



Largo Fire Rescue

ERCES Radio Signal Strength Testing Requirements

The purpose of this document is to serve as a guide for qualified contractors and/or subcontractors who will be performing occupancy radio signal strength testing within the City of Largo and the Largo Fire Rescue District. This document is not intended to be a governing document, nor is it intended to supersede the authority of the Fire Marshal to apply the requirements of the Florida Fire Prevention Code (FFPC) fairly and equitably as occupancy conditions dictate. Rather, it is intended to provide useful information to those entities performing the scope of work described in this document. It is assumed that, in referencing this document, the requirement to complete a radio signal strength test and provide evidence of compliant radio signal strength for an occupancy has already been determined by statute, rule, and code/standard or through consultation with the AHJ.

Pre-Testing Requirements

- 1) Submit the proposed test plan (grids) to the AHJ via a paper (or digital) submission (minimum 11x17 inches) which includes:
 - a) Note indicating test will be conducted in accordance with the Florida Fire Prevention Code, 6th edition and NFPA 72, 2013 edition.
 - b) Title block including
 - i) Name and location of building being tested
 - ii) Name and location of company performing test
 - iii) Name of GROL holder conducting/supervising test and FCC license number
 - c) Legible floor plan of the building:
 - i) All building levels identified and included
 - ii) All rooms/spaces identified by purpose
 - iii) Drawn to a graphic scale and scale noted on each sheet
 - iv) Separate sheet for each building level
 - v) Point of compass indicating north
 - d) Note detailing the make and model of spectrum analyzer used for the test and the most recent calibration date within the last 12 months.
 - e) Each sheet shall be numbered consecutively
 - f) Grid overlay shall cover only the building footprint
 - i) Critical areas (fire command center(s), the fire pump room(s), exit stairs, exit passageways, elevator lobbies, standpipe cabinets, sprinkler sectional valve locations, and other areas deemed critical by the authority having jurisdiction) shall be gridded separately.
 - ii) Grids shall cover the entire foot print of the building.
 - iii) Building levels in excess of 8,000 square feet shall have a minimum of twenty grids for each level. Those less than 8,000 square feet shall have a minimum 20x20 grid size.
 - iv) Each grid shall be labeled with a unique identifier.
- 2) Once the test plan is approved, the submission will be returned and testing may be completed.
- 3) The testing contractor is required to contact Donna Beim, Pinellas County Radio & Technology at (727) 582-2510 or via email at dbeim@pinellascounty.org prior to conducting the test to ensure the proper tower location and control frequency are used during testing.
 - a) Evidence of contact with the FCC license holder shall be provided with the completed test results.



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Post-Testing Requirements

- 1) Upon completion of the radio signal strength test, the entire pre-test submission will be returned for review of results and determination of compliance. Test compliance shall be determined by the AHJ only.
 - a) Each identified grid shall clearly detail the signal strength value(s) for that grid.
 - b) Heat maps may be included, however the provision of a heat map shall not replace the grid overlay and radio signal strength values.
 - c) Radio coverage shall be provided throughout the building as a percentage of floor area for each level.
 - d) Signal quality measurements shall be taken at the center of each grid and should be performed using standardized parameters as specified in NFPA 72 (2013).
 - e) Critical areas shall be provided with 99 percent floor area radio coverage.
 - f) General building areas shall be provided with 90 percent floor area radio coverage.
 - g) A minimum inbound signal strength of -95 dBm, or other signal strength as required by the authority having jurisdiction, shall be provided throughout the coverage area.
 - h) Not more than two nonadjacent grid cells shall be allowed to fail the test.
- 2) Should the radio signal strength test results for the building be deemed compliant, a Certificate of Radio Coverage Compliance (CORCC), signed and sealed by the Florida licensed engineer (P.E.) of record, stating that the public safety radio system coverage reliability within the occupancy meets the requirements set forth in NFPA72-2013 24.5.2.2, 24.5.2.3, and was tested in accordance with the provisions set forth in NFPA72(2013) 14.4.10 (1-6) and A14.4.10 (3-6) shall be completed using the approved document provided by the AHJ.
- 3) Should the radio signal strength test results be deemed non-compliant, a two-way radio communications system (ERCES) shall be required. This scope of work shall be submitted for approval under a unique permit by a licensed EC or EF contractor.
- 4) The fee for the radio signal strength test submission and review is \$100.00.