IEEE P802.11

TITLE: **Product Labelling**

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1. OVERVIEW

Users may/will assume that an 802.11 product will talk to another 802.11 product. This is not always true. IR won't talk to DS, DS won't talk to FH... To make certain users understand this, product labelling should be in the standard. (As is done in 802.3 section 15.7).

An RF power class should be listed for DS and FH products because it effects interoperability. Also , consumers should be notified of the relative amount of microwave energy emitted by the product.

2. RATIONAL

A. A wireless LAN type designation on every 802.11 compliant product will make product selection easier for the end consumer, particularly when more stations are added to an existing WLAN and the consumer is wondering whether brand A is compatible with brand B. It should also reduce confusion over which of the various 802.11 flavours a particular product is compatible with.

B. (DS and FH phys only) It is quite possible that indoor wireless LANs will have numerous "micro cells" (a BSSs with an AP) within a local area. As the 802.11 draft does not address how to construct such a system, it will be up to the end users to configure the BSSs into micro-cells. Adaptive power control and frequency co-ordination between BSSs are not in the draft, nor is frequency co-ordination between BSSs allowed by the FCC, so the overlap and interference between BSSs will be fairly chaotic. To reduce the level of interference between BSSs, good radio system engineering practice says to use the minimum power required to achieve a reliable link. If the user knows the amount of rf power a particular product puts out, he may try to match other products in his system with similar power levels. The author suggests that three classes of rf power outputs be differentiated:

Power Class 1 for 20mW EIRP or less.
Power Class 2 for products capable of and EIRP in excess of 20mW with a maximum EIRP level less than 400mW.
Power Class 3 for higher power products with EIRPs in excess of 400mW.

C. (DS and FH phys only) The health risks associated with microwave rf energy is still debated. Various national and international organizations have guidelines covering exposure to radio frequency electromagnetic

fields. The limits are generally in the 1mW-10mW per cm^2, with some eastern European limits as low as 10uW/ cm^2. These levels can be generated by an 802.11 type product. A relative indication of the effective radiated rf power would allow the consumer the ability to make an conscious choice of the rf power level.

3. MOTION:

The following text should be added to a new section in the draft standard.

X.XX.X Media Access Unit (MAU) labelling. It is recommended that each MAU (and supporting documentation) be labelled in a manner visible to the user with at least these six parameters:

1. 802.11 Type Designator

   At least one of the following 802.11 LAN type designators. These indicate the technology used within the MAU.

802.11-DS	For DS implementations
802.11-FH1	For 1Mbps only implementations
802.11-FH2	For 1/2Mbps FH implementations
802.11-IR1	For 1Mbps baseband IR implementations
802.11-IR2	For 1/2Mbps baseband IR implementations

2. Maximum EIRP power level for DS and FH implementations.

   This is labelled on the MAU as a "Power Class". Power Class 1 devices meet the minimum rf power requirements of the standard, and do not exceed 20mW EIRP. Power Class 2 devices meets the minimum rf power requirements of the standard, and do not exceed 400mW EIRP. Power Class 3 devices may exceed 400mW EIRP.

3. Any applicable safety notices. This should also indicate product compliance with ANSI C95.1 uncontrolled radiation emissions standards if applicable.

4. The FCC identifier and/or other regulatory agency approval indications.

5. A notice to inform the user which 802.11 type wireless LAN MAUs a particular product will work with.

6. A notice recommending that for best system performance, all stations within a wireless LAN use products with the same "Power Class".

Product Labelling

Why have a uniform labelling scheme?

A. Ease and improve product selection
B. Able to match rf power with requirements (DS and FH)
C. Able to reduce interference (DS and FH)
D. Notify user to presence of RF energy (DS and FH)

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2. Maximum EIRP power level for DS and FH implementations.

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