**------------------------ RESPONSE TO REVIEWER #1 ------------------------**

*Reviewer #1: The authors apply evolutionary or genetic algorithms (GA) to test pattern generation for signal integrity problems.*

A point of clarification here. We are not specifically using a GA but actually a hybrid of a GA and another widely used, evolution-inspired algorithm called an evolution strategy (ES). We therefore use the more generic term “evolutionary algorithm “ (EA) throughout the paper. Using the generic “EA” term is common practice in the evolutionary computation field whenever hybrid algorithms are employed.

*This idea of using GA in test is in itself not new, it was presented in the mid 1990's in the context of hadware faults (see for example Rudnick, E.M.; Patel, J.H.; Greenstein, G.S.; Niermann, T.M., "A genetic algorithm framework for test generation," Computer-Aided Design of Integrated Circuits and Systems, IEEE Transactions on , vol.16, no.9, pp.1034-1044, Sep 1997) I think the authors should reference these prior works in the Background section, showing that evolutionary algorithms are not only used in hardware design, but in testing as well.*

Done. See last two paragraphs of Section 2.4

*The focus of the paper is on Signal Integrity Test, an area not covered by previous GA*

*works as far as I know, and this is where the interest of the paper lies, in my opinion.*

Correct.

*With respect to the content, the explanation of the evolutionary algorithm could be improved:*

*As stated in the paper (section 2.4), one individual consists in 25 64-bit vectors. A comment on*

*why 25 is a suitable number would be welcome.*

See new text in parenthesis in the last paragraph on page 7.

*The explanation on how new individuals are generated is not very clear. How are the combinations made? Are the random substrings chosen independently for each bit [0..63]? Another interpretation would be to choose substrings from each of the 25 vectors. It is not clear which of the two has been chosen, and why. The authors could redo Figure 3 to better explain the combination method by representing each individual by a matrix instead of by a single string. In the text, please explain why this particular combination method was chosen instead of other possibilities.*

We have reworded the explanation and redone Figure 3. See reworded text on page 8.

*Finally, I have a few minor comments:*

*- In the last paragraph of sec. 2.3 I think there is a typographical mistake: 1GT=1Gbyte/s/pin,*

*I think it should be 1Gbit/s/pin, or did I miss something?*

This has been clarified. See last sentence, first paragraph in Section 2.3 and associated footnote.

*- In the next paragraph (line 34), the "64" would better be suppressed, as this first statement applies*

*to any bus width. Later on the example for 64-bit width is mentioned.*

Done.

*- I would assume there is another typographical mistake in page 10, line 24, when it is stated that Vnom*

*is 0.66% of Vtt. My guess is it should be 66%.*

Corrected.

*- Finally, a comment on style. The tone of the last paragraph in page 11 ("It is important readers fully appreciate...") may seem slightly contemptuous, surely unintendedly. You can emphasize the point presenting it as a summary, without directly appealing to the reader's appreciation. This is a matter of personal judgement on writing style, so please feel free to disregard this last comment in case you do not agree with it.*

Reworded sentence. See first sentence, last paragraph on page 12.

**--------------------------- RESPONSE TO REVIEWER #2 --------------------**

*Reviewer #2: The authors should explain the reasonable reason why the evolutional algorithm can be used for SI assessment.*

See last two sentences, top paragraph of page 3. Also see Section 2.3.

*Basic idea of the proposed method is explained by only Fig. 3. Is seems that the originality and novelty of the proposed method from this figure are unknown.*

Figure 3 was not intended to show the basic idea of our proposed method. The variation operator is a key component of our evolutionary algorithm which searches for stressful test pattern sets. Figure 3 only shows how this variation operator works.

The novelty of our approach is we demonstrate the first use of evolutionary algorithms to find stressful test patterns sets for SI testing. (The first reviewer specifically mentioned this.) The role of our evolutionary algorithm and some advantages over other approaches are explained in Section 2.3.

*Evaluation of the proposed method is carried out by a few table and figures. The effectiveness of the proposed method from those is unknown.*

See paragraph on page 13 that begins “What has been accomplished here…”