

IEEE 802.11
Wireless Access Method and Physical Specification

Title: **802.11 Summary for FCC Teleconference**

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Completion of standard

The 802.11 became an official IEEE 802 standard at the July meeting of the Standards Activity Board. The standard is in publication and is now a candidate for ISO standard. The standard includes a single Media Access Control (MAC) and multiple Physical Layer (PHY) protocol definitions. There is one infra red PHY and two radio frequency PHYs. The RF PHYs both use the worldwide available 2.4 GHz band and include a frequency hopped 1 and 2 Mbps and a direct sequence 1 and 2 Mbps. Both RF PHYs were designed to meet the requirements of the FCC part 15.247 and ETSI 300 328 in addition to all other applicable regulations in the US, Europe, Asia, and other geographical areas.

Current development in the 5 GHz U-NII band

In July, the 802 executive committee approved a Project Authorization Request (PAR) to develop a new 802.11 PHY to provide about 20 Mbps data rates in the U-NII band recently allocated by the FCC. The group responsible for the development of this PHY is known as Task Group A (TG A). TG A had an interim meeting in London in September. The location was chosen at the last minute in the July meeting to enable a joint meeting between 802.11 and the ETSI BRAN project.

BRAN is responsible for the development of both Hiperlan 1 and 2. Hiperlan 1 is a wireless local area network (WLAN) Media Access Control (MAC) and Physical layer (PHY) protocol

definition that has exclusive use of the 5.15 to 5.30 GHz band in ETSI countries. Hiperlan 2 is developing a wireless asynchronous transfer mode (WATM) MAC and PHY Protocol in the 5 GHz band. ETSI BRAN is attempting to secure another 250 MHz between 5 and 6 GHz for potentially exclusive use by Hiperlan 2 devices. The 802.11 received a liaison statement from ETSI BRAN in July stating a desire to cooperate in the development of a common Physical Layer between Hiperlan 2 and the 802.11 5 GHz PHY to achieve better economy of scale.

There are currently 5 proposals on the table:

- GMSK/OQAM - Breezecom
- M-ary Orthogonal Keying - Harris
- Multiple M-ary Orthogonal Keying - Micrilor
- OFDM - Lucent
- GFSK - Motorola

Proposals are required to produce skeleton text by November 97 and full text by January 97. No new proposals will be accepted after the November 98 meeting. Selection will be completed in the March 98 meeting.

Current development of higher speed PHY in the 2.4 GHz band

The 802.11 is currently working on a Project Authorization (PAR) to develop a new PHY in the 2.4 GHz band to provide higher data rates than the current 1 and 2 Mbps currently provided by the FH and DS PHYs. This group will be known as Task Group B (TG B) once the PAR is approved. Technical work is permitted to take place prior to PAR approval, and TG B also met in London - colocated with the TG A meeting - to discuss technical issues.

There are currently 3 proposals to provide about 10 Mbps in the 2.4 GHz band. The proposals all fall under the direct sequence category of 15.247. The current proposers are Harris, Micrilor, and Symbol Technologies. Proposals are required to produce skeleton text by November 97 and full text by January 97. No new proposals will be accepted after the November 98 meeting. Selection will be completed in the March 98 meeting.