

Contribution for the IEEE802.3at Classification Ad hoc group  
Preliminary Comparison table  
Revision 001

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## List of methods

MCA – Multiple Classification Attempt/Ping Pong. Martin Potoka Jan 2006

MPW#1 and #2 – Modified Pulse Width, DARSHAN\_1\_1105

PW - Pulse Width and perio mapping, Robbins\_2\_0705

ECET – Embedded Clock and Early Termination, landry\_1a - 0705

SRC – Send Receive Clocks, Koonce\_1\_0705

DHN – Dynamic Hardware Negotiation, Gordon Kapes 9/2005

## 1<sup>ST</sup> level of concepts evaluation

#	Parameter	MCA	MPW#1	MPW#2	PW	ECET	SRC	DHN	Notes
0	Supported by other standards/work	NO	NO	NO	NO	NO	NO	Yes: MIB ad hoc and others	
1	Allow extended classification	√	√	√	√	√	√	√	1
2	Support Switch	√	√	√	√	√	√	√	0
3	Support Midspan	√	√	√	√	√	√	NO ?	0
4	Allow supporting PD indication #1	√	√	√	√	√	√	√	2, 1
5	Allow supporting PD indication #2	√	√	√	√	√	√	√	2, 1
6	Unique identification of PD	√	√	√	√	√	√	√	3, 0
7	PSE detects .af or .at PD	√	√	√	√	√	√	√	0

### Notes

0. Five Criteria back wards compatibility

1 List of objectives

2. Indication #1 tells the user that the PD (4PHP or 2PMP) is connected to legacy 802.3af PSE port.  
Indication #2 tells the user that the PD (4PHP) is connected to 2PMP PSE port.

We have to decide if we want two indications (better for the user) or to use only one which simply says that the PD (either 2PMP or 4PHP) is connected to legacy PSE.

3. To meet five criteria: Assuming detection mechanism numbers un changed, objective should be met by enhanced classification procedure

## 2nd level of concepts evaluation

#	Parameter	MCA	MPW#1	MPW#2	PW	ECET	SRC	DHN	Notes
8	PD detects .af or .at PSE	√	√	√	Detect only if 802.3af PSE has tight regulation			??	1
9	Can work with 802.3af Vclass poor load regulation specifications	√	√	√	NO	NO	NO	??	0, 1
10	Cost of window filter required in PD for the step/pulse	NA	NA	NA	Medium/High ???			??	0 (Economical feasibility)
11	Reliable PSE type detection by PD	√	√	√	Marginal/ NO?	Marginal/ NO?	Marginal/ NO?	??	5
12	Reliable PD type detection by PSE	√	√	√	√	√	√	??	
13	Ignores class 4 non compliant legacy PSE/PD	√	√	√	NO	???	???	??	
14	Clocks on PSE or PD or both sides	PSE	Both	Both	Both	PSE	Both	??	

### Notes:

5. Due too permitted poor load regulation for Vclass at 802.3af

#	Parameter								
		MCA	MPW#1	MPW#2	PW	ECET	SRC	DHN	Notes
15	Clock cost on PD side	NA	<0.04mm <sup>2</sup> . Cost is negligible			NA	??	??	
16	Clock accuracy requirements	10%-20%					??	??	
17	PSE Complexity	Simple	Simple	Simple	Simple	Medium ??	Medium ??	Highly Complex	
18	PD Complexity	Simple	Simple	Simple	Simple	Simple	Medium ??	High	
19	Pin count	low	low	low	low	low	low	low	
20	Number of classes within 75ms	?? w/o class 0. Many non 802.3at classes. Need to solve this issue. Most of problems with class_0 and the need to ensure that at least two consecutive codes will be different and non class-0.	40-60	40-68  Can get as high as 240 to 400 classes if current signature is utilized as additional input.	40-68	??	??	??	
20.1	Number of "illegal" codes	High. May cause high testing costs and not enough classes within 75ms. Need to be discussed by the group.	No issues detected so far. Group to review.	No issues detected so far. Group to review	No issues detected so far. Group to review	??	??	??	
21	PD Power Dissipation for 75ms operation	~802.3af	~1.2*802.3af	<=802.3af	~802.3af	~802.3af	~802.3af	??	
22	PSE Power Dissipation for 75ms operation	~802.3af	~1.2*802.3af	<=802.3af	~802.3af	~802.3af	~802.3af	??	

