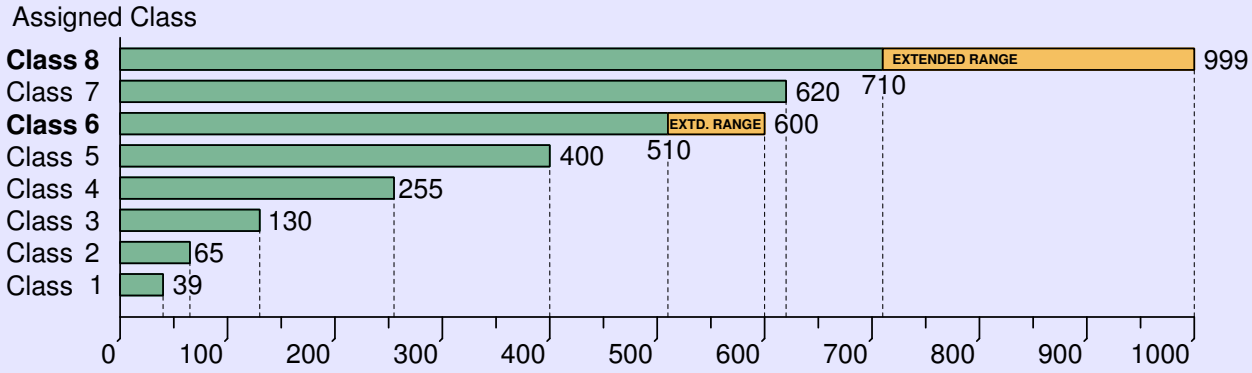
Extended Power & LLDP v203

Info (not part of baseline)



Power in the LLDP Power via MDI TLV is expressed in deciWatt. When a PD requests power, or a PSE allocates power, the numeric value signifies the amount of power at the **PD PI**. A PD which is assigned to Class 6 or Class 8 may exceed P_{Class_PD}, as long as the sourced power at the PSE PI is less than P_{Class}. This rule makes it such that the use of extended power is invisible for the PSE.

To make LLDP compatible with extended power, the values of PD_DLLMAX_VALUE, PD_INITIAL_VALUE, and PSE_INITIAL_VALUE need to be adjusted. When the PSE has assigned Class 6, or Class 8, PDRequestedPowerValue and PSEAllocatedPowerValue values larger than 510 and 710 respectively, indicate use of extended power. PSEs that cannot guarantee the requested amount of power at the PD PI (eg. because they do not have information about the channel DC resistance), may choose to allocate the worst-case amount of power and depend on the PD not to exceed P_{Class} at the PSE PI.

33.6.3.2 Constants

Change 33.6.3.2 as follows:

PD_DLLMAX_VALUE

This value is derived from pd_max_power variable (33.3.3.3) described as follows:

pd_max_power	PD_DLLMAX_VALUE
0	130
1	39
2	65
3	130
4	255
5	400
6	600
7	620
8	~~710~~ 999

PD_INITIAL_VALUE

This value is derived as follows from the pd_max_power (33.3.3.3) variable used in the PD state diagram (Figure 33–31):

pd_max_power	PD_INITIAL_VALUE
0	$\leq$ 130
1	$\leq$ 39
2	$\leq$ 65
3	$\leq$ 130
4	$\leq$ 255
5	$\leq$ 400
6	$\leq$ 600
7	$\leq$ 620
8	$\leq$ ~~710~~ 900

Info (not part of baseline)

mr_pd_class_detected is the result of the last classification event. What we really need here is the assigned Class. Variable pd_allocated_power does not exists in D1.7, but is introduced as the "assigned Class" PSE state diagram output variable by function do_classification. It is the PSE counterpart of pd_max_power.

PSE_INITIAL_VALUE

This value is derived as follows from parameter_type and the mr_pd_class_detected (33.2.5.6) variable used in the PSE state diagram (Figure 33–13):

parameter_type	~~mr_pd_class_detected~~ pd_allocated_power	PSE_INITIAL_VALUE
1	0	130
1	1	39
1	2	65
1	3	130
1	4	130
2	4	255
3	5	400
3	6	~~510~~ 600
4	7	620
4	8	~~710~~ 900

33.6.3.3 Variables

In 33.6.3.3, replace every occurance of "Values: 1 through 710" by "Values: 1 through 999" with the exception of PDRequestedPowerValue.

Info (not part of baseline)

The changes in PSEAllocatedPowerValue are as follows:

- "The power value for a PSE is the maximum input average power the PD may ever draw." is a repeat of the sentence just preceding it. It can be removed.
- Text is added to explain what the PSE needs to do when a PD requests power in the extended range.
- Valid range of allocatable power is increased to 999.

Modify PSEAllocatedPowerValue as follows:

PSEAllocatedPowerValue

Integer that indicates the PSE allocated power value in the PSE. The value is the maximum input average power (see 33.3.7.2) the PD ever draws. ~~The power value for a PSE is the maximum input average power the PD may ever draw.~~ This power value is encoded according to Equation (792), where X is the decimal value of PSEAllocatedPowerValue. This variable is mapped from the aLldpXdot3LocPSEAllocatedPowerValue attribute (30.12.2.1.18).

Values: 1 through ~~710~~ 999