Unification of Transform Coefficient Coding for non-reference intra block
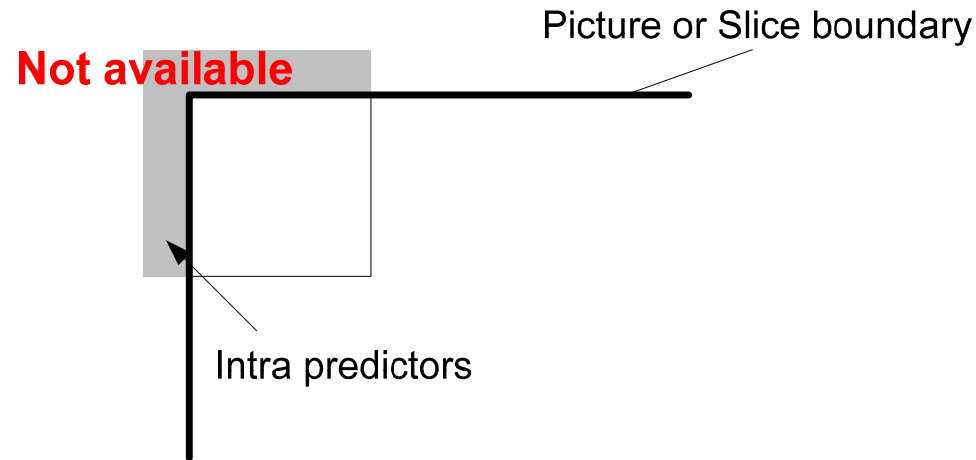
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Panasonic Corporation

Panasonic ideas for life

Current HEVC

A Separated DC coefficient coding for non-reference intra blocks is applied only in LCEC mode of the TMuC0.9-hm software.
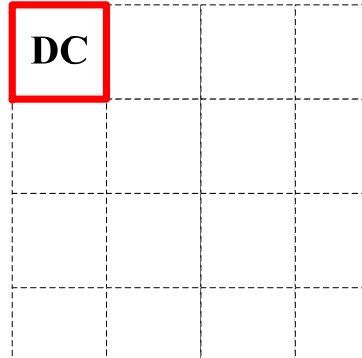
Not available

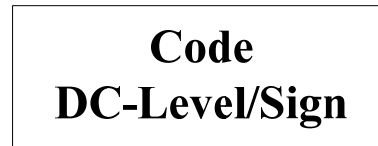Picture or Slice boundary

Intra predictors

Motivation

A unified solution is desirable for both of the two entropy coders, for manufacture.
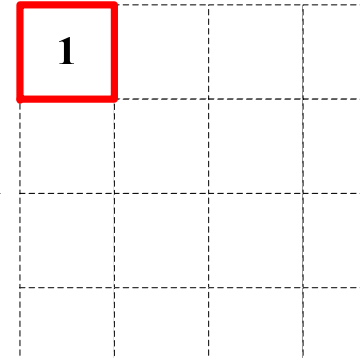
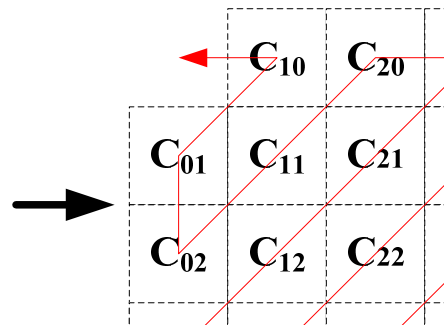## LCEC method (currently only in LCEC coder)

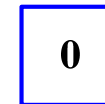*step 1* → *step 2* Code DC-Level/Sign → *step 3* → *step 4* Coefficient Coding
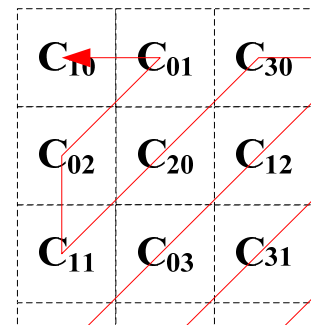
Our proposal

step 3A → *step 3B* →

Results of DC coefficient coding for non-reference block (LC setting)

Anchor : TMuC v0.9-hm without DC coefficient coding.

Test A   : TMuC v0.9-hm anchor (= LCEC method)

Test B   : TMuC v0.9-hm with our proposal

Intra only

Results of DC coefficient coding for non-reference block (LC setting)

Anchor : TMuC v0.9-hm LC setting (=LCEC method)

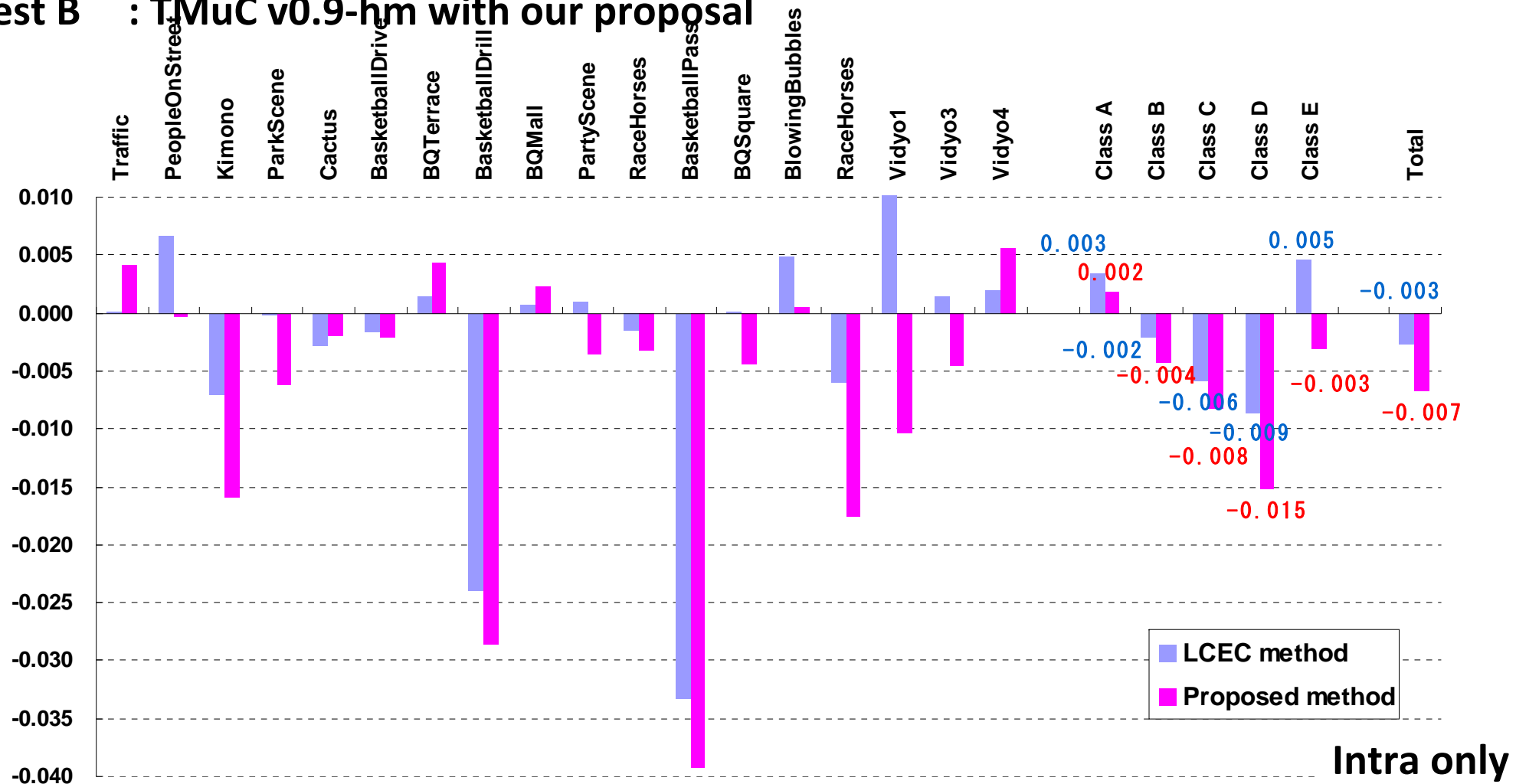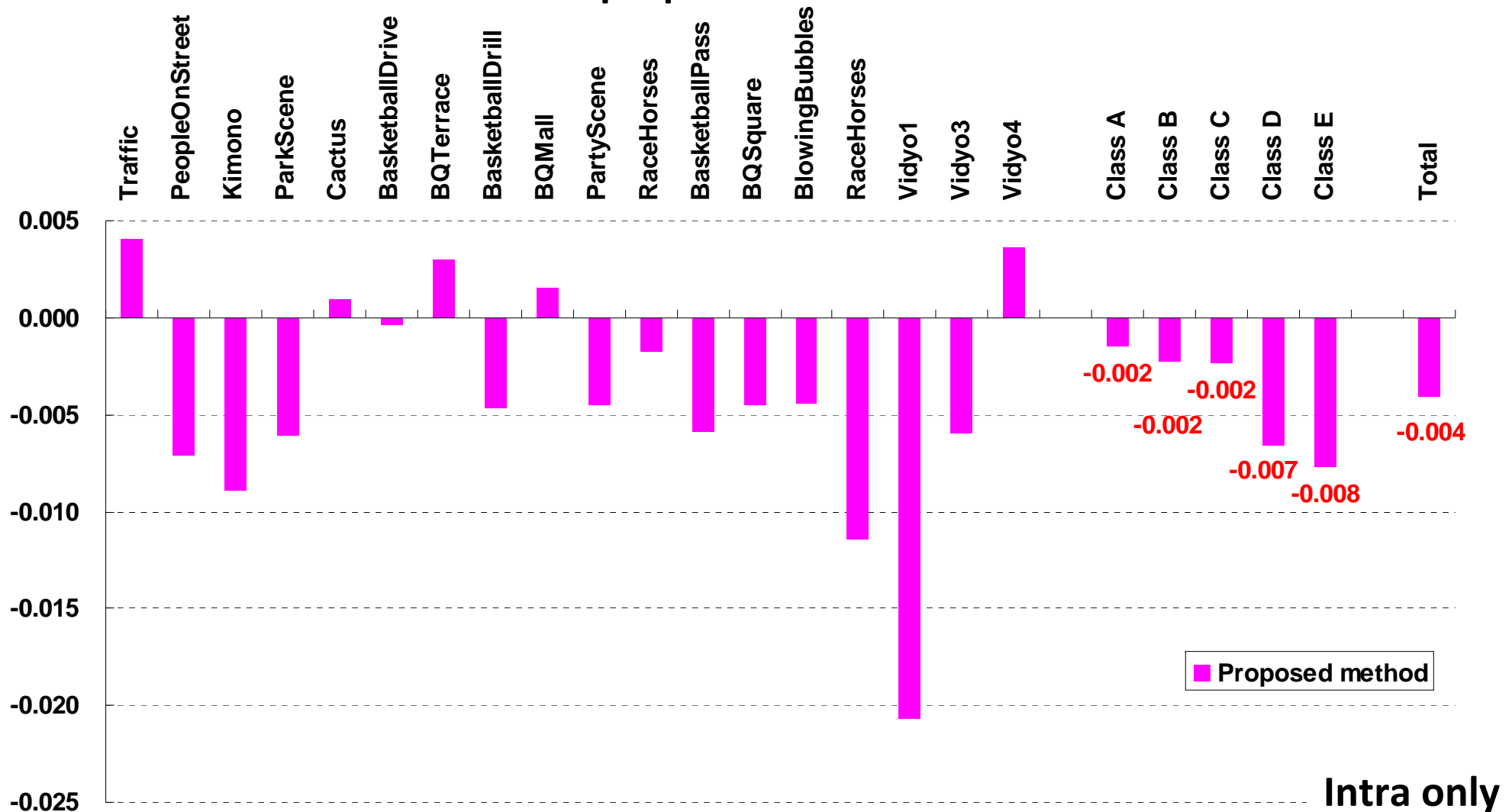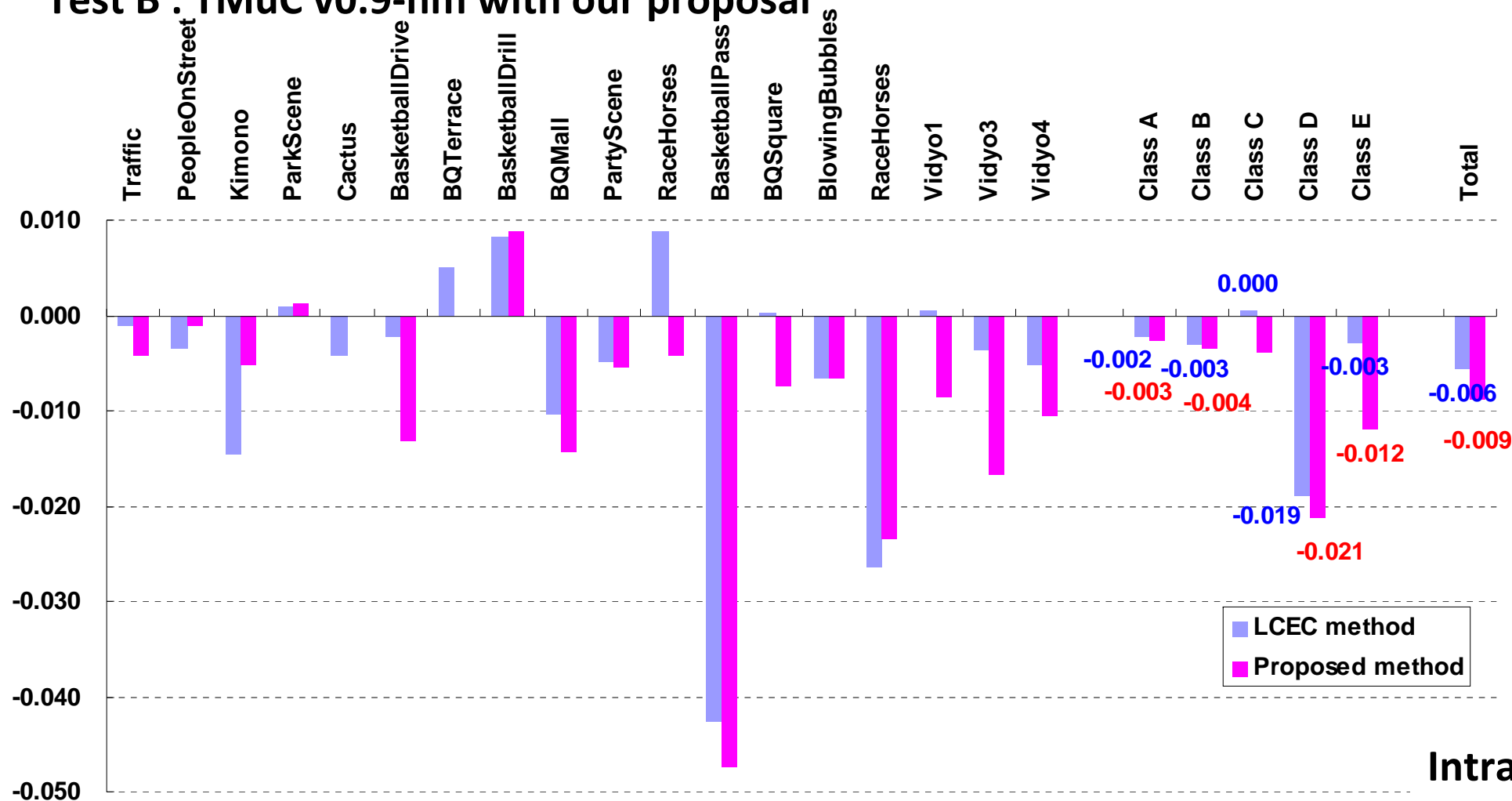Test : TMuC v0.9-hm with our proposal

Intra only

Results of DC coefficient coding for non-reference block (HE setting)

Anchor : TMuC v0.9-hm (= without DC coefficient coding)

Test A : TMuC v0.9-hm with LCEC method

Test B : TMuC v0.9-hm with our proposal

Intra only

Unified transform coefficient coding is proposed
for non-reference intra blocks to be used for both
CABAC and LCEC.

In comparison with the TMuC0.9-hm anchors,
the proposed change leads to small number of gain in BD-rate,
due to only small part tool in the codec.

Recommendation
    Such unified approach for non-reference
    intra block coding should be discussed in either
    CE or AHG.