

802.3at Test Limits version: 4.2.13 Pwr'd Prs: Alt-A PD TYPE:

| Parameter | Low Limit | High Limit | Units | Type |
|--------------------------|-----------|------------|--------|------|
| Test: det_v | | | | |
| Open_Circuit_Det_Voc= | 2.8 | 30 | Volts | PF |
| Peak_Det_Vvalid= | 3.8 | 10 | Volts | PF |
| Min_Det_Vvalid= | 2.8 | 9 | Volts | PF |
| Det_Volt_Step_dVtest= | 1 | 7.2 | Volts | PF |
| Detection_Slew= | 0 | 0.1 | V/μsec | PF |
| Good_Sig_Det_Pulse= | 1 | 9 | Steps | PF |
| Backoff_Voltage= | 0 | 2.8 | Volts | PF |
| Non_802_Step_V= | 0 | 0.1 | Volts | Warn |
| High_Sig_MaxV= | 3.8 | 11 | Volts | Warn |
| Non_802_Discr_?= | 0 | 0 | **** | Warn |
| Detect_Strategy= | 0 | 2 | **** | PF |
| Test: det_i | | | | |
| Init_Current_Isc= | 0 | 5 | mA | PF |
| Det_Current_Isc= | 0 | 5 | mA | PF |
| Test: det_range | | | | |
| Rgood_Max= | 26 | 32 | KΩ | PF |
| Rgood_Min= | 16 | 19 | KΩ | PF |
| Rmid_det= | 26 | 33 | KΩ | PF |
| Cgood_Max= | 0 | 10 | μF | PF |
| Rbad_Cbad_Stat= | 0 | 0 | **** | PF |
| Test: det_time | | | | |
| Backoff_Time_Tdbo= | -1 | 1500 | msec | Warn |
| Eff_Backoff_Tdbo_eff= | -1 | 1500 | msec | Warn |
| Backoff_Type= | 0 | 0 | **** | Warn |
| Detection_Time_Tdet= | 5 | 500 | msec | PF |
| Total_Det_Time= | 5 | 1000 | msec | PF |
| Test: det_rsource | | | | |
| Output_Impedance_Zout= | 45 | 2000 | KΩ | Warn |
| Regulated_Vstep_Zout= | -0.1 | 12 | KΩ | Warn |
| Test: class_v | | | | |
| Class_Voltage_Vclass= | 15.5 | 20.5 | Volts | PF |
| Vclass_Min= | 15.5 | 20.5 | Volts | PF |
| Mark_Voltage_Vmark= | 7 | 10 | Volts | PF |
| Mark_Voltage_Min= | 7 | 10 | Volts | PF |
| Test: class_time | | | | |
| Class_Time_Tpdc= | 18 | 72 | msec | PF |
| Event_Count= | 2 | 3 | **** | PF |
| Event1_Tcle1= | 5.6 | 30 | msec | PF |
| Event2_Tcle2= | 5.6 | 30 | msec | PF |
| Mark_Tme1= | 5.6 | 12.4 | msec | PF |
| Mark_Tme2= | 5.6 | 376 | msec | PF |
| Test: class_err | | | | |
| Class_lim= | 51 | 100 | mA | PF |
| Pwr_C1_lim= | 0 | 0 | **** | PF |
| Pwr_C1_55= | 0 | 0 | **** | PF |

| | | | | |
|---------------------------|------|-------|-------|------|
| Mark Lim= | 5 | 100 | mA | PF |
| Pwr_Cl_Uneven= | 0 | 0 | **** | PF |
| Treset= | 15 | 10000 | msec | PF |
| Test: class_lldp | | | | |
| PSE_Source_Priority= | 0 | 0 | * | PF |
| PSE MDI Pwr Sup= | 0 | 0 | * | PF |
| PSE_LLDP_Time_1= | 0 | 30 | sec | Warn |
| PSE_LLDP_Type_1= | 1 | 2 | * | PF |
| PSE Echo Time 1= | 0 | 10 | sec | PF |
| PSE Alloc Pwr 1= | 8.1 | 13 | Watts | PF |
| PSE Alloc Time 1= | 0 | 30 | sec | Warn |
| PD Power Adjust 1= | 13 | 13 | Watts | PF |
| PSE Adjust Time 1= | 0 | 10 | sec | PF |
| PSE_LLDP_Time_2= | 0 | 10 | sec | PF |
| PSE_LLDP_Type_2= | 2 | 2 | * | PF |
| PSE Echo Time 2= | 0 | 10 | sec | PF |
| PSE Alloc Pwr 2= | 20.3 | 25.5 | Watts | PF |
| PSE Alloc Time 2= | 0 | 30 | sec | Warn |
| PD Power Adjust 2= | 25.5 | 25.5 | Watts | PF |
| PSE Adjust Time 2= | 0 | 10 | sec | PF |
| Link Down Shutdown ?= | 0 | 0 | * | Warn |
| Test: pwrup_time | | | | |
| Pwr-On Rise Time Trise= | 15 | 50000 | µsec | PF |
| Power-On Time Tpon= | 0 | 400 | msec | PF |
| Test: pwrup_inrush | | | | |
| Init Iinrush= | 400 | 450 | mA | PF |
| Max Iinrush c0= | 400 | 450 | mA | PF |
| Max Iinrush c4= | 400 | 450 | mA | PF |
| Min Iinrush= | 400 | 450 | mA | PF |
| Tinrush= | 50 | 75 | msec | PF |
| Inrush 45m= | 50 | 57 | Volts | PF |
| Inrush Voltage= | 30 | 57 | Volts | PF |
| Max Init Inrush= | 0 | 2000 | mA | Warn |
| Inrush Strategy c0= | 0 | 1 | **** | Warn |
| Inrush Strategy c4= | 0 | 1 | **** | Warn |
| Max Iinrush= | 400 | 450 | mA | PF |
| Tlim Inrush= | 50 | 75 | msec | PF |
| Powered Vport= | 50 | 57 | Volts | PF |
| Test: pwron_v | | | | |
| Vport_min_1= | 50 | 57 | Volts | PF |
| Vport_max_1= | 50 | 57 | Volts | PF |
| Vport ripple 1= | 0 | 500 | mVp-p | PF |
| Vport noise 1= | 0 | 200 | mVp-p | PF |
| Vtrans_min_1= | 50 | 57 | Volts | PF |
| Vtrans_max_1= | 50 | 57 | Volts | PF |
| Vport_min_2= | 50 | 57 | Volts | PF |
| Vport_max_2= | 50 | 57 | Volts | PF |
| Vport ripple 2= | 0 | 500 | mVp-p | PF |
| Vport noise 2= | 0 | 200 | mVp-p | PF |
| Vtrans_min_2= | 50 | 57 | Volts | PF |

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|-------------------------|------|------|-------|------|
| Vtrans max 2= | 50 | 57 | Volts | PF |
| Test: pwrn_pwracap | | | | |
| Pcon c0= | 14.2 | 22.7 | Watts | PF |
| Icon % c0= | 100 | 9999 | % | PF |
| Pcon c1= | 3.9 | 22.7 | Watts | PF |
| Icon % c1= | 100 | 9999 | % | PF |
| Pcon c2= | 6.8 | 22.7 | Watts | PF |
| Icon % c2= | 100 | 9999 | % | PF |
| Pcon c3= | 14.2 | 22.7 | Watts | PF |
| Icon % c3= | 100 | 9999 | % | PF |
| Pcon c4= | 28.7 | 38.9 | Watts | PF |
| Icon % c4= | 100 | 9999 | % | PF |
| Type-2 Enable= | 1 | 1 | **** | PF |
| Pclass LLDP 22.7= | -1 | 1 | **** | PF |
| Pclass LLDP 24.5= | -1 | 1 | **** | PF |
| Test: pwrn_maxi | | | | |
| Ilim Peak= | 0 | 1750 | mA | PF |
| Ilim Min 1= | 400 | 1750 | mA | PF |
| Tlim 1= | 50 | 9999 | msec | PF |
| Vlim 1= | 50 | 57 | Volts | PF |
| Ilim Max 1= | 0 | 1750 | mA | Warn |
| Ilim Low V Tol 1= | 50 | 9999 | msec | Warn |
| Ilim Min 2= | 683 | 1750 | mA | PF |
| Tlim 2= | 10 | 75 | msec | PF |
| Vlim 2= | 50 | 57 | Volts | PF |
| Ilim Max 2= | 0 | 1750 | mA | Warn |
| Ilim Low V Tol 2= | 10 | 9999 | msec | Warn |
| Ktran lo 1= | 92.4 | 115 | % | PF |
| Ktran lo 2= | 92.4 | 115 | % | PF |
| Test: pwrn_overld | | | | |
| %Ipeak 1= | 100 | 125 | % | PF |
| Vport_Ipeak 1= | 50 | 57 | Volts | PF |
| Vport_5%DC 1= | 50 | 57 | Volts | PF |
| %Ipeak 2= | 100 | 125 | % | PF |
| Vport_Ipeak 2= | 50 | 57 | Volts | PF |
| Vport_5%DC 2= | 50 | 57 | Volts | PF |
| Test: mps_dc_valid | | | | |
| Min Valid Time Tmps= | 1 | 60 | msec | PF |
| Duty Cycle tol= | 1 | 1 | **** | PF |
| Minimum Valid Imin2= | 5.5 | 10 | mA | PF |
| Test: mps_dc_pwrn | | | | |
| Min Valid I hold= | 5 | 10 | mA | PF |
| Time-to-Shutdown Tmpdo= | 300 | 400 | msec | PF |
| Max Voltage Vopen max= | -1 | 30 | Volts | Warn |
| Max Invalid Imin1= | 5 | 9.5 | mA | PF |
| Test: pwrn_overld | | | | |
| Icut 1= | -1 | 1750 | mA | PF |
| Tcut 1= | 50 | 9999 | msec | PF |
| Isoft 1= | -1 | 683 | mA | PF |
| Tsoft 1= | -1 | 2000 | msec | PF |

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|----------------------------|-------|-------|--------|------|
| Icut_2= | -1 | 1750 | mA | PF |
| Tcut_2= | 10 | 9999 | msec | PF |
| Isoft_2= | -1 | 683 | mA | PF |
| Tsoft_2= | -1 | 2000 | msec | PF |
| Class_0_Ovld_Current_Icut= | 271 | 1020 | mA | PF |
| Class_1_Ovld_Current_Icut= | 71 | 1020 | mA | PF |
| Class_2_Ovld_Current_Icut= | 124 | 1020 | mA | PF |
| Class_3_Ovld_Current_Icut= | 271 | 1020 | mA | PF |
| Class_4_Ovld_Current_Icut= | 527 | 1020 | mA | PF |
| Overld_Time_Limit_Tcut= | 50 | 75 | msec | PF |
| Test: pwrdrn_time | | | | |
| Turn-Off Time Toff= | 0 | 500 | msec | PF |
| Output_Cap_Cout= | -1 | 0.52 | μF | PF |
| Output_Load_Rp= | 45 | 50000 | KΩ | Warn |
| Test: pwrdrn_v | | | | |
| Avg Idle Voff= | 0 | 2.8 | Volts | PF |
| Error_Delay_Ted= | 750 | 10000 | msec | PF |
| Peak_Error_Delay_Ved= | 0 | 20.5 | Volts | PF |
| Test: mps_ac_pwrdrn | | | | |
| Power_Down_Time_Tmpdo= | 300 | 400 | msec | PF |
| DC_Max_Load_Imin1= | 0 | 0 | mA | PF |
| Test: mps_ac_vf | | | | |
| AC_MPS_V_open= | 1.9 | 5.7 | Vp-p | PF |
| AC_MPS_V_open%= | 3.25 | 10 | %Vport | PF |
| AC_MPS_Frequency= | 0 | 500 | Hz | PF |
| Slew_Rate= | 0 | 0.1 | V/μsec | PF |
| Source_Current_Isac= | 0 | 5 | mA | PF |
| Test: mps_ac_voff | | | | |
| Peak_AC_MPS_V_open1= | 0 | 30 | Vpk | PF |
| Peak_Disconnect_Vport= | 0 | 60 | Vpk | PF |
| Test: pwrup_v | | | | |
| DC_Voltage_Vport= | 50 | 57 | Volts | PF |
| AC_Ripple_Vpp(low)= | 0 | 500 | mVp-p | PF |
| Test: pwrup_noise | | | | |
| AC_Ripple_Vpp(noise)= | 0 | 200 | mVp-p | PF |
| Test: pwrup_pwr | | | | |
| DC_Power_Pport= | 2.2 | 2.9 | Watts | Warn |
| DC_Current_Iport= | 49 | 51 | mA | Warn |
| Test: pwrup_pwrkap | | | | |
| Pport_Capacity= | 30 | 38.9 | Watts | PF |
| Iport_Capacity= | 526.3 | 683 | mA | PF |
| Port_Class= | 4 | 4 | Class | PF |
| Test: pwrup_maxi | | | | |
| Init_Ilim= | 684 | 1024 | mA | Warn |
| Max_Current_Limit_Ilim= | 684 | 1024 | mA | Warn |
| Min_Current_Limit_Ilim= | 684 | 1024 | mA | Warn |
| Short_Cir_Timeout_Tlim= | 10 | 9999 | msec | Warn |
| Output_Voltage_V= | 50 | 57 | Volts | Warn |
| 25 msec Short_Vport= | 50 | 57 | Volts | Warn |
| Test: pwrup_overld | | | | |

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|-------------------|-------|-------|--------------|------|
| Vport_Min= | 50 | 57 | Volts | Warn |
| Negative_Slew= | -1 | 3.5 | V/ μ sec | PF |
| Positive_Slew= | -1 | 3.5 | V/ μ sec | PF |
| Power_Duration= | 2750 | 3250 | μ sec | PF |
| Integr_Power_Out= | 102.4 | 116.9 | mW-Sec | PF |

802.3at Interoperability Weight Scale

| | |
|---|--|
| 5 | Vital Parameter to many 802.3at PD's |
| 3 | Parameter could be significant to certain 802.3at PD |
| 1 | Most PD's are insensitive to this parameter |
| 0 | Parameter has no impact to PD's |

Type-2 30W_Grant: PHY PSA: 3000 MinFW Ver: 4.0c

| Sig.Digs. | Intop Wt. |
|-----------|-----------|
| 2 | 3 |
| 1 | 5 |
| 1 | 5 |
| 1 | 5 |
| 4 | 1 |
| 1 | 5 |
| 1 | 5 |
| 1 | 0 |
| 1 | 1 |
| 0 | 0 |
| 0 | 3 |
| 2 | 1 |
| 2 | 1 |
| 1 | 5 |
| 1 | 5 |
| 1 | 3 |
| 1 | 3 |
| 1 | 3 |
| 1 | 1 |
| 1 | 1 |
| 0 | 1 |
| 1 | 1 |
| 1 | 0 |
| 1 | 1 |
| 1 | 0 |
| 1 | 5 |
| 0 | 5 |
| 1 | 5 |
| 1 | 5 |
| 1 | 5 |
| 1 | 5 |
| 0 | 1 |
| 1 | 1 |
| 1 | 1 |

| Configuration Options: | | | |
|------------------------|--------|--------|------|
| PSE TYPE: | Alt-A | Alt-B | |
| PD PWR: | Type-1 | Type-2 | |
| HighPwrGrant: | NONE | PHY | LLDP |
| PSA: | 1200 | 3000 | |

Limit Logic Color Key

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|--|
| PSE ALT TYPE Dependence |
| PD Power Type (1 or 2) Dependence |
| 30W Grant (PSE Type) Dependence |
| PSA Platform (1200 vs 3000) Dependence |
| PD Pwr Type+High Pwr Grant Dependence |
| Test Suite Version Dependence |

Parameter Color Key

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| All Conformance Test Suites |
| PSA-3000 Conformance Suite for 802.3at |
| PSA-1200 Conformance Suite for 802.3af |

| Limit Option 1 | | Limit Option 2 | |
|-------------------|-------------|-------------------|---------------|
| Low Limit | High Limit | Low Limit | High Limit |
| Type-1 or Non-PHY | Any Non-PHY | Type-2 + PHY Grnt | Any PHY Grant |
| -1 | -1 | 7 | 10 |
| -1 | -1 | 7 | 10 |
| 5.6 | 75 | 18 | 72 |
| 0 | 1 | 2 | 3 |
| -1 | -1 | 5.6 | 30 |
| -1 | -1 | 5.6 | 30 |
| -1 | -1 | 5.6 | 12.4 |
| -1 | -1 | 5.6 | 376 |

| | |
|---|---|
| 1 | 1 |
| 1 | 3 |
| 1 | 1 |
| | |
| 0 | 3 |
| 0 | 3 |
| 1 | 1 |
| 0 | 5 |
| 1 | 5 |
| 1 | 5 |
| 1 | 3 |
| 1 | 5 |
| 1 | 3 |
| 1 | 3 |
| 0 | 5 |
| 1 | 5 |
| 1 | 5 |
| 1 | 3 |
| 1 | 5 |
| 1 | 3 |
| 0 | 1 |
| | |
| 0 | 1 |
| 1 | 0 |
| | |
| 1 | 3 |
| 1 | 3 |
| 1 | 3 |
| 1 | 5 |
| 1 | 5 |
| 1 | 5 |
| 1 | 3 |
| 1 | 1 |
| 0 | 5 |
| 0 | 1 |
| 1 | 1 |
| 1 | 5 |
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| 1 | 5 |
| 1 | 5 |
| 1 | 3 |
| 1 | 3 |
| 1 | 5 |
| 1 | 3 |
| 1 | 5 |
| 1 | 5 |
| 1 | 3 |
| 1 | 3 |
| 1 | 5 |

| Limit Option 1 | | Limit Option 2 | |
|------------------------|------------|------------------------|------------|
| Low Limit | High Limit | Low Limit | High Limit |
| PSA-1200 Test Limit | | PSA-3000 Test Limit | |
| 60 | 450 | 400 | 450 |
| 60 | 450 | 400 | 450 |
| 60 | 450 | 400 | 450 |
| Type-1 | | Type-2 | |
| 44 | | 50 | |
| 10 | 57 | 30 | 57 |
| | | | |
| | | | |
| 60 | 450 | 400 | 450 |
| | | | |
| 44 | | 50 | |

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| 1 | 3 |
| 1 | 1 |
| 1 | 5 |
| 1 | 1 |
| 1 | 5 |
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| 1 | 1 |
| 1 | 5 |
| 1 | 1 |

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| 1 | 5 |
| 1 | 1 |
| 1 | 5 |
| 1 | 1 |
| 1 | 5 |
| 1 | 3 |
| 1 | 3 |
| 1 | 5 |
| 1 | 3 |
| 1 | 3 |
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| 1 | 1 |
| 2 | 1 |
| 0 | 1 |
| | |
| 1 | 1 |
| 0 | 0 |
| 1 | 1 |
| | |
| 0 | 1 |
| 1 | 0 |
| | |
| 1 | 3 |
| 1 | 1 |
| 0 | 3 |
| 4 | 1 |
| 1 | 0 |
| | |
| 1 | 1 |
| 1 | 1 |
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| 1 | 5 |
| 1 | 5 |
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| 1 | 5 |
| | |
| 1 | 0 |
| 1 | 0 |
| | |
| 1 | 5 |
| 1 | 5 |
| 0 | 0 |
| | |
| 1 | 0 |
| 1 | 1 |
| 1 | 1 |
| 1 | 1 |
| 1 | 1 |
| 1 | 0 |
| 1 | 1 |
| | |

| Limit Option 1 | | Limit Option 2 | |
|----------------|------------|----------------|------------|
| Low Limit | High Limit | Low Limit | High Limit |
| Type-1 | Grant= | Type-2 | PHY, LLDP |
| Test Limit | NONE | Test Limit | Grants |
| | 400 | | 1020 |
| | 400 | | 1020 |
| | 400 | | 1020 |
| | 400 | | 1020 |
| 271 | 400 | 527 | 1020 |
| 50 | 75 | 50 | 75 |

| Limit Option 1 | | Limit Option 2 | |
|----------------|------------|----------------|------------|
| Low Limit | High Limit | Low Limit | High Limit |
| Type-1 | | Type-2 | |
| Test Limit | | Test Limit | |
| 44 | | 50 | |

| Limit Option 1 | | Limit Option 2 | |
|----------------|------------|----------------|------------|
| Low Limit | High Limit | Low Limit | High Limit |
| Type-1 | | Type-2 | |
| Test Limit | | Test Limit | |
| 15.4 | 22.7 | 30 | 38.9 |
| 270.2 | 399 | 526.3 | 683 |
| 0 | 0 | 4 | 4 |
| Type-1 | NONE | Type-2 | PHY, LLDP |
| 400 | 512 | 684 | 1024 |
| 400 | 450 | 684 | 1024 |
| 400 | 450 | 684 | 1024 |
| 50 | 75 | 10 | 9999 |
| 44 | | 50 | |
| 44 | | 50 | |

| | |
|---|---|
| 1 | 3 |
| 3 | 0 |
| 3 | 0 |
| 0 | 3 |
| 1 | 5 |

| | | | |
|------|------|-------|-------|
| 44 | | 50 | |
| | | | |
| | | | |
| | | | |
| 52.5 | 69.3 | 102.4 | 116.9 |

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