

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)
)
Revisions of Part 2 and 15 of the)
Commissions' Rules to Permit Unlicensed) ET 03-122
National Information Infrastructure (U-NII)) RM-10371
devices in the 5 GHz band)
)
To the Commission:)

**MOTION FOR CLARIFICATION OF CERTAIN SECTIONS OF REPORT
AND ORDER 03-287**

The Wi-Fi Alliance, ("the Alliance")¹ hereby respectfully submits this Motion for Clarification of certain aspects of the above Report and Order. The Alliance fully supports the spirit of the actions taken by the Commission in the above referenced Report and Order.

However, in reviewing the document the Alliance finds that the wording of some parts may be interpreted in various ways. Clarification by the Commission before the rules become effective on the 19th of this month would be beneficial to all concerned.

¹ The Wi-Fi Alliance, formerly known as the Wireless Ethernet Compatibility Alliance, is an international trade association formed in 1999 with the goal of promoting the adoption and commercialization of IEEE 802.11-compatible products. These products may be used to support Wireless Local Area Networks in the 5 GHz frequency band. Membership in the Alliance is open to all companies that support the IEEE 802.11x standards. Current members include nearly every major radio manufacturer that produces wireless network equipment for the U.S. market. Alliance membership, with over 200 companies, continues to grow. A complete membership listing may be found on our website, <http://www.wi-fi.org>.

CLARIFICATION OF THE TEXT IN PART 15.407 CONCERNING TPC –
“TRANSMIT POWER CONTROL”

The **definition** of TPC is given in Section 15.403 as:

*(s) **Transmit Power Control (TPC).** A feature that enables a U-NII device to dynamically switch between several transmission power levels in the data transmission process.*

The **Requirements** text in 15.407, sub h says:

*(1) **Transmit power control (TPC).** U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.*

Taking these two text elements together, one may come to the conclusion that one always has to do dynamic TPC except for systems with an e.i.r.p. of less than 500 mW e.i.r.p. The objective of the rules laid down by the ITU-R for TPC in the 5 GHz bands is to reduce interference into satellite based receiver by an average of 3dB below the maximum level allowed. This reduction can be achieved by a dynamic mechanism that adjusts the transmitter power to meet the needs for a transmission to a given receiver. This would rule out systems which do not allow for a per transmission control of the output power. But, the same result can be achieved by limiting the maximum transmission power to 500 mW in the case where all transmissions are done with the same power level. Further, we have noted that the word “system” in the phrase “systems with an e.i.r.p. of less than 500mW” can be read in different ways: e.g. “a transmitter with any of its certified antennas” or “a transmitter with a given antenna attached”, etc.

A more precise language relates the need to employ TPC to the use of a power level exceeding 500 mW e.i.r.p. as well to operation in the 5.25-5.35 GHz band or the 5.47-5.725 GHz band (changed words in bold):

(1) Transmit power control (TPC). U-NII devices, **operating in the 5.25-5.35 GHz band or the 5.47-5.725 GHz band, shall, when configured² to operate at a maximum EIRP exceeding 500mW**, employ a TPC mechanism. The **TPC mechanism** is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm.

This text would allow devices to be configured - as required by operational considerations - to exploit the highest power level with the use of TPC or to avoid TPC by using a lower power level.

TEXT IN PART 15.407 ON DFS, REQUIREMENT FOR A CHANNEL AVAILABILITY CHECK WHEN MOVING CHANNEL

The text on this subject can be interpreted to prevent fast channel changing in the event of detection of a radar signal on the operating channel. This issue is of prime importance to the wireless LAN industry since it has significant performance implications.

Industry members are working with the radar community in the US DFS Project Team to define appropriate wording that allows other procedures of radar detection, such as an alternative background monitoring procedure, that are equally effective but that do not have the performance drawbacks mentioned above.

² The term “configured” is used advisedly to make clear that it is the combination of transmitter output power and antenna gain that together determine whether a device is capable of exceeding the 500mW EIRP level.

Therefore, there may be a need to clarify at a later date the text in Part 15.407 pertaining to this subject.

CONCERNS WITH THE DFS PLAN

Further, we note that the Interim Test plan appended to the Report and Order contains a number of potential problems and inconsistencies that need to be resolved as soon as possible. We understand that this Test Plan is being considered by the US DFS Project Team and we expect that many, if not all, of the above issues will be resolved through that process.

Respectfully submitted,

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