configuration:
option_probe_alt_sec = TRUE
pd_cls_4PID_sec = TRUE
CC_DET_SEQ = 2

For comment marked AVI5

Time	t=t0	t=t1	t=t2	t=t3
Primary	primary goes to DETECT_EVAL_PRI	Primary failed at class	primary goes to WAIT_PRI	remain in WAIT_PRI
Primary variables	alt_pwrd_pri = FALSE; det_start_pri = TRUE;	alt_pwrd_pri = FALSE; det_start_pri =	alt_pwrd_pri = FALSE; det_start_pri = FALSE;	alt_pwrd_pri = FALSE; det_start_pri = FALSE;
Secondary	not yet started evaluation: in ENTRY_SEC	secondary goes to DETECT_EVAL_SEC	secondary pass class and goes to CLASS_EVAL_SEC	goes to power up

Secondary variables	det_once_sec = FALSE;
	alt_pwrd_sec = FALSE;
	det_start_sec = FALSE;
		det_once_sec = FALSE;
		alt_pwrd_sec = FALSE;
		det_start_sec =
			det_once_sec = FALSE;
			alt_pwrd_sec = FALSE;
			det_start_sec = TRUE;
			sig_sec = valid;
			pd_4pair_cand = TRUE;
				det_once_sec = FALSE;
				alt_pwrd_sec = FALSE;
				det_start_sec = FALSE;

			at this time: pd_cls_4PID_sec*(sig_pri = valid)*(sig_sec = valid) is TRUE so pd_4pair_cand is assigned with TRUE.	Issue: secondary goes to power up even though primary didn't powered up

For comment marked AVI6

Time	t=t0	t=t1	t=t2	t=t3
Primary	primary goes to DETECT_EVAL_PRI	Primary failed at class from some reason	primary goes to WAIT_PRI	remain in WAIT_PRI

Primary variables	alt_pwrd_pri = FALSE;
	det_start_pri = TRUE;
		alt_pwrd_pri = FALSE;
		det_start_pri = FALSE;
		sig_pri = valid;
			alt_pwrd_pri = FALSE;
			det_start_pri = FALSE;
				alt_pwrd_pri = FALSE;
				det_start_pri = FALSE;

Secondary	not yet started evaluation: in ENTRY_SEC	secondary goes to DETECT_EVAL_SEC (and passes)	secondary failed at class from some reason and goes to IDLE_SEC	goes to another detection cycle

Secondary variables	det_once_sec = FALSE;
	alt_pwrd_sec = FALSE;
	det_start_sec = FALSE;
		det_once_sec = FALSE;
		alt_pwrd_sec = FALSE;
		det_start_sec = TRUE;
			det_once_sec = FALSE;
			alt_pwrd_sec = FALSE;
			det_start_sec = FALSE;
			sig_sec = valid;
			pd_4pair_cand = TRUE;	

Note: in CC_DET_SEQ=2, since det_once_sec is FALSE, the secondary pair can do 2 rounds of detections befroe go to WAIT_SEC

at this time:
option_probe_alt_sec*(!det_start_pri)(!det_once_sec)*(!alt_pwrd_pri) is TRUE so secondary goest to another detection classification cycle