Miami-Dade Fire Rescue
Public safety Radio Communication Enhancement Systems BDA Installation, Testing and Inspection Checklist
(for Contractors)

REFERENCES:
NFPA 1 & 101 (2021 Version): Fire Code and Life Safety Code
NFPA 72 (2019 Version): National Fire Alarm and Signaling Code
NFPA 1221 (2019 Version): Standards for the Installation, Maintenance, and Use of Emergency Services Communications Systems
Miami-Dade County Code of Ordinances:
Chapter 14 - Fire Prevention, Sec. 14-69. In-Building Public Safety Public safety Radio Communication Enhancement Systems
Florida Administrative Code: Chapter 69A-48: Fire Standards for Fire Alarm Systems
Florida State Statutes: Title XXXVII, Insurance - Chapter 633 (18), Fire Prevention and Safety

	EQUIPMENT INSTALLATION and FINAL INSPECTION	YES	NO	N/A
1	Is there an approved set of plans and permit for the radio enhancement system on site? NFPA 1221:9.6			
2	Is all public safety radio communications enhancement wiring and equipment installed according to the appropriate codes? NFPA 72:12.2.3			
3	Is lightning protection compliant with NFPA 780? NFPA 1221:9.6.3?*			
4	Are feeder and riser coaxial cables rated as plenum cables that match the building's fire rating and pathway survivability? NFPA 1221:9.6.2			
5	Are riser coaxial cables rated as riser cables and routed through a 2-hour-rated enclosure? NFPA 1221:9.6.2.1*			
6	Are riser and feeder cable connections made within an enclosure matching the building's fire rating and pathway survivability? NFPA 1221:9.6.2			
7	Is the passage of the feeder cable in and out of the enclosure fire-stopped to the building's fire rating and pathway survivability? NFPA 1221:9.6.2			
8	Are all repeaters, transmitters, receivers, signal booster components, and battery system components within a NEMA4- or NEMA4X-type enclosure(s)? NFPA 1221:9.6.11.2.1			
9	Does the radio enhancement system have an approved and properly completed standard service tag? (Most recent tag only). FAC 69A-48.006			
10	Has a service contract with a licensed radio service provider, which includes a provision for monitoring, runner service/service contact, been established and maintained on site within the BDA logbook? Municode Sec. 14-69.(C)			
11	Are smoke detectors located further than 36" from any air supply or return? In spaces served by air-handling systems, detectors shall not be located where airflow prevents operation of the detectors. NFPA 72:17.7.3			
12	Are all required supervisory and trouble signals transmitted to a central station or to the licensed radio service provider contracted? Failure to transmit all required supervisory and trouble signals to a central station or to the radio service provider contracted to provide the runner service. If signals are transmitted to a central station, the central station must contact the radio service provider contracted to provide the runner service immediately. Municode Sec. 14-69. (B)			
13	Did the antenna test free of grounds, or if provided with-ground fault detection, does it respond with the proper trouble when the ground fault is tested? NFPA 72:14.4			
14	Are all control panels connected to a dedicated circuit breaker RED in color and marked "Emergency Communications" or "BDA"? NFPA 72:10.6.5			
15	Is the location of the branch circuit disconnecting means permanently identified at the control unit as "Emergency Communications" or "BDA"? NFPA 72:10.6.5			
16	If the Fire Alarm Control Panel (FACP) and any control panels are located in an area not continuously occupied, are they protected by a smoke detector? NFPA 72:10			

17	Are the trouble signals likely to be heard? NFPA 72:10.14.5			
18	Does the control panel show a trouble signal within 200 seconds when the main power supply is disconnected? NFPA 72:10.15.1			
19	Are there at least two independent and reliable power supplies provided for all system components? NFPA 1221:9.6.12			
20	Is the primary power source supplied from a dedicated branch circuit? NFPA 1221:9.6.12.1			
21	Is the radio enhancement system provided with a secondary power supply? NFPA 1221:9.6.12			
22	Does the secondary power source consist of one of the following options listed below? The secondary power source shall consist of one of the following: (1) A storage battery dedicated to the system with at least 12 hours of 100 percent system operation capacity. (2) An alternative power source of 12 hours at 100 percent system operation capacity as approved by the AHJ. NFPA 1221:9.6.12.2			
23	Does the secondary power supply come on within 10 seconds when main power supply is turned off without loss of signals? NFPA 72:10.6			
24	Are batteries marked with the month and year of the manufacturer? NFPA 72:10.6			
25	Is there a dedicated monitoring panel provided within the fire command center to annunciate the status of all signal booster locations? A dedicated monitoring panel shall be provided within the fire command center to annunciate the status of all signal booster locations. The monitoring panel shall provide visual and labeled indication of the following for each signal booster: (1) Normal AC power (2) Signal booster trouble (3) Loss of normal AC power (4) Failure of battery charger (5) Low-battery capacity (6) Donor antenna failure			
26	Does the system indicate an audible and visible trouble signal within 10 seconds? Actuation of alarm notification appliances or emergency voice communications, emergency control functions, and annunciation at the protected premises shall occur within 10 seconds after the activation of an initiating device. NFPA 72:10.12.1			
27	Does the public safety radio communication enhancement system include automatic supervisory and trouble signals for malfunctions of the signal booster(s) and power supply? The public safety radio communication enhancement system shall include automatic supervisory signals for malfunctions of public safety radio communication enhancement systems that are annunciated by the fire alarm system in accordance with NFPA 72, and shall comply with the following: (1) Monitoring for integrity of the system shall comply with NFPA 72, Chapter 10. (2) System supervisory signals shall include the following: (a) Donor antenna malfunction. (b) Active RF emitting device failure. (c) Low-battery capacity indication when 70 percent of the 12-hour operating capacity has been depleted. (d) Active system component failure. (3) Power supply supervisory signals shall include the following for each RF emitting device and active system components: (a) Loss of normal AC power (b) Failure of battery charger (4) The communications link between the fire alarm system and the public safety radio communication enhancement system must be monitored for integrity. NFPA 1221:9.6.13			

	RADIO COVERAGE and ACCEPTANCE TESTING	YES	NO	N/A
1	Is the radio coverage provided throughout the building as a percentage of floor area as specified in section 9.6.7.4 through section 9.6.7.6? NFPA 1221:9.6.7.1			
2	Does the system adhere to the maximum acceptable propagation delay standard provided by MDFR? (Better than 90 microseconds)			
3	Does the system cover 99% of the critical areas, including fire command centers, fire pump rooms, exit stairs, exit passageways, elevator lobbies and inside elevator cabs with the door closed, standpipe cabinets, sprinkler sectional valve locations, and other areas deemed critical by MDFR? NFPA 1221:9.6.7.3			
4	Does the system cover a 90% minimum of general building areas? NFPA 1221:9.6.7.4			
5	Is there a minimum inbound and outbound strength sufficient to provide usable voice communications throughout the coverage area? Inbound and outbound signal levels shall be sufficient to provide a minimum of DAQ 3.0 for either analog or digital signals. NFPA 1221:9.6.8.1.2			
6	If a donor antenna exists, isolation shall be maintained between the donor antenna and all inside antennas to a minimum of 20 dB under all operating conditions. NFPA 1221:9.6.9			
7	Did you acquire the correct frequencies for the area in which your project resides from MDFR? (for frequency information email: mdfrbdas@miamidade.gov) NFPA 1221: 9.6.10			
8	Is the system upgradeable to allow for instances where MDFR changes or adds system frequencies to maintain radio system coverage as it was originally designed? NFPA 1221:9.6.10.2*			
9	Before acceptance testing, did you provide the necessary completed documents requested by MDFR? (for documents email: mdfrbdas@miamidade.gov) 8-fillable-mdfr-das-commissioning-doc-450mhz.pdf 9-fillable-mdpd-das-commissioning-doc-800mhz.pdf			

Please have BDA Logbook completed and available at the "Radio Coverage and Acceptance Testing" inspection

The on-site BDA Logbook must contain the following agreements:

1) **Maintenance**
2) **Runner Service**
3) **Monitoring**
4) **450MHz-DAS Commissioning Agreement (MDFR)**
5) **800MHz-DAS Commissioning Agreement (MDPD)**