

Prepared by: J. Blair

The meeting was held at Baltimore Towers Hilton, Baltimore, Maryland USA on 3 May 2000.

In attendance were:

Name	Organization
Nick Paulter	NIST
Jerry Blair	Bechtel Nevada
Don Larson	NIST
Otis Solomon	Sandia
Tom Linnenbrink	Q Dot
Dick Kromer	Sandia

The items below are changes agreed to in the meeting. References to section numbers refer to the draft of 4/27/00, unless otherwise stated. Statements that changes have already been made mean that the changes were incorporated into the draft of 5/22/00.

1. The old definition standard presented and defined terms in a logical order. If the definition of term-B used term-A, then term-B would follow term-A. The definitions of terms were also divided into sections based on their subject matter. We believe that current IEEE rules won't allow this. All definitions must be in the definitions section and must be in alphabetical order. Don Larson will rearrange the definitions into alphabetical order.
2. Move definitions of section 9.7.6 (accuracy, precision,...) to the definitions section and make sure they agree with definitions in other standards.
3. Delete section 9.7, statistical definitions, because these are general statistical terms defined elsewhere. This has been done.
4. In section 9.8.3, Sampled Format, remove the adjective "real time" from the terms containing it, and delete the terms containing "equivalent time". These terms aren't related to the format of the data. Move to the definitions section.
5. In section 10.1 (11.1 in the new draft) there are a number of occurrences of the of the term "waveform" that must be changed to "signal".
6. Do away with most of section 10.2, leaving the part relating to "correction". I don't recall the reason for this.
7. Rewrite section 11.2.1, Select Waveform Epoch, and make it section 10.2. Nick volunteered to do this.
8. Move section 11.2.2 (now 12.2.2) to section 10.3.
9. Section 10 and section 11 (starting at 11.3) should be combined and called "General Measurement Considerations"
10. Rewrite the part of section 11.3 that is on page 20.

11. We discussed the algorithms in section 12.3.1 for finding state levels. For the most part these are not complete algorithms, because they require decisions about parameter values.
  - The mean-of-density-distribution algorithm requires 6 parameters as written: the histogram resolutions in  $t$  and  $y$  and the starting and ending values for the two histograms. Someone suggested selecting the end points of the histograms to be where the count is  $1/4$  of the count in the mode.
  - All histogram methods require selecting the bin size for the histogram, and most of these methods give an answer that depends on the size selected. Nick volunteered to write descriptions of two bin-size selecting methods, one developed by Bill Gans and one by Nick.
12. All methods need a restriction on the waveform epoch that guarantees that the waveform spends some minimum fraction (10%) of the epoch in each of the waveform states. I will write something.
13. I will write a description for the independently based or dial-in approach.
14. I will write a description for a time-based mean method (as opposed to the amplitude-based mean used with histograms.)
15. There appear to be notation errors in the fluctuation algorithm on page 24. Nick will check this out.
16. On page 25
  - Step 1.1: Change end of sentence to “using one of the methods specified in section <appropriate section>.”
  - Step 2.1: Use  $x_1$  and  $x_2$  instead of 10 and 90. State that the values are usually 10 and 90.
  - Step 3: The trapezoidal waveform used as a reference should only be an example. Other waveforms can be used.
  - Step 4.1: Add “Unless otherwise specified the excluded region extends from three transition durations before the 50% point to three transition durations after the 50% point.”
17. A decision was made to remove the %-signs from subscripts (*i.e.*  $Y_{50}$  instead of  $Y_{50\%}$ ), but Nick Paulter and Don Larson have since come to the conclusion that this would cause confusion.
18. We need symbols and names for the generalizations of 10%, 90% and 50%. Proximal, mesial and distal were used in the old standard, but their meanings aren't the same as the generalizations of these levels. Lower-reference-level, upper-reference-level and mid-reference level are possibilities.

19. The algorithms for calculating overshoot and undershoot were cleaned up. The new versions are in the new draft.
20. I volunteered to write an algorithm to parse a waveform.
21. Don volunteered to think about algorithms for jitter.