

Subpart of Part 15.219:

(b) The total length of the transmission line, antenna and ground lead (if used) shall not exceed 3 meters.

There has been much controversy about this simple rule. But objectively interpreted by someone in the engineering field, the meaning seems clear. We know what a transmission line is, basically the coax cable in a transmitter, antenna system. So legally a transmitter – Coax - Antenna system seems to be out of the picture since a system with a coax cable of any length would violate this rule. Next is the Antenna. In most systems the Antenna is where your 3 meter length is. Now we come to the infamous term “Ground lead.” In research on the term “Ground lead” I have found that the term seems to always refer to a “*wire*” that connects an electronic device to a local ground. An example would be a wire that grounds an oscilloscope to the frame of a test bench, or whatever else was being used for Ground. This definition has also been the interpretation of the “ground lead” by many in the FCC itself for years and seems to be the definition by the main enforcement division in Washington DC.

The issue then presents “what can I connect my “ground lead” to? Common sense should prevail here, people generally connect to a ground that isn’t intended to radiate and will provide the needed lightning protection.

Does the intentional signal get into the local ground and somehow, sometimes get radiated by ground systems? Sure. *But the problem is that Part 15 says nothing about additional radiation.* In the past if part of the ground system is obviously *designed* to radiate then usually the agent would ask that it be removed. Also if an agent believes that a ground is radiating a simple choke can be used to limit radiation into the ground. *In the case of our RangeMaster transmitter disconnecting the ground from the transmitter is a hazard to life and property since doing so disables the lightning protection.*

Our units (RangeMaster) have been inspected many times in the past mounted on the top of poles with a ground lead connected to an existing pole or tower, (and other ground configurations) and passed FCC scrutiny with no issue.

The job of the FCC agent is to enforce the law, not to interpret it, it shouldn’t be thrust upon the field agent to do any interpretation. Any uncertainty about interpretation is difficult for the public and field agents. Interpretation and enforcement should be consistent and uniform across the board.

Part 15 LPAM has been a great benefit to many. Schools, non-profit organizations, churches, hobbyists, those who can’t get an LPFM station license all benefit from the service.