

Two-Way Radio Communication Enhancement System Radio Frequency Requirements

Changes in State legislation in July of 2023 have exempted one- and two-family dwellings and townhouses, buildings having less than 12,000 total gross square feet with no underground areas, apartments and transient lodging establishments that are less than three stories high and have direct access from the apartment or guest area to an exterior means of egress and apartment buildings 75 feet or less in height that are constructed using wood framing, provided that the building has less than 150 dwelling units and that all dwelling units discharge to the exterior or to a corridor that leads directly to an exit as defined by the Florida Building Code. **Third-party surveys will now be required on all new construction that does not meet one of the exceptions.** Fire department personnel will perform initial testing in existing buildings and will advise when a third-party is needed to conduct a radio signal survey.

The City of Lakeland Public Safety Communications operate a Motorola three-site, simulcast 800 MHz Phase II TDMA/FDMA Trunked Radio System. The three tower sites provide city-wide and Lakeland Electric service area coverage. The radio system has 11 trunked channels transmitting between 854.000 MHz – 860.000 MHz and receiving between 809.000 MHz – 815.000 MHz.

The Motorola radio system uses a digital control channel that typically will be assigned to Channel 1. The system may periodically rotate the control channels between Channels 1, 2, 3, or 4.

When a radio signal coverage test is conducted, the active control channel will need to be the test frequency used to determine the signal levels. The control channel continuously transmits data 24 hours a day, seven days a week.

If a radio communications enhancement system is required to achieve the minimum signal levels, the design and equipment will need to cover the full range of 806.000 – 860.000 MHz as we also operate on national mutual aid channels.

P25 trunked radio system control channel frequencies are as follows:

- Channel 1: TX 859.7625/RX 814.7625
- Channel 2: TX 856.4125/RX 811.4125
- Channel 3: TX 858.7625/RX 813.7625
- Channel 4: TX 858.4125/RX 813.4125

City of Lakeland Operational Frequency: 800 MHz Public Safety and 45 MHz Offset
Local 700 MHz for Federal Mutual Aid

The City of Lakeland has established -110 dBm with a DAQ of 3.4 as the minimum radio signal strength for fire department communications, as allowed in the Florida Fire Prevention Code. Elevator hoist ways and shafts are considered critical areas for the purposes of assuring proper in-building radio communications.

System must be installed per the current Florida Fire Prevention Code and associated NFPA Standards. Any exterior antenna must be an omni type. **A Two-Way Radio Communication System permit is required prior to installation.**

| Lakeland Tower Location | Latitude | Longitude |
|--|--------------|---------------|
| 1109 E. Parker Street Lakeland, FL Polk County | 28-02-56.0 N | 081-56-30.0 W |
| 2221 East 540 A Lakeland, FL Polk County | 27-57-07.5 N | 081-55-19.4 W |
| 450 Old Polk City Road Lakeland, FL Polk County | 28-07-43.5 N | 081-56-36.1 W |

Contact: Prevention@lakelandgov.net

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DOUGLAS E. RILEY, FIRE CHIEF

701 EAST MAIN STREET · LAKELAND, FLORIDA 33801 | Phone (863) 834-8200 | Fax (863) 834-8295 | WWW.LAKELANDGOV.NET/LFD



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