

HLPW6: Test Case 1 (CRM-HLS)

Cadence Design Systems, Inc.

Meshing Software: Fidelity Pointwise 2025.2

Grid Family: HexIsoTet (F2)

Grid Characteristics:

Surface Mesh: Quad Dominant

Volume Mesh: Hex Dominant boundary layer mesh followed by Isotropic Tetrahedra mesh in the off-body region (Farfield).

Wall spacing: Growth profile with two constant layers before growing at 16% (Level B) and targeting a $y+$ of 1.0 (Level B). All other grids in the family have a similar growth profile while both growth rate and wall normal spacing (target $y+$) are adjusted based on the “Refinement Factor” (see mesh statistics table below)

Grid Level	Cell Count	Node Count	Refinement Factor	Target $y+$
A	27,208,818	13,428,913	0.75	4/3
B	46,509,876	24,570,112	1.0	1.0
C	116,911,995	66,940,962	1.5	2/3
D	265,665,810	164,250,168	2.0	0.5
E	678,260,498	418,801,298	3.0	1/3

For all questions regarding these meshes, please contact:

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