

Software Development for INL and DNL test for DAC and ADC

Assumptions:

1. The Page/tab selector of the Mockup is cluster of Boolean buttons, which when pressed will load the different pages.
2. The input value required for the measurement of the DNL and INL is provided by the user.
3. Based on the selection of the mode the configuration page displays, there exists 2 configuration pages, one for ADC another for DAC which has two different measurement methods.
4. The status bar displays an event that is currently occurring at the first followed by the previous statuses. For example, when user clicks configuration, it displays as “Configuration screen is displayed” (previous statuses at the bottom) and when the status exceeds 50, the first occurred status is removed.
5. The status and graph page has 5 indicators in which the code and its respective DNL and INL value get displayed. The code gets updated every second.
6. It is enough to calculate the DNL value, the INL value is nothing but the summation of all the DNL till that point of code.
7. The DNL calculation formula is as follows:

$$\text{DNL}(i) = \frac{V_{\text{out}}(i+1) - V_{\text{out}}(i)}{\text{ideal LSB step width}} - 1$$

Questions:

1. The home screen shall contain the purpose of the tool and the measurement. There shall be block diagrams and images also to support the definition. Should the content be same always? Like is it something kind of home page containing the welcome message.
2. Is the configuration page being something like user manual, it only displays the settings of the instrument?
3. An ini file entry can enable the debug mode. What does the debug mode mean in this application and how exactly does it influence the whole process?
4. What are the input parameters that will be specified by the user for INL and DNL calculation? If so, will the input be in a waveform or numeric values.