



Recommendation WG 3.94.041

COORDINATION PROCEDURES
for
AUTOMATIC TRANSMIT POWER CONTROL (ATPC)

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RECOMMENDATION

Subject Area: Coordination Procedures

Title: Coordination Procedures for ATPC

Background:

Automatic Transmit Power Control (ATPC), a feature of digital microwave radio equipment that adjusts the transmitter output power based on path fading detected at the receiver, has been in wide use for several years. NSMA has adopted technical standards for ATPC in Recommendation WG18.91.032. This document was used as the basis for the ATPC recommendations which were included in TIA Bulletin 10-F. In addition, the FCC has acknowledged the use of ATPC in Emerging Technologies Docket 92-9 by changing language in the Rules that was perceived to prohibit operation of transmitters more than 3 dB below authorized power. Recommendation WG18.91.032 and Bulletin 10-F primarily address the conditions under which an ATPC system may be coordinated at a power less than the Maximum Transmit Power. This recommendation specifies the ATPC data that should be included in coordination notices and discusses the coordination process relative to ATPC systems.

Recommendation:

Prior Coordination Notices for ATPC paths should clearly state that ATPC is to be used. The Nominal Transmit Power, Coordinated Transmit Power, and Maximum Transmit Power as defined in WG18.91.032 should be noted on the prior coordination path data sheet. Users claiming a Coordinated Transmit Power less than the Maximum Transmit Power should send with the PCN an ATPC Attachment which specifies the ATPC operational parameters and demonstrates that the path may be expected to meet the time percentage requirements for transmit power in excess of the Coordinated Transmit Power. An example ATPC Attachment is part of WG18.91.032 and is also included here for reference. C/I calculations into an ATPC system should assume that C is based on the Maximum Transmit Power. Interference calculations from an ATPC system should be based on the Coordinated Transmit Power. However, if insufficient justification for the assumption of Coordinated Transmit Power less than Maximum Transmit Power is provided with the PCN, the party receiving the PCN may calculate the interference from the ATPC system based on the Maximum Transmit Power. In such a case, the response to the PCN should include specific reasons or calculations as to why the ATPC coordination advantage was rejected as well as documentation of the potential interference.

When propagation problems, perhaps other than atmospheric multipath fading, are suspected, coordinators are expected to be conservative in selecting a Coordinated Transmit Power less than the Maximum Transmit Power. Conversely, since efficient use of the spectrum is aided by specifying as low a transmit power as possible, coordinators are charged with making an effort to choose the Coordinated Transmit Power less than the Maximum Transmit Power for ATPC systems whenever conservative engineering allows. ATPC systems must be licensed at the Maximum Transmit Power. FCC EIRP restrictions must be met at the Maximum Transmit Power.

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