Progress of IRS Testing

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09/16/2010
List of Gary’s Suggestion

• Check TSA sampling trigger timing
• Voltage calibration
• Sampling timing calibration (Δt)
• CMPBias study
Channel Problem

- The CH0-CH2 signal are bad after 64 sampling points in new IRS chip.
IRS Board testing

• Checked all DC voltage value for all board
  - all of the value is correct.

Checked DAC output value – correct

New IRS Board:
We will receive new backup board at Friday.
TSA testing

- The timing setup can’t fix this problem
  - This is storage or digitized part problem
Different TSA value

65 ns

91 ns

78 ns

104 ns
IRS Chip Working Method

ADC: Analog Input – Digital Output

- Sampling
- Storage
- Digitalize

64 Saps/bunch

N x bunches

64*N sampling points

010110011
101010001
011110101
101110101

Tuneable timing value

64 sampling points

64 sampling points
Sampling Timing Calibration by zero-crossing

is sample $\Delta t$ uniform?

$A \cdot x = y$
$x: [256]$
$A: [N][256]$
$Y: [N]$

least squares solution:
$X = (T(A)^{-1}T(A))^*(-1)T(A)*y.$

singular value decomposed solution