

802.11 Conductive Testing-Isolating the Environment

Conductive testing could be used for many reasons, but the most common use is to isolate the 802.11 Wi-Fi test setup from the surrounding environment. Interference from radio frequency (RF) sources is the most common reason for isolating the test from the environment. This is especially important when the environment contains RF sources using the industrial, scientific, and medical (ISM) radio bands used for Wi-Fi.

“Conductive” in this context means that you are not “air sniffing”, that is, capturing 802.11 transmissions on the ComProbe 802,11 analyzer antenna. The conductive test setup uses coaxial cable to directly connect the Device Under Test (DUT) to the analyzer antenna connectors. The coaxial cable provides the isolation from the environment through shielding.

1.1 Test Equipment

The following equipment is required for the test setup. All cables, connectors and adapters, and attenuators should be relatively flat from 2 GHz to 6 GHz.

1. Coaxial cable All cable must be 50Ω and should be double shielded.
2. Coaxial T-connectors, 50Ω.
3. RP.SMA adapters for connecting coaxial cable or attenuators to the antenna connectors, 50Ω.
4. AT1 - AT9: 20 dB attenuators, 50Ω.
5. Frontline ComProbe 802.11 analyzer.
6. Computer for running ComProbe software.

1.2 Test Setup - 802.11

The following figure show the conductive test setup. For information on setting up and operating the ComProbe 802.11, refer to the ComProbe User Manuals at fte.com.

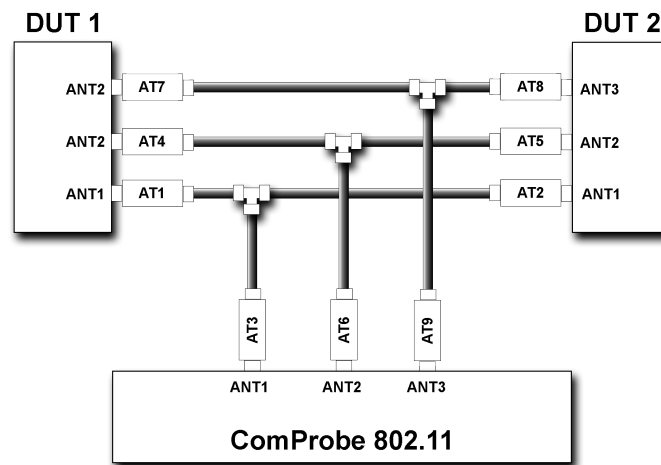


Figure 1 - ComProbe 802.11 Conductive Test Setup for 3X3 MIMO

The above test setup is for 3X3 MIMO 802.11 devices. If not testing this configuration, the ANT3 connection to the DUTs and the ComProbe 802.11 is not used.

1.3 Test Process

After connecting DUT1, DUT2, and the ComProbe 802.11, follow these steps to capture 802.11 data.

1. Establish data transmission between DUT 1 and DUT 2.
2. Begin capture of the data with the ComProbe 802.11. (Refer to the ComProbe 802.11 User Manual at fte.com.)
3. Conduct protocol analysis with the ComProbe software on the personal computer or save the capture file for future analysis.

For any questions concerning conductive testing, contact Frontline technical support at 434-984-4500 or email tech_support@fte.com.

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Author: John Trinkle with Sean Clinchy

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