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FROM: Peter Johansson

TO: IEEE P1394a Working Group

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RE: Redefinition of *pwr* in self-ID packet

This proposal is a modification to one first presented by Steve Bard at the August meeting in Honolulu. The goal is twofold: *a)* to permit devices that use up to 3 W to describe themselves and *b)* to encourage a shift to the use of the power management CSR's under specification by the 1394 Trade Association.

In clause 6.1 of draft P1394a, the power consumption requirement for cable powered devices is changed as shown below:

— It shall consume no more than 3 W of power (as measured at the cable connector) after a power reset or after being initially connected to the bus (transition from all ports unconnected to any port connected). The receipt of a PHY link-on packet shall enable the node to consume additional power up to the limit specified by the node's self-ID packet(s);

In addition, the definition of power class five is changed as shown in the excerpt from Table 6-2 below:

Table 6-2 —Self-ID packet fields

Field	Derived from	Comment
pwr	POWER_CLASS	Power consumption and source characteristics: 000_2 Node does not need power and does not repeat power 001_2 Node is self-powered and provides a minimum of 15 W to the bus 010_2 Node is self-powered and provides a minimum of 30 W to the bus 011_2 Node is self-powered and provides a minimum of 45 W to the bus 100_2 Node may be powered from the bus and is using up to 1 W 101_2 Node is powered from the bus and is using up to 3 W. The link is enabled but other device functions may require additional power.[a] 110_2 Node is powered from the bus and is using up to 1 W. An additional 5 W is needed to enable the link and higher layers.[b] 111_2 Node is powered from the bus and is using up to 1 W. An additional 9 W is needed to enable the link and higher layers.[b]

[a] The node is sufficiently functional to permit access to configuration ROM and CSR space. Higher device functions are enabled by means beyond the scope of this standard.

[b] The link and higher layers are enabled by the link-on PHY packet in clause 6.2.2.

The redefinition of power class five to a total of 3 W fits nicely with the current definition that permits 3 W after the receipt of a link-on packet. Also, the use of power classes six and seven is discouraged. Although not explicitly referenced in P1394a, the intent is to make use of the facilities defined by the 1394 Trade Association Power Management specification—unit power CSR's that offer more precision than the current methods.