



Miami Dade Fire Rescue Department
Fire Prevention Division
New Construction Inspections Bureau
Revised December 15, 2022



ATTENTION CONTRACTORS & DESIGN PROFESSIONALS

-- EFFECTIVE IMMEDIATELY --

NFPA 1:11.10 requires the minimum radio signal strength for fire department communications to be maintained at a level determined by Miami-Dade Fire Rescue.

An assessment will be conducted by the owner's representative or general contractor (GC) to determine if the minimum radio signal strength for fire department communication in the occupancy is in compliance, in accordance with NFPA 1:11.10.1 and NFPA 1221:9.6.

NFPA 1:11.10* Two-Way Radio Communication Enhancement Systems.

11.10.1 In all new and existing buildings, minimum radio signal strength for fire department communications shall be maintained at a level determined by the AHJ.

11.10.2 Where required by the AHJ, two-way radio communication enhancement systems shall comply with NFPA 72 and 1221.

11.10.3 Where a two-way radio communication enhancement system is required and such system, components, or equipment has a negative impact on the normal operations of the facility at which it is installed, the AHJ shall have the authority to accept an automatically activated responder system.

***A.11.10** Two-way radio communication enhancement systems provide for greater flexibility and safety for emergency responders during in-building operations.

NOTE: The means in which 11.10.3 will be achieved must be reflected on the approved plans.

In accordance with NFPA 1:11.10.1, an assessment is required for your project/building, to determine if the minimum radio signals strength for fire department communication in the occupancy is compliant. Please send an e-mail to MDFRBDA@miamidade.gov and itdMDCITDRadioEngineering@miamidadecounty.onmicrosoft.com to schedule this "BDA Signal Strength Test."

SIGNAL STRENGTH TESTING

NOTE: Prior to any testing, the occupancy shall be structurally completed with all interior partitions, windows and doors installed.

1. The Owner's Rep or GC shall schedule the Preliminary Initial Assessment via a Special Request Inspection.
2. A test "grid" plan shall be produced to ensure testing throughout the building.
3. Signal levels shall be measured to ensure the system meets the criteria of NFPA **1221**: 9.6 according to parameters as follows:
 - a. A minimum inbound of DAQ 3 with signal strength of -95 dBm or greater shall be provided throughout the coverage area.
 - b. A minimum outbound DAQ 3 with signal strength of -95 dBm or greater shall be provided throughout the coverage area.
 - c. Critical areas, such as the emergency 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 Miami-Dade Fire Rescue, shall be provided with 99 percent floor area radio coverage.
 - d. General building areas shall be provided with 90 percent floor area radio coverage.

ACCEPTANCE

1. If three nonadjacent areas fail the test with less than -95 dBm, and/or a DAQ 2 or below; or if two adjacent areas fail with less than -95 dBm, and/or a DAQ 2 or below, the GC will be required to pull separate plans and permit and install a Two-Way Radio Communications Enhancement System.

and / or

2. If there is less than 99 percent floor area radio coverage to all critical areas, or less than 90 percent floor area radio coverage to all general building areas, the GC will be required to pull separate plans and permit and install a Two-Way Radio Communication Enhancement System.

DELIVERED AUDIO QUALITY (DAQ) SCALE

- **DAQ 1** Unusable, speech present but unreadable.
- **DAQ 2** Understandable with considerable effort. Frequent repetition due to noise/distortion.
- **DAQ 3** Speech understandable with slight effort. Occasional repetition required due to noise/distortion.
- **DAQ 3.5** Speech understandable with repetition only rarely required. Some noise/distortion.
- **DAQ 4** Speech easily understood. Occasional noise/distortion.
- **DAQ 4.5** Speech easily understood. Infrequent noise/distortion.
- **DAQ 5** Speech easily understood.

NOTE: The DAQ scale comes from TIA TSB-88, *Wireless Communications Systems Performance in Noise and Interference-Limited Situations*. [**1221**: A.11.3.9]