

TABLE AI
SIMULATION PARAMETERS

Topology	Parameter	Value
DBM ² C-SST	The number of four-port submodules	4
	MVDC bus voltage $U_{mvd\bar{c}}$	2000V
	LVDC bus voltage U_{lvdc}	1000V
	Bridge arm inductor L_{arm}	10mH
	AC-side inductor L_s	10mH
	AC-side resistor R_s	100Ω
	C-SM capacitor C_4	5mF
	FB capacitor C_2	5mF
	Transformer leakage inductance L_l	160μH
	Transformer ratio	1:1
	Switching frequency	5kHz
DC-SST	The number of DAB submodules	3
	Input DC voltage V_{in}	2400V
	Output DC voltage reference V_{out_ref}	800V
	AC-side input inductor L_{in}	7.69μH
	Input FB capacitor C_2	840μF
	Output FB capacitor C_3	840μF
	Transformer leakage inductance L_l	160μH
	Transformer ratio	1:1
MMC	Switching frequency	5kHz
	The number of HB submodules in each phase	12
	Input DC voltage V_{in}	2000V
	Bridge arm inductor L_{arm}	10mH
	AC-side inductor L_s	10mH
	AC-side resistor R_s	100Ω
	HB capacitor C_1	50mF