

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

Presentation to
Wireless Telecommunications Bureau Front Office

by

CTIA – The Wireless Association™

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Equivalent Isotropically Radiated Power (“EIRP”) Limits for PCS Base Stations

- CTIA proposes to supplement current EIRP limits for PCS base stations with ones restated as power spectral density limits.
- CTIA’s proposal will enable carriers to deploy technologies that will increase network efficiency and decrease the cost of deploying service.
 - Increase coverage in rural areas and improve coverage outdoors, indoor, and in vehicles.
- The proposal is a technology neutral compromise of proposals previously submitted by CTIA member companies.

The FCC Has Provided Adequate Notice to Adopt CTIA's Proposal

- Restating current Part 24 EIRP limits for PCS base stations with ones restated as power spectral density limits was specifically noticed in the 2002 Biennial Review NPRM. FCC 03-334 para. 18.
- The Commission has adequate notice to make harmonizing changes to Part 27 of its rules. For example:
 - The Biennial Review NPRM sought comment generally on whether provisions in Parts 1, 22, 24, 27, and 90 should be “harmonized because they treat similarly situated services differently.” Para. 4.
 - Making harmonizing changes to Part 27 is a logical outgrowth of specific proposals in the Biennial Review NPRM to modify Part 24.
 - Petitions for Reconsideration pending in the AWS proceeding ask for harmonization of Part 24 and 27 base station power limits. See Petition for Reconsideration Filed by Powerwave in WT Docket No. 02-353 (filed Mar. 8, 2004).
 - The H&J Block NPRM sought comment on base station EIRP limits in Part 27. FCC 04-218 paras. 110, 112.

Current PCS Base Station EIRP Limits

- Too restrictive
- No longer necessary to prevent PCS operators from transmitting beyond mobile units' capability
- Artificially constrain more modern technologies

CTIA Proposal

- Rather than simply increase existing base station power limits, modify the rule to allow base stations to transmit at either (1) the current limits, or (2) a comparable power spectral density. A power spectral density limit would facilitate use of new (wideband) technologies that are restricted under the current rule.
- For antenna heights up to 300 meters HAAT, base stations should be limited to the greater of:
 - 1640 watts average EIRP per carrier; or
 - 3280 watts/MHz average EIRP.

CTIA Proposal (cont'd)

- This proposal provides flexibility to deploy new technologies without causing harmful interference to neighboring systems.
- The proposal is consistent with the power spectral densities permitted under current rules, *i.e.*, operation of individual carriers at 1640 watts EIRP:
 - A GSM system with two carriers in 1 MHz can generate a signal with 3280 watts EIRP/MHz
 - A system with three carriers in 1 MHz would generate 4920 watts EIRP/MHz.

CTIA Proposal (cont'd)

- In rural areas, for antenna heights up to 300 meters HAAT, base stations should be limited to the greater of:
 - 3280 watts average EIRP per carrier; or
 - 6560 watts/MHz average EIRP.
- CTIA is not recommending that the per-MHz constraints for antennas above 300 meters exceed the current constraints.
- The absolute 100 and 200 watt base station transmitter output power limits in sections 24.232(a) and (b) should be eliminated.

CTIA Proposal (cont'd)

- The Commission should mirror these rule changes in section 27.50(d)(1) of its Advanced Wireless Service rules to ensure regulatory parity.
- The Commission should clarify that the per-carrier limit applies to frequency-hopping systems and that OFDM systems must meet the appropriate watts/MHz limit.
- For systems that use discontinuous transmission, CTIA proposes that the watts/MHz limit apply during the time when transmitting.