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Honey, I Shrunk the Antenna

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The FCC has changed the rules for 10.7-11.7 GHz fixed microwave antennas, allowing service providers to install dishes that are only two feet in diameter, instead of the mostly four-foot units heretofore required.

The band in question is well suited to “backhaul” of wireless services – *i.e.*, the delivery of signals to and from the familiar cell towers dotting the landscape. As the wireless phone companies roll out mobile broadband and other data-hungry services, they need more capacity – not only from tower to customer, usually carried on auctioned spectrum, but also from their own distribution facilities to the towers. Some of that traffic moves over fiber, but microwave is easier to install at many locations. Until now, FCC rules required large antennas at both ends of the link. Some towers and rooftop mountings cannot accommodate the weight and wind-induced forces. Big antennas are expensive. And many zoning authorities try to ban them as being unsightly.

FiberTower Corporation, a leading backhaul provider, went to the FCC three years ago with a proposed rule change to make two-foot dishes lawful. The smaller units have one disadvantage: a somewhat wider beam of radio energy, potentially causing interference to other users off to the sides. But FiberTower proposed an ancillary rule adjustment to ensure no one else in the band would suffer harm.

Opposition came mostly from the satellite industry, which has limited use of the same frequencies. Satellite operators feared that allowing smaller microwave antennas would increase their numbers, which they argued might cause interference to satellite earth stations. Just days before the FCC decision, FiberTower and the leading satellite opponent agreed on language to address the issue, which the FCC duly adopted. Other satellite opponents, some of whom wanted the FCC to set aside segments of the band exclusively for their own use, made no headway.

The proceeding is one more example of the FCC’s gradual relaxation of its technical requirements, which overall has helped to reduce the cost and promote the spread of telecommunications services.