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Broadcast Microwave Interference

The wireless ticketing system in use at the Pima County Fair operates at the frequency of 2.4 & 5.8GHz. This is the same unlicensed 802.11 bandwidth, commonly in used in offices, airports, college campuses & homes throughout the world. Increasingly, outdoor events, and facilities use 802.11A/B/G or N (2.4-5.8GHz) and 802.16 networks for a variety of important functions, including, security, communications & electronic ticketing.

Many TV broadcast stations use mobile trucks with ultra-high frequency microwave transmission systems that are on or near the public WiFi frequencies. A microwave transmitter operating in this frequency range can occasionally interfere with a WiFi networks, essentially corrupting the WiFi data flow between computers and wireless devices, within a radius of several hundred yards.

While the “outage” may not be too costly when it’s merely a “WiFi Hotspot”, where people are simply accessing the internet, it can be very costly to an event using a wireless ticketing system servicing large crowds of people.

A TV microwave truck may, or may not, interfere; depending on the licensed frequency and channel the broadcast vehicle are operating on. If possible, to avoid shutting down WiFi networks in the immediate vicinity, broadcast engineers should look at using frequencies much higher than 5.8GHz. If this is not possible, then a buffer of at least 200 yards should be maintained between the Microwave transmission source (truck) and the WiFi coverage area. Even if the microwave transmission dish is facing away, there could still be a “kill zone” radius around the microwave dish & vehicle.

When changing frequencies isn’t an option, TV microwave trucks can also avoid disrupting the events they are covering by minimizing idle transmission time and maintaining appropriate distance buffers. Armed with this knowledge, media departments and broadcast producers & coordinators can be aware of the potential Microwave/WiFi conflict and be, able to plan accordingly.

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