory conditions.

Modern radios operate in hostile environments subject to multipath, interference and other impairments. Engineers often test Wi-Fi in real homes specifically set aside for such testing. However, different homes produce different test results, making it difficult to objectively evaluate Wi-Fi technologies in multiple locations. And with the fast proliferation of Wi-Fi, it has become difficult to find homes for repeatable testing free of interference from surrounding Wi-Fi networks. Hence the growing need for a controlled yet realistic testbed such as octoBox MPE, capable of producing repeatable, accurate and realistic measurements in laboratories around the world.

Engineers use octoBox MPE to measure throughput, packet error rate, performance of streaming video and other applications in the presence of multipath, noise and signal impairments. While conventional cabled channel emulators require device antennas to be removed for such testing, octoBox MPE provides over-the-air (OTA) test environment that includes device antennas in the test, thus improving test coverage and adding realism. Highly integrated devices such as smartphones and pads often require OTA test conditions since they have multiple internal antennas that are difficult to disconnect for testing.

octoBox MPE emulates IEEE 802.11 n/ac channel models B and C, representing typical home and office environments respectively. Devices under test (DUTs) are placed into octoBox small anechoic chambers with MPE module interconnecting the chambers and adding multipath to the signal.

Tim Higgins of SmallNetBuilder.com has this to say: "When I decided it was time to stop walking laptops around the house to test wireless products, I knew we had to move to anechoic RF chambers to automate the process. But simply throwing a test laptop in one box and the router under test into another and connecting them via programmable attenuators wasn't enough. The problem is that today's MIMO-based Wi-Fi products—802.11 n and the upcoming 11ac—rely on bouncing their signals off various surfaces during their travels. These reflections slightly delay the arrival of signals from the multiple radios and create the multipath that is essential for MIMO to work." Prior to settling on octoBox MPE, SmallNetBuilder.com, a 'consumer reports' of the Wi-Fi industry, has performed extensive validation comparing 802.11 n/ac throughput measurements in real home environments vs. controlled octoBox MPE environment.

"A wireless testbed should maximize MIMO throughput of devices under ideal conditions. This is difficult to achieve over the air in a small space and has traditionally required expensive MIMO faders to emulate multipath. octoScope engineers have developed patent-pending technology to achieve high throughput multipath conditions in a compact and affordable MIMO OTA testbed," said Fanny Mlinarsky, President of octoScope. Programmable attenuators are used in conjunction with multipath emulation to test Wi-Fi performance vs. range.

### **About octoScope**

octoScope offers wireless test solutions and services to companies building or deploying wireless communications devices and networks, including LTE, Wi-Fi and Bluetooth. octoScope's test solutions include a family of octoBox small anechoic chambers, octoBox MPE testbed, mesh and roaming test solutions and octoFade channel emulation technology.

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