

EIRP Limits for PCS & AWS Base Stations 2002 Biennial Review Proceeding WT Docket No. 03-264

Presentation to
Wireless Telecommunications Bureau

CTIA – The Wireless Association®

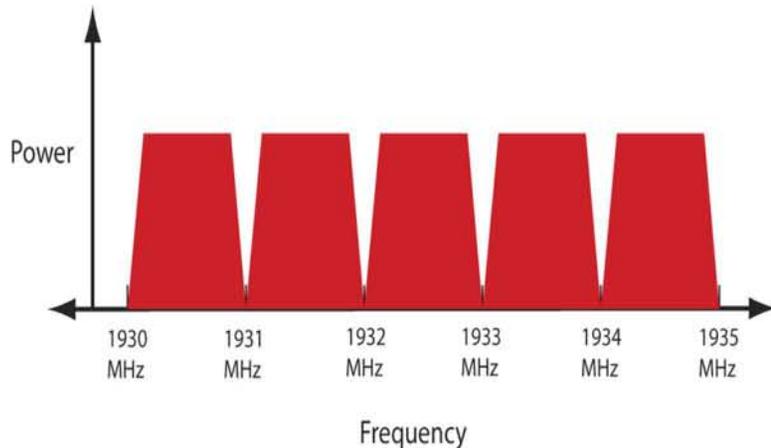
January 14, 2008

Overview

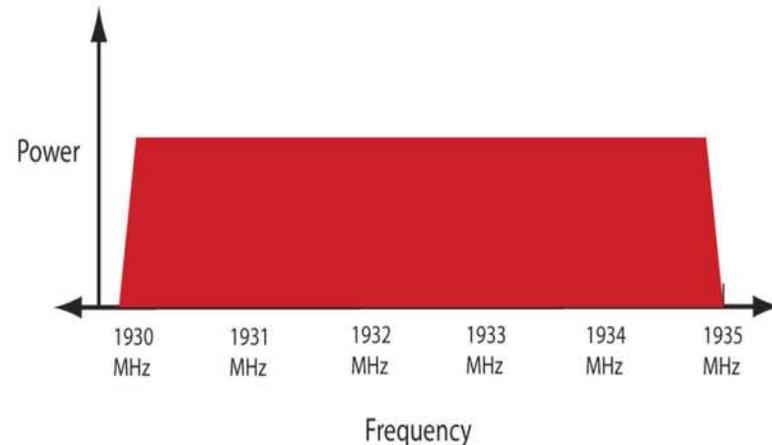
- CTIA proposal to supplement current base station EIRP limits for Part 24 Broadband PCS and Part 27 AWS.
 - Allow power spectral density measurements, as a supplement to current rules.
 - Would allow wideband signals to operate at the power spectral densities permitted narrowband systems today.
- Radiated Power limits should be measured on an average basis.
 - Consistent with prior FCC direction, industry standards, and FCC requirements for out-of-band emissions.
- PAR limit through regulation is unnecessary.
 - Industry already uses a number of techniques to minimize PAR in practice to help reduce equipment costs and achieve more efficient operations.
 - If the FCC believes a PAR is necessary, then a PAR limit of 13 dB is the appropriate level.
- The FCC recently adopted PSD for the 700 MHz bands.
- After three years, no opposition to CTIA's proposal.

The Current EIRP Rules Artificially Constrain Wideband Technologies

- The illustrations below show similar spectrum occupancy patterns – one which is permitted and the other which is prohibited under current rules. The industry’s proposal would address the handicap.



Permitted



Prohibited

The Current EIRP Rules Artificially Constrain Wideband Deployment

- Existing base station locations are configured to maximize coverage area.
- Implementing wideband under the current rule might create coverage “gaps” because wideband emission systems are limited to lower radiated power levels, in effect.
- Providers are forced to construct many new cell sites in order to match existing coverage, creating significant deployment and operational costs.

Coverage Area of Existing
System Deployment

Coverage Area After Wideband
Deployment

Migration from Narrowband to Wideband Coverage Area Under Current FCC Rules

Power Spectral Density (PSD) Proposal

- The FCC should modify the EIRP rule to allow PCS and AWS base stations to transmit at either:
 - (1) the current per-emission limits, or
 - (2) a comparable per-MHZ power spectral density limit.
- Makes the EIRP limits technology-neutral and removes an artificial handicap against wideband technologies.
- Allows operators to increase capacity.
- Lowers the cost and increases the speed of deploying a network when less infrastructure is needed.
- Encourages innovation and flexibility for new technologies, such as higher gain antennas.
- CTIA's proposal is supported by carriers and manufacturers across technology platforms.

PSD Proposal (cont'd)

- Specifically, for antenna heights up to 300 meters HAAT, base stations should be limited to the greater of:
 - (1) 1640 watts average EIRP per carrier, or
 - (2) 3280 watts/MHz average EIRP.
- In rural areas, for antenna heights up to 300 meters HAAT, base stations should be limited to the greater of:
 - (1) 3280 watts average EIRP per carrier, or
 - (2) 6560 watts/MHz average EIRP.
- The power spectral density of a base station with an antenna below 300 meters HAAT shall not be greater than 3280 watts EIRP in any 1 MHz band during any time interval of continuous transmission.

PSD Proposal (cont'd)

- The proposal does not increase radiated power limits above the level currently allowed for narrowband technology.
- Includes safeguards against interference through coordination requirements and OOB limits.
- The Commission should adopt these changes in sections 24.232 and 27.50(d) of the FCC's rules.