



CMOS MM/RF PDK Checklist

Foundry - TSMC
 Process – 65nm Mixed Signal / RF
 PDK Revision – Version 1.0c 10/10/10'
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FABLESS SEMICONDUCTOR ASSOCIATION

PDK Support Contact

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Foundry Process Documents

Document	Document Number & Title	Section	Revision	Date
Design Layout Rules	T-N65-CL-DR-001		2.0	-
Spice Model	T-N65-CM-SP-018		1.0	-
DRC	T-N65-CL-DR-001-C1		2.0a	-
LVS	T-N65-CL-LS-001-C1		1.5b_pre030510	-
	T-N65-CL-LS-001-U1		1.5b_pre030510	-
Parasitic Extraction	T-N65-CL-SP-031-V2		1.2a	-
	T-N65-CL-SP-031-V4		1.2a	-
	T-N65-CL-SP-031-B1		1.2a	-
	T-N65-CL-SP-031-B2		1.2a	-
Layer Map	Included in techfile			

EDA Tools Supported and Verified for Use with this PDK

Type	Vendor and Tool	Version	Version Date
Schematic	Cadence Design Systems, Inc / Composer	IC 6.1.4.500.6	-
Simulation Control	Cadence Design Systems, Inc / Analog Design Environment		
Layout Editor	Cadence Design Systems, Inc / Virtuoso VirtuosoXL		
Circuit Simulator (A)	Cadence Design Systems, Inc / Spectre	6.2.1.264	-
Circuit Simulator (B)	Synopsys / Hspice – HspiceS	2009.09	-
Circuit Simulator (C)	Mentor Graphics Corporation, Inc / ELDO	2009.2	
DRC Checker	Mentor Graphics Corporation, Inc / Calibre	v2010.2_25.18	
LVS Checker	Cadence Design Systems, Inc / Assura	AV 4.1 (64bit)	
	Mentor Graphics Corporation, Inc / Calibre	v2010.2_25.18	
Parasitic Extractor	Cadence Design Systems, Inc / Assura	AV 4.1 (64bit)	
	Mentor Graphics Corporation, Inc / Calibre	v2010.2_25.18	
	Cadence Design Systems, Inc / QRC	EXT812_HF2	



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Process – 65nm Mixed Signal/RF

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Device Type	Device Name	Comment	Terminals	Symbol	Spice-Mod	1/f Noise	HF Noise	Stat Mod	Sim-Net-A	Sim-Net-B	LVS Net	SDL Net	GDS	P-Params	Sim-Test-A	Sim-Test-B	DRC Test	LVS Test	Pcell Test
MOS	pch		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	pchx		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	pch_25		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	pch_25x		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	pch_25od33		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	pch_25od33x		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	pch_25ud18		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	pch_25ud18x		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	pch_hvt		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	pch_hvtx		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	pch_lvt		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	pch_lvtx		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nchx		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_25		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_25x		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_25od33		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_25od33x		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_25ud18		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_25ud18x		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_hvt		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_hvtx		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_lvt		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_lvtx		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_na		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_nax		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_na25		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_na25x		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_na25od33		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_na25od33x		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_dnw		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_dnw_x		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_25_dnw		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_25_dnw_x		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_25_dnwod33		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_25_dnwod33x		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_25_dnwud18		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_25_dnwud18x		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_hvt_dnw		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_hvt_dnw_x		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X
	nch_lvt_dnw		4	X	C	M		C	X	X	X	X	X	52	X	X	X	X	X

	nch_lvt_dnw	4	X	C	M	C	X	X	X	X	X	52	X	X	X	X	X
	pmos_rf	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	pmos_rf_25	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	pmos_rf_25od33	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	pmos_rf_25ud18	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	pmos_rf_nw	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	pmos_rf_25_nw	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	pmos_rf_25_nwod33	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	pmos_rf_25_nwud18	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	nmos_rf	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	nmos_rf_25	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	nmos_rf_25od33	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	nmos_rf_25ud18	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	nmos_rf_nodnw	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	nmos_rf_25_nodnw	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	nmos_rf_25_nodnwod33	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
	nmos_rf_25_nodnwud18	4	X	S	M	S	X	X	X	X	X	9	X	X	X	X	X
MOS(mac)	pch_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	pch_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	pch_25_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	pch_25_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	pch_25od33_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	pch_25ud18_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	pch_25ud18_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	pch_25od33_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	pch_hvt_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	pch_hvt_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	pch_lvt_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	pch_lvt_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_25_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_25_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_25od33_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_25od33_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_25ud18_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_25ud18_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_hvt_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_hvt_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_lvt_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_lvt_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_na_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_na_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_na25_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_na25_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_na25od33_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_na25od33_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_dnw_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_dnw_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_25_dnw_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_25_dnw_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_25_dnwod33_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_25_dnwod33_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_25_dnwud18_mac	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X
	nch_25_dnwud18_macx	4	X	S	M	S	X	X	X	X	X	52	X	X	X	X	X

	nch_hvt_dnw_mac		4	X	S	M		S	X	X	X	X	X	52	X	X	X	X	X
	nch_hvt_dnw_macx		4	X	S	M		S	X	X	X	X	X	52	X	X	X	X	X
	nch_lvt_dnw_mac		4	X	S	M		S	X	X	X	X	X	52	X	X	X	X	X
	nch_lvt_dnw_macx		4	X	S	M		S	X	X	X	X	X	52	X	X	X	X	X
BJT	BJT22	1	3										X				X		
	BJT55	1	3										X				X		
	BJT1010	1	3										X				X		
	BJT_NPN_22	1	3										X				X		
	BJT_NPN_55	1	3										X				X		
	BJT_NPN_1010	1	3										X				X		
	BJT22_MIS	1	3										X				X		
	BJT55_MIS	1	3										X				X		
	BJT1010_MIS	1	3										X				X		
	BJT_NPN_22_MIS	1	3										X				X		
	BJT_NPN_55_MIS	1	3										X				X		
	BJT_NPN_1010_MIS	1	3										X				X		
	npn	2	3	X	C			C	X	X	X	X	X	2	X	X	X	X	X
	npn_mis	2	3	X	S			S	X	X	X	X	X	2	X	X	X	X	X
	pnp	2	3	X	C			C	X	X	X	X	X	2	X	X	X	X	X
	pnp_mis	2	3	X	S			S	X	X	X	X	X	2	X	X	X	X	X
Diode	ndio		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	ndio_25		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	ndio_25od33		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	ndio_25ud18		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	ndio_na		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	ndio_na25		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	ndio_na25od33		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	ndio_hvt		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	ndio_lvt		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	ndio_esd	3	2	X	C			C	X	X	X			3	X	X		X	
	pdio		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	pdio_25		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	pdio_25od33		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	pdio_25ud18		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	pdio_hvt		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	pdio_lvt		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
	dnwpsub	3	2	X	C			C	X	X	X			3	X	X		X	
	pwdnw	3	2	X	C			C	X	X	X			3	X	X		X	
	nwdio		2	X	C			C	X	X	X	X	X	3	X	X	X	X	X
RES	rm1		2	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rm2		2	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rm3		2	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rm4		2	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rm5		2	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rm6		2	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rm7		2	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rm8		2	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rm9		2	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rm10		2	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rppoly		2	X	S			C	X	X	X	X	X	9	X	X	X	X	X

	rnpoly		2	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rppolywo		2	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rnpolywo		2	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rnod		2	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rpod		2	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rnodwo		2	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rpodwo		2	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rnwod		2	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rnwsti		2	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rnod_m		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rpod_m		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rnodwo_m		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rpodwo_m		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rnwod_m		3	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rppoly_m		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rnpoly_m		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rppolywo_m		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rnpolywo_m		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rnwsti_m		3	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rnod_mx		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rpod_mx		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rnodwo_mx		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rpodwo_mx		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rnwod_mx		3	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rnwsti_mx		3	X	S			C	X	X	X	X	X	5	X	X	X	X	X
	rppolywo_mx		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rnpolywo_mx		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rppoly_mx		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rnpoly_mx		3	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rppoly_rf		2	X	S			C	X	X	X	X	X	9	X	X	X	X	X
	rppolywo_rf		2	X	S			C	X	X	X	X	X	9	X	X	X	X	X
VAR	nmoscap		2	X	S			C	X	X	X	X	X	3	X	X	X	X	X
	nmoscap_25		2	X	S			C	X	X	X	X	X	3	X	X	X	X	X
	moscap_rf		3	X	S			C	X	X	X	X	X	6	X	X	X	X	X
	moscap_rf25		3	X	S			C	X	X	X	X	X	6	X	X	X	X	X
	moscap_rf_nw		3	X	S			C	X	X	X	X	X	6	X	X	X	X	X
	moscap_rf25_nw		3	X	S			C	X	X	X	X	X	6	X	X	X	X	X
	xjvar		3	X	S			C	X	X	X	X	X	6	X	X	X	X	X
	xjvar_nw		3	X	S			C	X	X	X	X	X	6	X	X	X	X	X
	pmoscap_rf		3	X	S			C	X	X	X	X	X	6	X	X	X	X	X
	pmoscap_rf25		3	X	S			C	X	X	X	X	X	6	X	X	X	X	X
CAP	mimcap		2	X	S			C	X	X	X	X	X	8	X	X	X	X	X
	mimcap_3t		3	X	S			C	X	X	X	X	X	8	X	X	X	X	X
	mimcap_udc		2	X	S			C	X	X	X	X	X	8	X	X	X	X	X
	mimcap_udc_3t		3	X	S			C	X	X	X	X	X	8	X	X	X	X	X
	mimcap_um_rf		3	X	S			C	X	X	X	X	X	8	X	X	X	X	X
	mimcap_woum_rf		3	X	S			C	X	X	X	X	X	8	X	X	X	X	X
	mimcap_um_udc_rf		3	X	S			C	X	X	X	X	X	8	X	X	X	X	X
	mimcap_woum_udc_rf		3	X	S			C	X	X	X	X	X	8	X	X	X	X	X
	crtmom		3	X	S			C	X	X	X	X	X	11	X	X	X	X	X
	crtmom_rf		3	X	S			C	X	X	X	X	X	11	X	X	X	X	X
	crtmom_mx		5	X	S			C	X	X	X	X	X	13	X	X	X	X	X
IND	spiral_std_mu_z		3	X	S			C	X	X	X	X	X	12	X	X	X	X	X

	spiral_sym_mu_z		3	X	S			C	X	X	X	X	X	12	X	X	X	X	X
	spiral_sym_ct_mu_z		4	X	S			C	X	X	X	X	X	12	X	X	X	X	X
	spiral_std_mza_a		3	X	S			C	X	X	X	X	X	12	X	X	X	X	X
	spiral_sym_mza_a		3	X	S			C	X	X	X	X	X	12	X	X	X	X	X
	spiral_sym_ct_mza_a		4	X	S			C	X	X	X	X	X	12	X	X	X	X	X
	spiral_std_mu_a		3	X	S			C	X	X	X	X	X	12	X	X	X	X	X
	spiral_sym_mu_a		3	X	S			C	X	X	X	X	X	12	X	X	X	X	X
	spiral_sym_ct_mu_a		4	X	S			C	X	X	X	X	X	12	X	X	X	X	X

Comments

1. These devices only have layout views with fix layouts.

2. These devices only take use of fix layouts with 3 different dimensions.

3. These devices don't have PCell layouts.

