

```

        and_4n
        .TEMP 25.0
        .PARAM
        .OPTION POST
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_rvt12
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_hvt12
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_lvt12
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_io18
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_io25od33
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_io33
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_nvt12
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_nvt12_bpw
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_nvt18
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_nvt18_bpw
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_nvt25od33
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_nvt25od33_bpw
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_nvt33
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_nvt33_bpw
        .LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_bjt

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.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_diode
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_momcaps
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_ncap12
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_ncap18
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_ncap25
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_ncap33
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_pcap12
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_pcap18
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_pcap25
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_pcap33
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/l65ll_v1
81.lib" tt_ll_res
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
RVT12_V101_RF.lib" tt
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
HVT12_V101_RF.lib" TT
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
LVT12_V101_RF.lib" TT
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
IO18_V101_RF.lib" TT
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
IO25_V101_RF.lib" tt
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
IO33_V111_RF.lib" TT

```



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.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
VARMIS12_V111_RF.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
VARMIS18_V111_RF.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
VARMIS25_V121_RF.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
VARMIS33_V111_RF.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
VARDIOP_V101_RF.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/momcap
s_array_vp3_rfvcl_V101.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/momcap
s_array_vp4_rfvcl_V101.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/momcap
s_array_vp5_rfvcl_V101.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65_MI
MCAPS_20F_KF_V101_RF.lib" TT
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
RNNPO_V101_RF.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
RNPPPO_V101_RF.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65LL_
RNHR_V101_RF.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/L65_pad
_rf_V101.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/VIL/1P8
M1T1U/l_sy30k_vil_V111_RF.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/VIL/1P8
M1T1U/l_syct30k_vil_V111_RF.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/VIL/1P8
M1T1U/l_slcr30k_vil_V111_RF.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/VIL/1P8
M1T1U/l_sqsk_vil_V111_RF.lib" typ

```

```

.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/VTL/1P
8M1T1U/l_occtout_trans_rfvil_V101.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/VTL/1P
8M1T1U/l_sq_trans_rfvil_V101.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/VTL/1P
8M1T1U/l_sqctin_trans_rfvil_V101.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/VTL/1P
8M1T1U/l_sqctinout_trans_rfvil_V101.lib" typ
.LIB
"/tools/public/asiclib/umcoa/L65/process/UMK65FDKLLC000000OA_B11/Models/Hspice/VTL/1P
8M1T1U/l_sqctout_trans_rfvil_V101.lib" typ

```

```

.subckt test a b out vdd vss
mnm1 out a net18 vss n_12_llrvt m=1 w=100e-9 l=60e-9
mnm0 net18 b vss vss n_12_llrvt m=1 w=100e-9 l=60e-9
mpm1 out b vdd vdd p_12_llrvt m=1 w=100e-9 l=60e-9
mpm0 out a vdd vdd p_12_llrvt m=1 w=100e-9 l=60e-9
.ends test

```

```

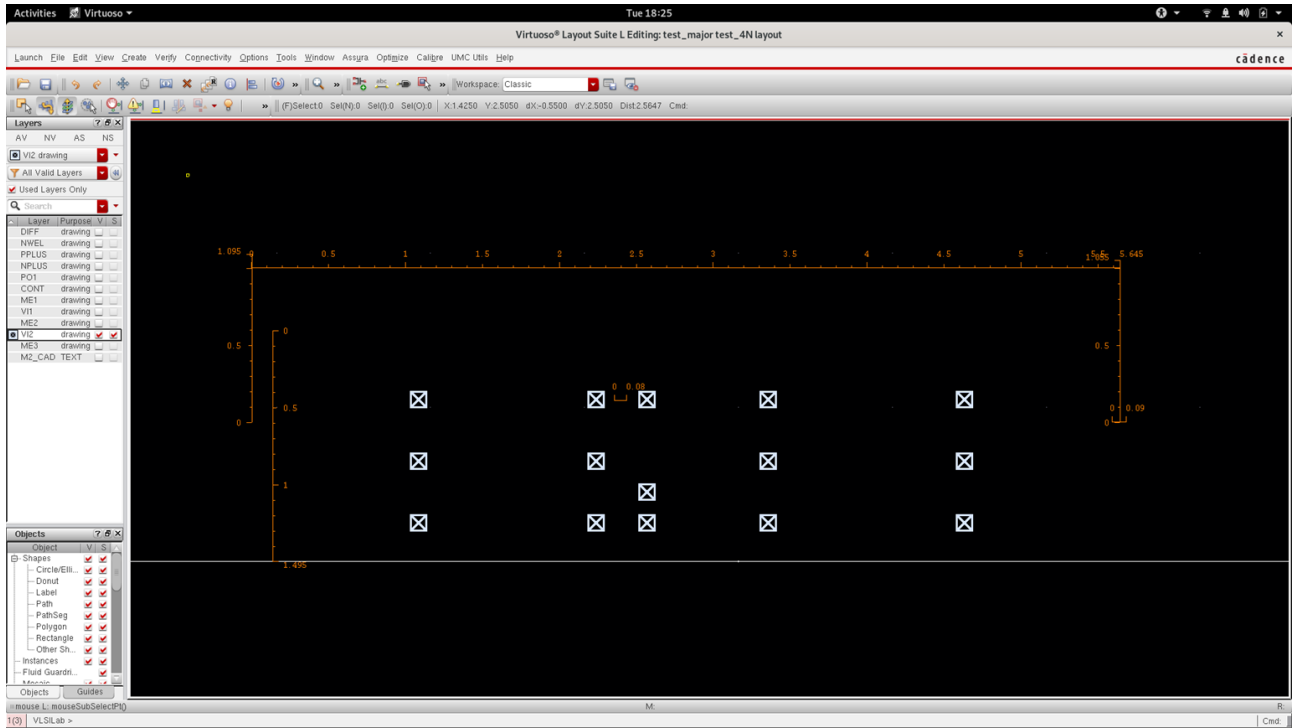
.subckt test_4N a b c d out vdd vss
xi4 net23 net21 out vdd vss test
xi3 net18 net18 net21 vdd vss test
xi2 d c net18 vdd vss test
xi1 net19 net19 net23 vdd vss test
xi0 a b net19 vdd vss test
.ends test_4N

```

```

xi0 a b c d out net2 0 test_4N
v0 net2 0 DC=1.2
v4 d 0 PULSE 0 1.2 0 1e-9 1e-9 5e-9 10e-9
v3 c 0 PULSE 0 1.2 0 1e-9 1e-9 10e-9 20e-9
v2 b 0 PULSE 0 1.2 0 1e-9 1e-9 20e-9 40e-9
v1 a 0 PULSE 0 1.2 0 1e-9 1e-9 40e-9 80e-9
.tran 1n 80n
.MEAS MAXCUR MAX I(net2)
.measure TRAN iavg AVG i(net2)
.measure TRAN power PARAM='iavg*net2'
.END

```



this 1.495 is top of contact to bottom of that