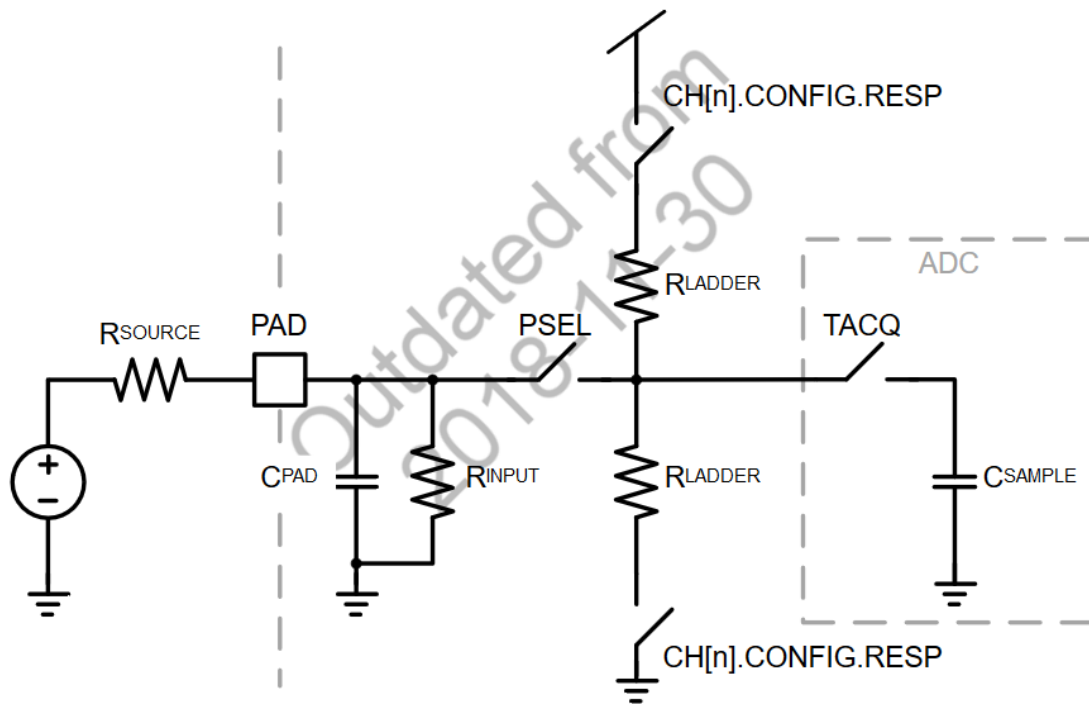


I'm searching for some more detailed information of the SAADC input impedance of the nRF52 family (uses nRF52832 and nRF52810).

I have read some posts regarding that topic but cannot establish a complete picture of it. Even that it is formally outdated, the best sketch of the ADC electrical elements is found in the Infocenter:

http://infocenter.nordicsemi.com/index.jsp?topic=%2Fcom.nordic.infocenter.nrf52832.ps.v1.1%2Fsaadc.html&cp=2_1_0_36_11_0&anchor=unique_1874651084



I understand that the R_{LADDER} resistors can be enabled or not, dependent if pull or mid idle voltage is needed. C_{SAMPLE} is only connected during acquisition and conversion. But what about R_{INPUT} that is specified to be typically $>1M\Omega$. From some posts, one could get the impression that the value of R_{INPUT} changes dependent on the SAADC operation state (idle or conversion).

I'm aware of the source resistance and settling time issue, but if using continuous conversion, a relative low value of R_{INPUT} can potential load the source (resistive divider). If e.g. R_{SOURCE} is $200k\Omega$, then an R_{INPUT} of $1M\Omega$ will significantly lower the sampled voltage.

- When SAADC is idle, what is the minimum value (over temperature) and typical value ($25^{\circ}C$) of R_{INPUT} ?
- When SAADC is converting, what is the minimum value (over temperature) and typical value ($25^{\circ}C$) of R_{INPUT} ? And do this depend on the gain setting or other settings?
- R_{LADDER} is typically $160k\Omega$. What is the minimum and maximum value of R_{LADDER} over temperature?
- C_{SAMPLE} is typically $2.5pF$. What is the minimum and maximum value of C_{SAMPLE} over temperature?