Longley-Rice signal coverage prediction for **WGCT-LP 92.9 MHz** (225), 15W@77m (59m AGL) 40 2 7 4 N, 75 10 29.64 W (NAD83) considering potential interference from: **WXTU** 92.5 MHz (223), 15kW@279m dist 5km; **WEMK-LP** 92.9 MHz (225), 27W@41.1m dist 25km; **WZML-LP** 92.9 MHz (225), 5W@138m dist 27km; **WMGS** 92.9 MHz (225), 5300W@422m dist 140km; **WMMR** 93.3 MHz (227), 16.5kW@264m dist 9km; **W225CH** 92.9 MHz (225), 145W@27.8m dist 45km; **WPAT-FM** 93.1 MHz (226), 5400W@433m dist 124km; **WOBM-FM** 92.7 MHz (224), 1480W@148m dist 88km. FCC radio station data as of 2016-09-13 03:46:00. Circles at 1-mile intervals.
Signal Coverage Map and Demographics Information

These maps and associated population statistics are produced by the Prometheus Radio Project (prometheusradio.org), partly funded by a Knight Foundation prototype grant.

The ability for an FM radio to clearly receive a signal depends on the type of radio (car radios are usually excellent), its location (basements are more difficult -- outdoors and higher is better), the type of building construction if indoors, and the type and location of antenna it uses. Weather, time of day, and seasonal ground-moisture variation also affect how much signal is lost before it gets to the radio receiver. Signal strength or coverage prediction therefore produces a statistical estimate for average conditions, and will not exactly match people's experience.

Key factors in radio reception are the height and type of the transmission antenna, how much power it is radiating, and the terrain between the transmitting antenna and the receiving radio. The Longley-Rice model accounts for these factors, and also approximates the effect of forest and buildings, both in consideration of the desired signal, and the signals from other radio stations which may cause interference. Longley-Rice prediction is the current, conservative industry standard.

**Strong Signal:** Nearly every radio will easily receive a clear signal. Meets FCC minimum signal strength (60 dBµV/m) and interference protection requirements: -20 dB co-channel, -6 dB first adjacent, +40 dB second/third adjacent (47CFR§73.215, §73.509, §74.1204).

**Fair Signal:** Many radios, especially car radios, will receive the signal easily, and anyone who makes an effort will be able to receive the signal. There may be some slight interference. Signal strength is 40 dBµV/m through 60 dBµV/m with 8 dB less interference protection than Strong Signal.

**Unlikely Signal:** The signal may have unlistenable levels of interference, or be too weak to be received, however some radios may sometimes receive it at some locations.

**Longley-Rice Parameters:** Point-to-point, radial point spacing 30m (FCC 84-341 interpolation), climate 5, conductivity 0.005, permittivity 15, refractivity 301, clutter attenuation forest -3dB, residential -5dB, urban/buildings/commercial/industrial -6dB

**Terrain Data:** U.S. Geological Survey seamless 1-second NED

**Demographics:** U.S. Census Bureau 2010 "SF1" census blocks, centroid method

**Radio Station Data:** Federal Communications Commission CDBS database
Longley-Rice signal coverage prediction for WGGT-LP 92.9 MHz (225), 15W@77m (59m AGL) 40° 2' 7.4 N, 75° 10' 29.64 W (NAD83) considering potential interference from: WXTU 92.5 MHz (223), 15kW@279m dist 5km; WEMK-LP 92.9 MHz (225), 27W@41.1m dist 25km; WZML-LP 92.9 MHz (225), 5W@138m dist 27km; WMGS 92.9 MHz (225), 5300W@422m dist 140km; WMMR 93.3 MHz (227), 16.5kW@264m dist 9km; W225CH 92.9 MHz (225), 145W@27.8m dist 45km; WPAT-FM 93.1 MHz (226), 5400W@433m dist 124km; WOBM-FM 92.7 MHz (224), 1480W@148m dist 80km. FCC radio station data as of 2016-09-13 03:46:00. Circles at 1-mile intervals.
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**Terrain Data:** [U.S. Geological Survey](https://www.usgs.gov) seamless 1-second NED

**Demographics:** [U.S. Census Bureau](https://www.census.gov) 2010 "SF1" census blocks, centroid method

**Radio Station Data:** [Federal Communications Commission](https://www.fcc.gov) CDBS database

101724598 225 143480;271475,144775,269784 800 101121438,101624734,101737062,100284822,101163686,101728856,100039605,101733915 2016-09-13 03:46:00
Longley-Rice signal coverage prediction for WGGT-LP 92.9 MHz (225), 15W@77m (59m AGL) 40 2 7.4 N, 75 10 29.64 W (NAD83) considering potential interference from: WXTU 92.5 MHz (223), 15kW@279m dist 5km; WEMK-LP 92.9 MHz (225), 27W@41.1m dist 25km; WZML-LP 92.9 MHz (225), 5W@138m dist 27km; WMGS 92.9 MHz (225), 5300W@422m dist 140km; WMMR 93.3 MHz (227), 16.5kW@264m dist 9km; W225CH 92.9 MHz (225), 145W@27.8m dist 45km; WPAT-FM 93.1 MHz (226), 5400W@433m dist 124km; WOBM-FM 92.7 MHz (224), 1400W@148m dist 80km. FCC radio station data as of 2016-09-13 03:46:00. Circles at 1-mile intervals.
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