PSE Classification State Diagram Update Summary

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TEXAS INSTRUMENTS

Goals of the PSE Class State Diagram

- Physical Classification

    - Mutual identification

    - Trapping of invalid class results

    - Demotion

- http://www.ieee802.org/3/bt/public/jul15/yseboodt_1_0715_v121.pdf

- http://www.ieee802.org/3/bt/public/sep15/classification_pse_overview_v120.pdf

- Dual Signature 4PID Discovery

TEXAS INSTRUMENTS

Quick Review of the Update

- Each decision is made based on the class signature of the class event the PSE is currently generating, which means mr_pd_class_detected.
  - One reason is that Pd_req_pwr is not fully known until at least 3 class fingers have been sent.
- Class_num_events variable is used, in particular when less than 3 fingers have been sent.
- The PSE State Diagram has been split into 3 pages: SS PD, DS PD PRI, DS PD SEC.
- 4PID for Dual signature PD has been included
  - There are 2 methods to determine if the dual signature PD is a candidate for 4-pair power. One of these is by generating 3 class events. The other method is by verifying that there is valid detection signature on the unpowered pairset when the other pairset is powered.
  - "class_4PID_mult_events" indicates if the 3 class events method is used.
  - Class reset block has been included. Otherwise, the "3 class event" method would not be useable if the PSE could not allocate more than class 3 power.