

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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DELAY AND POWER CALCULATION STANDARDS –

Part 4: Design and Verification of Low-Power, Energy-Aware Electronic Systems

CORRIGENDUM 1

9.7.3 Retention modeling for different retention styles

Replace Table 10 with the following table:

VDD	VDD RET	SS && SC	RS && RC	RTC	Retained value	Register value	Register state	Valid next states	Comments
ON	ON	FALSE	FALSE	FALSE	Previous saved data	Previous state value	NORMAL	SAVE, RESTORE	—
ON	ON	FALSE	FALSE	TRUE	Previous saved data	Previous state value	RETAIN_ON	NORMAL, RETAIN_OFF, RESTORE	—
ON	ON	FALSE	TRUE	X	Previous saved data	Retention value	RESTORE	NORMAL, RETAIN_ON	—
ON	ON	TRUE	FALSE	X	Register value	Previous state value	SAVE	RETAIN_ON, NORMAL	—
ON	ON	TRUE	TRUE	X	CORRUPT	CORRUPT	CORRUPT	NA	SAV_RES_COR is set
ON	OFF	X	X	TRUE	CORRUPT	CORRUPT	CORRUPT	NA	—
ON	OFF	X	TRUE	FALSE	CORRUPT	CORRUPT	CORRUPT	NA	RET_SUP_COR is set
ON	OFF	X	FALSE	FALSE	CORRUPT	Previous state value	PARTIAL_ CORRUPT	NORMAL	RET_SUP_COR is set
OFF	OFF	X	X	X	CORRUPT	CORRUPT	CORRUPT	NA	RET_SUP_COR is set
OFF	ON	FALSE	FALSE	FALSE	CORRUPT	CORRUPT	CORRUPT	NA	!RTC
OFF	ON	FALSE	FALSE	TRUE	Previous saved data	CORRUPT	RETAIN_OFF	RETAIN_ON	—
OFF	ON	FALSE	TRUE	X	CORRUPT	CORRUPT	CORRUPT	NA	Restore during power-down
OFF	ON	TRUE	X	X	CORRUPT	CORRUPT	CORRUPT	NA	Save during power-down

*The X in this table denotes a "don't care" condition. Valid next states are non-corrupting next states.

10.6.1.1 Power domain

Replace the table with the following table:

Class name	upfPowerDomainT	
Class membership	upfPowerDomainT, upfExtentClassT, upfBaseUpfT, upfBaseNamedT, upfBaseT	
Handle ID	<handle ID of upf_parent>/<upf_name of Object>	
Handle ID examples	/top/dut_i/PD	
Property	Return value	Description
upf_name	upfStringT	Name of object
upf_parent	upfBaseNamedT	Parent of object
upf_file	upfStringT	Filename where object was created
upf_line	upfIntegerT	Line number where object was created
upf_creation_scope	upfHdlScopeT	The HDL scope in which the object was created
upf_effective_extents	upfExtentT	The upfExtentT object that points to the first element in the resolved element_list of corresponding UPF command (see 10.6.3.1 for more details)
upf_supply_set_handles	List of upfSupplySetT	The list of supply set handles defined on the object
upf_upper_boundary	List of upfHdlScopeT	The list of HDL scopes forming the upper boundary of this power domain
upf_lower_boundary	List of upfBaseHdlT	The list of HDL objects forming the lower boundary of this power domain
upf_level_shifter_strategies	List of upfLevelShifterStrategyT	The list of level-shifter strategies defined for this power domain
upf_retention_strategies	List of upfRetentionStrategyT	The list of retention strategies defined for this power domain
upf_isolation_strategies	List of upfIsolationStrategyT	The list of isolation strategies defined for the power domain
upf_repeater_strategies	List of upfRepeaterStrategyT	The list of repeater strategies defined for the power domain
upf_pd_states	List of upfPowerStateT	List of states defined on power domain
upf_pd_state_transitions	List of upfPowerStateTransitionT	List of power state transitions defined by add_state_transition command
upf_available_supplies	List of upfSupplySetT	List of supply sets that are present in effective_available_supply_list (see 6.20)
upf_boundary_supplies	List of upfSupplySetT	List of supply sets that are present in effective_boundary_supply_list (see 6.20)
Dynamic property (only available during simulation)		
upf_current_state	upfPowerStateT	The current state of the object during simulation
upf_current_simstate	upfSimstateE	The current simstate of primary supply set of the power domain