



South Carolina Department of Labor, Licensing and Regulation
Division of Fire and Life Safety
Office of State Fire Marshal
141 Monticello Trail • Columbia, SC 29203
803-896-9800 • Fax: 803-896-9806

MEMO

To: Local Authorities Having Jurisdiction (AHJ)

From: Department of Administration (DTO) and Office of State Fire Marshal

Date: March 1, 2021

Subject: Change of final testing procedures of signal booster installation

With the changes to the International Fire Code regarding section 510.4.1 emergency responder communication enhancement system signal strength testing, we are recommending that the authority having jurisdiction (AHJ) or an appointed representative participate in the final acceptance testing by conducting tests of Bi-Directional Amplifier (BDA) installations in their jurisdiction. The AHJ or representative will need to use their 800 MHz public safety radio to conduct the test in conjunction with and in the presence of the BDA installer. We recommend AHJ's and installers verify the receive system signal Indicator or RSSI detected by their radio both outside and inside the structure. It is also recommended that AHJ's conduct radio checks to ensure adequate Delivered Audio Quality both outside and inside the structure.

These recommendations are based on the following:

1. The International Fire Code has changed the testing criteria to Delivered Audio Quality (DAQ) from the previous method of signal strength in decibels (dB). While vendors do have the equipment to test the signal strength and estimate DAQ, these methods are not a substitute for a real-life radio test where the AHJ can hear the audio to ensure its quality.
2. Most BDA vendors do not meet the criteria to become an authorized user on the Palmetto 800 system. This prevents them from obtaining a radio to conduct the test themselves.
3. There is no substitute for using the same equipment that the public safety personnel responding to an emergency would use. Even if a radio has not been recently tuned or has an older battery, these tests can still be conducted. We recommend that testers use a battery that is completely charged and have a spare nearby if needed while conducting the final test.

If you have any questions, please contact Richard Weaver at 803-896-5238 or Assistant State Fire Marshal, Nathan Ellis at 803-414-7161.

Richard Weaver
Spectrum Manager
South Carolina Department of Administration
Division of Technology/Operations
4430 Broad River Road, Columbia, SC 29210
(803) 896-5238

Jonathan Jones
SC State Fire Marshal
141 Monticello Trail
Columbia, SC 29203
(803) 896-9801