Bug Fix for sampled pulse used for quantization
COM Commit Request Number 4p9_7

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Summary
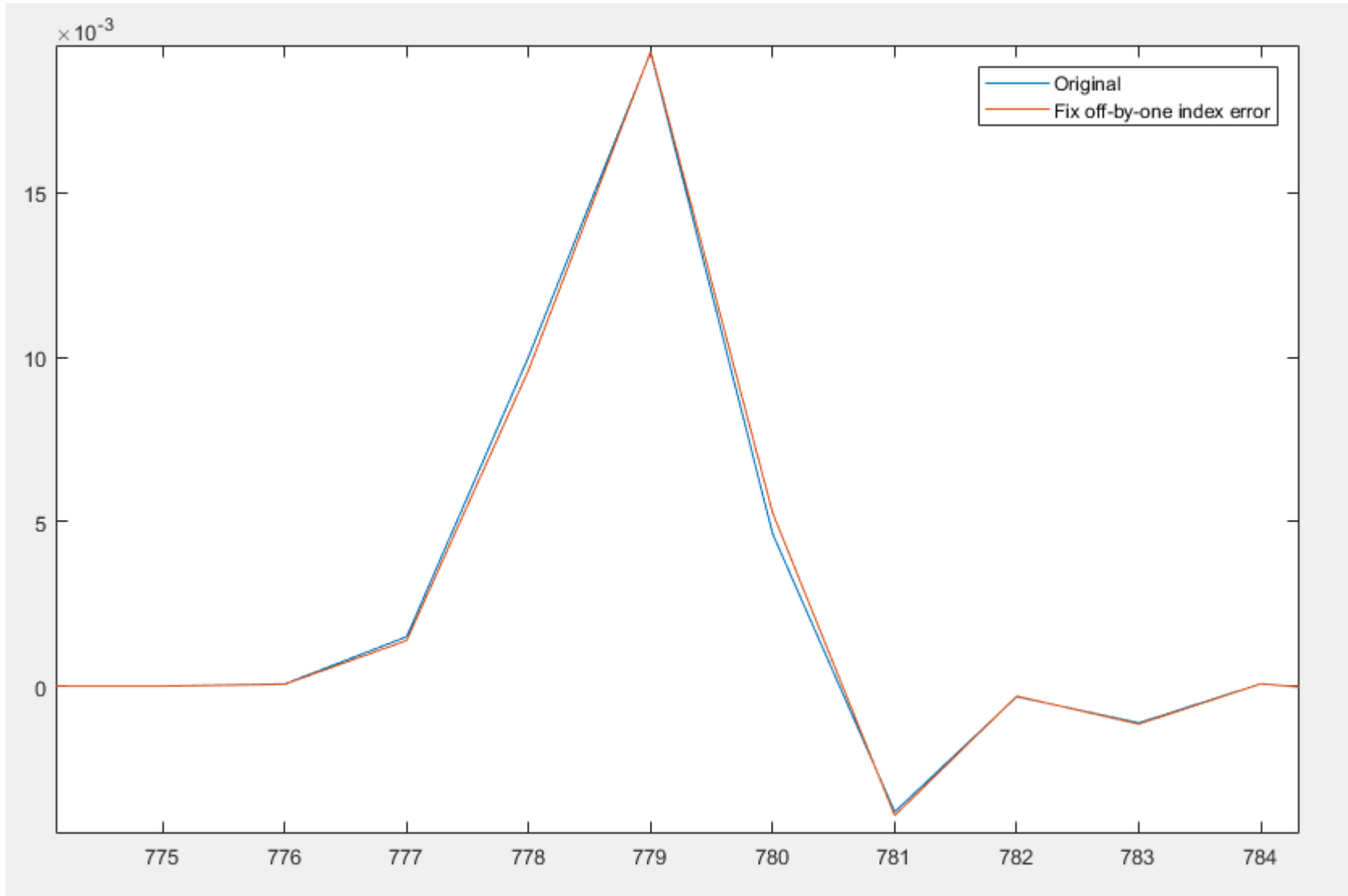
- pulse_sampled_w_tx_ffe_ctle is created in Apply_EQ

- It is used to calculate quantization noise that is used for the final COM noise PDF

- This update fixes an off-by-one indexing bug when sampling the pulse response

- Impact:
  - In limited testing, observed less than 0.05dB COM change from the bug fix. It is unknown if there are channels that would show meaningful COM change.

Off-by-one fix


```
v  📄 src/Apply_EQ.m  📋

 ...      ...      @@ -85,7 +85,7 @@ for i=1:param.number_of_s4p_files
 85       85           % Next 4 lines determine a pulse response required quantization,
 86       86           %  at the CTLE output with Tx_ffe
 87       87           chdata(i).ctle_pulse = eq_pulse;
 88             -       [~, sample_start] = min(abs(chdata(i).t-fom_result.sampled_best_sbr_precursors_t(1)));
          88   +       sample_start = mod(fom_result.t_s-1, param.samples_per_ui)+1;
 89       89           chdata(i).pulse_sampled_w_tx_ffe_ctle = eq_pulse(sample_start:param.samples_per_ui:end);
 90       90           chdata(i).t_sampled_w_tx_ffe_ctle = chdata(i).t(sample_start:param.samples_per_ui:end);
 91       91
 ...      ...
```

- Red is removed line. Green is added line.
- The original code resulted in missing the cursor by one index.

Off-by-one fix (comparison plot)

Changes to config

- Changes to config
    - None

- Changes to output
    - small numerical differences on cases tested

- Download beta test code
    - Beta Test: Sampled Pulse Indexing Bug Fix