

PSE Type Concerns

D1.3 comment # ?, v1

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33.2.7.11, p113

“Type 4 PSEs are not required to support P_{Type} if they are restricted to Class 7 power or lower.”

This sentence permits Type-4 PSEs to limit output power to class levels 1 to 7. Levels 1 to 6 are already provided by Type 1, 2, and 3, PSEs.

33.2.7.11, problem

This allowance introduces interoperability issues and adds unnecessary complexity when describing a system to customers or when providing requirements for a specification.

Very little system power optimization benefit is provided.

33.2.7.11, Type-4

		Extended Power (W)		100		60					
		Class Power (W)		71	62	51	30	25.5	13	6.49	3.84
		PSE		Type-4 PD		Type-3 PD		Type-2	Type-1 PD		
PD	Class	8	7	6	5	4	3	2	1		
	8	71%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	7	62%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	6	51%	82%	85%	100%	100%	100%	100%	100%	100%	100%
	5	30%	48%	50%	100%	100%	100%	100%	100%	100%	100%
	4	26%	41%	43%	85%	100%	100%	100%	100%	100%	100%
	3	13%	21%	22%	43%	51%	100%	100%	100%	100%	100%
	2	6%	10%	11%	22%	25%	50%	100%	100%	100%	100%
	1	4%	6%	6%	13%	15%	30%	59%	100%	100%	100%

- **Red** text shows power levels at 50% or lower than the potential PD demand.
- Orange shade shows regions that may not be powered because of interoperability issues with legacy device that cannot be powered on both pairsets.

33.2.7.11, Type-3

Extended Power (W)		100		60					
Class Power (W)		71	62	51	30	25.5	13	6.49	3.84
PSE		Type-4 PD		Type-3 PD		Type-2	Type-1 PD		
PD	Class	8	7	6	5	4	3	2	1
	8								
	7								
	6	51%	82%	85%	100%	100%	100%	100%	100%
	5	30%	48%	50%	100%	100%	100%	100%	100%
	4	26%	41%	43%	85%	100%	100%	100%	100%
	3	13%	21%	22%	43%	51%	100%	100%	100%
	2	6%	10%	11%	22%	25%	50%	100%	100%
	1	4%	6%	6%	13%	15%	30%	59%	100%

- **Red** text shows power levels at 50% or lower than the potential PD demand.
- Red shade shows regions that may be powered using a lower voltage than Type-4 PDs receive when powered by a Type-4 PSE.

33.2.7.11, Type-4 Restricted

Extended Power (W)		100		60					
Class Power (W)		71	62	51	30	25.5	13	6.49	3.84
PSE		Type-4 PD		Type-3 PD		Type-2	Type-1 PD		
PD	Class	8	7	6	5	4	3	2	1
	8	71%	100%	100%	100%	100%	100%	100%	100%
	7	62%	100%	100%	100%	100%	100%	100%	100%
	6	51%	82%	85%	100%	100%	100%	100%	100%
	5	30%	48%	50%	100%	100%	100%	100%	100%
	4	26%	41%	43%	85%	100%	100%	100%	100%
	3	13%	21%	22%	43%	51%	100%	100%	100%
	2	6%	10%	11%	22%	25%	50%	100%	100%
	1	4%	6%	6%	13%	15%	30%	59%	100%

- Almost no interoperability issues remain when Type-4 PSE provide class-7 or higher power levels.

33.2.7.11, Solution

Strike the referenced sentence, which results in Type-4 PSE providing class-7 or 8 power limits.

This restores previous conventions and removes many cases that result in interoperability issues. This restriction also increases the likelihood that computer networks can co-exist with networks used to power lighting.

Seen Simply

Turning complexity into understanding.