

# **EE2-related: On LFNST/NSPT index signalling (JVET-AG0208)**

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# Proposed method

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- Problem statement
  - In EE2-3.3(LFNST/NSPT for inter coding),  
LFNST/NSPT is not enabled with SBT.  
But, an LFNST/NSPT index is signalled as 0 unnecessarily, when SBT is applied.
- Proposed method
  - LFNST/NSPT index signalling is skipped in the case of SBT, of which index value is inferred as 0.

# Experimental results

- 0.03% and 0.09%\* BD-rate reduction for RA and LD respectively, relative to EE2-3.3
  - For LD, LFNST/NSPT is enabled for both test and anchor.

	Random access Main10				
	Over EE2 Test-3.3 CTC				
	Y	U	V	EncT	DecT
Class A1	0.00%	-0.08%	-0.04%	101%	101%
Class A2	-0.03%	-0.08%	0.07%	101%	101%
Class B	-0.03%	-0.25%	0.09%	100%	100%
Class C	-0.03%	0.01%	-0.07%	100%	100%
Class E					
<b>Overall</b>	-0.03%	-0.11%	0.01%	100%	100%
Class D	-0.05%	-0.27%	0.00%	100%	100%
Class F	-0.05%	0.03%	-0.02%	100%	100%

	Low delay B Main10				
	Over EE2 Test-3.3 w/ LFNST enabled CTC				
	Y	U	V	EncT	DecT
Class A1					
Class A2					
Class B	-0.14%	-0.27%	-0.17%	101%	100%
Class C	-0.03%	0.16%	-0.14%	101%	101%
Class E	-0.07%	0.62%	0.51%	101%	100%
<b>Overall</b>	-0.09%	0.10%	0.01%	101%	100%
Class D	-0.22%	-0.31%	-0.28%	98%	99%
Class F	0.00%	0.27%	0.19%	100%	100%

\* QP-22 results of two sequences copied from their anchor in LB configuration  
: Class B (BQTerrace), Class F (ArenaOfValor)

# Conclusion

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- A simple and straightforward method to remove unnecessary LFNST/NSPT index signalling is proposed when SBT is applied.
  - Noticeable coding performance improvement with no complexity increase
- It is recommended to adopt the proposed method in next ECM with EE2-3.3.

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