



# Pasco County Fire Rescue

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## Public Safety In-Building Two-Way Radio Communications Enhancement System Requirements

To optimize fire and rescue operation communications on scenes of fire and other emergencies Pasco County requires minimum radio signal strengths as provided for in the Florida Fire Prevention Code (FFPC) and Florida Statute 633.202.

### **FFPC 1: Chapter 11.10**

#### ***FFPC 1:11.10 Two-Way Radio Communication Enhancement Systems***

***FFPC 1:11.10.1*** *In all new and existing buildings, minimum radio signal strength for fire department communications shall be maintained at a level determined by the AHJ (see below).*

***The level determined to be acceptable in the Pasco County will be as stipulated in the Delivered Audio Quality Measurements on Project 25 Land Mobile Radios, NTIA Report 99-358:***

***The building shall be considered to have acceptable emergency responder radio coverage when signal strength measurements in 95% of all general areas of the building and 99% in critical areas including elevators (measured at the primary recall floor), stair shafts and Fire Command Centers where the minimum signal strength of -110 dBm shall be receivable within the building.***

### **FS 633.202 Florida Fire Prevention Code:**

**(18)** *The authority having jurisdiction shall determine the minimum radio signal strength for fire department communications in all new high-rise and existing high-rise buildings. Existing buildings are not required to comply with minimum radio strength for fire department communications and two-way radio system enhancement communications as required by the Florida Fire Prevention Code until January 1, 2022. However, by December 31, 2019, an existing building that is not in compliance with the requirements for minimum radio strength for fire department communications must apply for an appropriate permit for the required installation with the local government agency having jurisdiction and must demonstrate that the building will become compliant by January 1, 2022. Existing apartment buildings are not required to comply until January 1, 2025. However, existing apartment buildings are required to apply for the appropriate permit for the required communications installation by December 31, 2022.*

### **Radio Coverage Requirements:**

- Critical areas to include fire command centers, fire pump rooms, exit stairs, exit passageways, elevator lobbies, standpipe cabinets, sprinkler sectional valve locations, and other areas deemed critical by the authority having jurisdiction, shall be provided with 99% floor area radio coverage.
- General building areas shall be provided with 95% floor area radio coverage.

### **Signal Strength Requirements:**

- Minimum **inbound** signal strength of -110 dBm shall be provided throughout the coverage area with an inbound signal level of DAQ 3.4 (Minimum inbound readings measured at the waist level using a ½ wave antenna on our P25 System is -110 dBm which will achieve a Delivered Audio Quality “DAQ” of 3.4).
- Minimum **outbound** signal at the donor site shall be sufficient to provide a signal level of DAQ 3.4.
- **Isolation** shall be maintained between the donor antenna and all inside antennas and shall be a minimum of 20 dB above the signal booster gain under all operating conditions.

### **Survivability:**

- Pathway shall have a survivability of level 1, level 2, or level 3.
- The feeder and riser coaxial cables shall be rated as plenum cables that match the buildings fire rating and pathway survivability.
- Riser coaxial cables shall be rated as a riser cables and routed through a 2-hour rated enclosure.
- The connection between the riser and feeder coaxial cables shall be made within an enclosure matching the buildings fire rating and pathway survivability, and passage of the feeder cable in and out of the enclosure shall be fire stopped to the buildings fire rating and pathway survivability.
- System shall have lightning protection that complies with NFPA 780.

### **Approval and Permit:**

- BDA systems shall be designed and installed in accordance with the following standards: NFPA 1 & 101 2015 Florida Specific, NFPA 72 2013, NFPA 1221 2016 and all applicable FCC rules and regulations.

Plans for fire permit shall be submitted for approval prior to installation. Plans for BDA system's which cost more than \$5,000 shall be prepared by or under the direction of an Engineer registered under Chapter 471, Florida Statutes and installed and tested by (FCC GROL licensed, manufacture certified technicians) and inspected by our office. The owner will then be responsible for service contract with licensed radio service provider, which includes provisions for monitoring, and service contract. A person possessing a GROL (General Radiotelephone Operator License “PG”) is the only one that can do the actual work; it cannot be delegated.

DAS Systems (Part 90 Class B) installed for a particular Public Safety system must be registered with the FCC at [signalboosters.fcc.gov/signal-boosters/](http://signalboosters.fcc.gov/signal-boosters/). Pasco County Fire Rescue (Radio Repair) will register the system. The following information must be provided: address and on-site contact name and number (The owner of the Signal Booster along with their address and phone number for 24-hour access in case it must be turned off due to interference with the P25 system. If the owner has a service contract to maintain the Signal Booster, provide the vendor's name, address, and 24-hour contact information.) along with the donor antenna information. The vendor shall also provide location (both physical and Decimal Latitude and Longitude Degrees), azimuth of donor antenna, the site name it is pointed towards, the donor antenna model, and horizontal and vertical beam widths. A location description of where the Signal Booster is located within the building or complex, the frequencies the Signal Booster is built for, and the call sign of the radio system the Signal Booster is enhancing.

Prior to the final inspection, a new Signal Booster installation shall not be energized generating emissions without a Fire Inspector on-site or unless prior arrangements have been made with the Pasco County Fire Marshal or the Pasco County Radio Shop.

**Pasco County P25 information:**

This system needs to support the existing system frequencies and any additional ones Pasco County may add within the 800Mhz/700Mhz public safety band. The donor site and frequencies for are listed below:

RECEIVE (Mhz)	TRANSMIT (Mhz)
810.1625	855.1625
810.3625	855.3625
810.6375	855.6375
810.8625	855.8625
811.3625	856.3625
811.8875	856.8875
812.3875	857.3875
813.3125	858.3125

For more information, please contact:

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