EVE SW – Kernels, Starterware and Applications

Version 01.10

Release Notes

October 2015

Build ID: 01.10.00.00

New In This Release

- Modification for applets
  - Binary Image to List
    - Added support for configurable output list size with uniform skipping of input features
- MISRA C compliance of EVE SW
- Compatibility information of applets is documented in Applet user guide Appendix A
- For bug fixes, refer Fixed in this release

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu) TDA3x EVM

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.7
  - C6000 Code Generation Tools version 7.4.2
  - XDAIS 7.24

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS0	Disparity hamming distance kernel testbench	EVE SW	01.09.00.00	01.10.00.00

0324330	does not build in host mode			
OMAPS00324518	Documentation Errors	EVE SW	01.09.00.00	01.10.00.00
OMAPS00324519	EVESW:APPS:HARRIS:Host Emulation few test case failing	EVE SW	01.09.00.00	01.10.00.00
OMAPS00326392	EVESW:APPS:YUVPADDING:Output buffer requirement is missing	EVE SW	01.09.00.00	01.10.00.00
OMAPS00327495	Sparse Optical Flow misbehaves with flat input with no texture	EVE SW	01.09.00.00	01.10.00.00

Known Issues

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00307983	- BAM: Requesting a memory record in DMEM doesn't quiet work as at creation time the returned pointer resides in DDsR	EVE SW	01.05.01.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB directory. Refer datasheet to identify such kernels	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"*'. This warning is present for each test binary.	NA	01.01.01.00	NA
OMAPS00323584	SOF algorithm in HOST_EMULATION mode has memory leak issue	EVE SW	01.08.00.00	NA

EVE SW – Kernels, Starterware and Applications

Version 01.09

Release Notes

June 2015

Build ID: 01.09.00.00

New In This Release

- Addition of below new applets
  - Binary Image to List
- Modification for applets
  - Edge Detector
    - Added support for Canny Edge detection, edge relaxation step is expected to execute externally
  - Harris Corner Detect
    - Added support for variable score window size
    - Added support for additional score method using only trace information
    - Added support for variable NMS window size
    - Added support for binary map output
  - SOF
    - Support of Larger Tracks (> 1K)
    - Optimization of below modules for larger tracks
      - Merge of newly detected key points with existing tracks
      - Filter key points method (confidence measure based thresholding) using internal memory
    - Support for modified Harris Corner detect with configurable harris score window size, NMS window Size and score method
  - Disparity
    - Added support for right-left search direction
    - Added one more output option DISPARITY_TI_NOCOST that does not produce any cost output, only the disparity map
  - Remap-merge
    - Added standalone remap convert table utility along with remap execute utility
- Addition/Modification of kernels
  - Added Binary Masking Kernel
  - Modified Bin Img To List

        - Support to configure xy order
        - Support to set Qformat for the output coordinates
    - Modified Non Maximum Suppression
        - Support to provide binary packed output
    - Modified Harris Score
        - Support for variable score window size
        - Support for different score method using only trace information
    - Modified Canny Non Maximum Suppression
        - Migrated to new test bench format
        - Added new kernels for complete functionality and better readability
- Miscellaneous
    - MISRA C warnings fixed for gray scale morphology and remap applet
    - Migrated the test benches of below applets to new profiling mechanism
        - Nms, hough_for_lines, blockSort_u32, soft_isp, glcm, rbrief, block_statistics
- Compatibility information of applets is documented in Applet user guide Appendix A
- For bug fixes, refer Fixed in this release

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu) TDA3x EVM

- This release is validated using following components
    - Code Composer Studio (CCS) version 5.4.0.00091
    - ARP32 Code Generation Tools version 1.0.7
    - C6000 Code Generation Tools version 7.4.2
    - XDAIS 7.24

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00318580	Host Emulation build not working on 01_07_00_00 release onwards	EVE SW	01.07.00.00	01.09.00.00
OMAPS00321487	Documentation Errors	EVE SW	01.08.00.00	01.09.00.00
OMAPS0	Erroneous flow vectors observed when number	EVE SW	01.08.00.00	01.09.00.00

0318661	key points tracked is equal to maximum value			
OMAPS00323592	Test executables on TDA3x get stuck with standard gel file package	EVE SW	01.08.00.00	01.09.00.00

Known Issues

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00307983	- BAM: Requesting a memory record in DMEM doesn't quiet work as at creation time the returned pointer resides in DDsR	EVE SW	01.05.01.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB directory. Refer datasheet to identify such kernels	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'.* This warning is present for each test binary.	NA	01.01.01.00	NA
OMAPS00323584	SOF algorithm in HOST_EMULATION mode has memory leak issue	EVE SW	01.08.00.00	NA

EVE SW – Kernels, Starterware and Applications

Version 01.08

Release Notes

Jan 2015

Build ID: 01.08.00.00

New In This Release

- Addition of below new applets
  - YUV Scalar
  - Edge Detector
  - Binary Morphology
- Modification for applets
  - HOG Feature Plane generation
    - Improved performance with usage of scalar applet instead of remap
    - Varying ROI support for each scale
    - Filter is external to feature plane
  - Gray scale morphology
    - Migrated to ivision interface
    - Support of all modes (open, close, top-hat, bottom-hat and Morph diff) for rectangular and cross mask
  - Hough circle – support of dark and bright circles
  - Filter 2D - Support of single gray scale channel
  - Stereo Disparity : Hamming distance disparity calculation has been improved to output 2 additional adjacent cost maps in addition to the minimum cost map to enable sub-pixel disparity interpolation
  - Usage of multiple DMA TC queues for apps fast9 corner detect, Hough for line, 2D NMS, Rbrief
- Addition/Modification of kernels
  - Yuv scalar
  - Sobel XY
  - Binary morphology
    - Change in input format to be more natural instead of custom format
    - Removed the constraint of block width to be multiple of 256
  - Addition of test bench for separable filter kernel
- Enhancement of stereo vision algorithm test bench exercising multiple applets

- Modification of DMA utility to auto detect the number of available queues on device and correct invalid usage of caller
- For bug fixes, refer Fixed in this release

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu) TDA3x EVM

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.6
  - C6000 Code Generation Tools version 7.4.2
  - XDAIS 7.24

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00314903	EVESW:APPS:Hough for Circle Applet – Random functionality issue with Hough for circle	EVE SW	01.07.00.00	01.08.00.00
OMAPS00311044	Create time for TI PD algorithm is very high	EVE SW	01.05.01.00	01.08.00.00
OMAPS00316140	EVESW : Host Emulation Build is broken	EVE SW	01.07.00.00	01.08.00.00
OMAPS00317418	Illegal pointer access issue in BAM memory allocation	EVE SW	01.07.00.00	01.08.00.00
OMAPS00317456	EVESW:FAST9BFTF:EDMA - The dma is not trigerred if features less than 32	EVE SW	01.07.00.00	01.08.00.00
OMAPS00317458	EVESW:FAST9BFTF - Does not work for features less than 16 and non-multiple of 16	EVE SW	01.07.00.00	01.08.00.00
OMAPS00317520	EVESW:KERNELS:Binary Morphology Erode Generic Mask: Incorrect logic	EVE SW	01.07.00.00	01.08.00.00
OMAPS00317521	EVESW:KERNELS:Binary Morphology Dilate Generic Mask NATC: Incorrect logic	EVE SW	01.07.00.00	01.08.00.00
OMAPS00318005	EVESW:ALGO:SOF:Insufficient memory allocation for 640x360 input resolution with four levels	EVE SW	01.07.00.00	01.08.00.00
OMAPS00318009	EVESW:APPS:Filter2D – Border Output is not as expected when filter is disabled	EVE SW	01.07.00.00	01.08.00.00
OMAPS00318006	EVESW:APPS:FILTER2D:Output mismatch observed with contrast stretching	EVE SW	01.07.00.00	01.08.00.00

OMAPS00318010	EVESW:KERNELS:Grayscale Morphology Dilate Rect Mask Kernel: Bit matching issue observed for certain block widths	EVE SW	01.07.00.00	01.08.00.00
OMAPS00318049	EVESW:GELS: Issue with Gel file	EVE SW	01.07.00.00	01.08.00.00
OMAPS00318084	EVESW:KERNELS: Vertical Non Max suppression - Stack usage high	EVE SW	01.07.00.00	01.08.00.00

Known Issues

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00307983	- BAM: Requesting a memory record in DMEM doesn't quiet work as at creation time the returned pointer resides in DDRs	EVE SW	01.05.01.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB directory. Refer datasheet to identify such kernels	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"*'. This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starterware and Applications

Version 01.07

Release Notes

Oct 2014

Build ID: 01.07.00.00

New In This Release

- Addition of below new applets
  - Census Transform
  - Disparity
  - Feature Matching
  - Hough for circle
  - 2D NMS
- Modification for applets
  - Block statistics to migrate to ivision interface
  - Usage of multiple DMA TC queues for apps HOG pd feature calculation, remap merge
  - Fast9 Best feature to front is modified to output only suppressed points even the observed points are lesser than set max points
  - All applets are modified to use a file IO wrapper to allow mechanisms other than rts file read/write via JTAG
- Addition/Modification of kernels
  - Census Transform (8 and 16 bit)
  - SAD based disparity (8 bit and 16 bit)
  - Hamming distance based disparity
  - Hough for circle
  - Prune List to accommodate threshold
  - Hamming distance kernels for correspondence matching
- Enhancement of SOF algorithm
  - Created a single interface at SOF level and all the applets are made part of this algorithm
  - Added Tracking module, and algorithm outputs a track for each corner point with its position in past 16 frames
  - Used frame padding when necessary
- Addition of stereo vision algorithm test bench exercising multiple applets
- For bug fixes, refer Fixed in this release

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu) TDA3x EVM

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.6
  - C6000 Code Generation Tools version 7.4.2
  - XDAIS 7.24

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00313201	Stack corruption observed while using fast9_best_feature_to_front applet	EVE SW	01.06.01.00	01.07.00.00
OMAPS00313200	Pyramid LK tracker crashes when external scratch buffer is reused	EVE SW	01.06.01.00	01.07.00.00
OMAPS00313199	Pyramid LK tracker app crashes in the system because of invalid Image buffer load	EVE SW	01.06.01.00	01.07.00.00
OMAPS00313114	Manifest file not updated	EVE SW	01.06.01.00	01.07.00.00
OMAPS00313917	EVESW:APPS:Remap & Merge Applet - Memory Leak in remap App of EVE release 01.06.01.00	EVE SW	01.06.01.00	01.07.00.00
OMAPS00312913	BAM: Smart memory allocator	EVE SW	01.06.01.00	01.07.00.00
OMAPS00312106	BAM: automatic block dimensions calculation doesn't work with blockWidthStep= 0 or blockHeightStep= 0	EVE SW	01.06.01.00	01.07.00.00
OMAPS00312100	BAM: smart memory allocator misbehaves with output memory records that are BAM_MEMATTRS_CONST or BAM_MEMATTRS_PERSISTENT	EVE SW	01.06.01.00	01.07.00.00
OMAPS00314652	EVESW:APPS:Remap & Merge Applet - algfree() fails when alginit() fails	EVE SW	01.06.01.00	01.07.00.00
OMAPS00314532	EVESW:APPS:Remap & Merge Applet - Correct Applet Document with right formula of Alpha blending	EVE SW	01.06.01.00	01.07.00.00
OMAPS00312767	EVESW:APPS:Remap & Merge Applet - AutoIncrement 2D DMA for LUT in Bounding Box Scenario fails	EVE SW	01.06.01.00	01.07.00.00
OMAPS0	EVESW:APPS:Remap & Merge Applet - Correct	EVE SW	01.06.01.00	01.07.00.00

0314532	Applet Document with right formula of Alpha blending.			
OMAPS00314652	EVESW:APPS:Remap & Merge Applet - algfree() fails when alginit() fails.	EVE SW	01.06.01.00	01.07.00.00

Known Issues

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00314903	EVESW:APPS:Hough for Circle Applet - bit exactness issue for scale factor 3	EVE SW	01.07.00.00	NA
OMAPS00311044	Create time for TI PD algorithm is very high	EVE SW	01.05.01.00	NA
OMAPS00307983	- BAM: Requesting a memory record in DMEM doesn't quiet work as at creation time the returned pointer resides in DDsR	EVE SW	01.05.01.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB directory. Refer datasheet to identify such kernels	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'*. This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starterware and Applications

Version 01.06

Release Notes

July 2014

Build ID: 01.06.01.00

New In This Release

- Enhancement of Pyramid LK Tracker applet with below changes
  - Removal of constraint for key points to be multiple of 16
  - Addition of higher search range up to +/-18 compared to +/-12 as earlier
  - Configurable search range for all levels of Pyramid
  - Support for higher number of Pyramids (up to 8)
- Removal of FAST9 based SOF demo application and have single demo test application to switch among different key point detectors such as Harris, Fast9 and external
- Addition of below new applets
  - Integral Image
  - Hough for line
  - 3x3 Median filter
- Enhancement of Remap Applet to user configurable option of both tile and bounding box approach for input block
- For bug fixes, refer Fixed in this release

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu)

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.3
  - C6000 Code Generation Tools version 7.4.2
  - XDAIS 7.24

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00309191	EVESW:APPS:Remap & Merge Applet -Artifacts seen for Bilinear Interpolation of 422 Chroma.	EVE SW	01.05.01.00	01.06.01.00
OMAPS00309194	EVESW:APPS:Remap & Merge Applet -Bilinear Interpolation of 420 SP Chroma not bit-matching.	EVE SW	01.05.01.00	01.06.01.00
OMAPS00311896	EVESW:APPS:YUV padding applet is expecting an external variable	EVE SW	01.06.00.00	01.06.01.00

Known Issues

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00311044	Create time for TI PD algorithm is very high	EVE SW	01.05.01.00	NA
OMAPS00307983	- BAM: Requesting a memory record in DMEM doesn't quiet work as at creation time the returned pointer resides in DDsR	EVE SW	01.05.01.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB directory. Refer datasheet to identify such kernels	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'.* This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starterware and Applications Version 01.06

Release Notes

July 2014

Build ID: 01.06.00.00

New In This Release

- Removed the example kernels that were part of KERNELSLIB.
- For bug fixes, refer Fixed in this release

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu)

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.3
  - C6000 Code Generation Tools version 7.4.2
  - XDAIS 7.24

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00311569	Harris corner applet requesting for wrong memory alignment	EVE SW	01.05.02.00	01.06.00.00
OMAPS00311572	Support 24 scales feature planes in TI PD	EVE SW	01.05.02.00	01.06.00.00
OMAPS00311583	EVESW:APPS: Few test files have potential copyright issues	EVE SW	01.05.02.00	01.06.00.00

Known Issues

Defect ID	Description	Applicable	Defect	Defect

		Release Configuration	found in release	Fixed in release
OMAPS00311044	Create time for TI PD algorithm is very high	EVE SW	01.05.01.00	NA
OMAPS00307983	- BAM: Requesting a memory record in DMEM doesn't quiet work as at creation time the returned pointer resides in DDsR	EVE SW	01.05.01.00	NA
OMAPS00309191	EVESW:APPS:Remap & Merge Applet -Artifacts seen for Bilinear Interpolation of 422 Chroma.	EVE SW	01.05.01.00	NA
OMAPS00309194	EVESW:APPS:Remap & Merge Applet -Bilinear Interpolation of 420 SP Chroma not bit-matching.	EVE SW	01.05.01.00	NA
OMAPS00305578	EVE SW:ALGOS:Limited functional verification ORB Demo algorithm	EVESW	01.04.00.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB and KERNELSLIB directory. Refer datasheet to identify such kernels	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'.* This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starterware and Applications Version 01.05

Release Notes

July 2014

Build ID: 01.05.02.00

New In This Release

- HOG feature computation for Pedestrian detection with enhancement
  - Contrast stretching on input to work better on live content
  - Optimization on EVE to get 4MHz saving per frame 28 fps with EVE@650 MHz
  - Addition of high speed version to achieve 30 fps with EVE@650 MHz
- Soft ISP with enhancement of stats calculation and R channel output

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu)

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.3
  - C6000 Code Generation Tools version 7.4.2
  - XDAIS 7.24

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00310115	Remap & Merge Applet - Quantization error in 420 Chroma TLU Calculation	EVE SW	01.05.01.00	01.05.02.00
OMAPS00310112	Remap & Merge Applet - Unnecessary DMA In by ScatterGather of Input Tile and LUT in last Source_Trigger() call	EVE SW	01.05.01.00	01.05.02.00
OMAPS00311084	Remap & Merge Applet - Remap Integration Issues with EVE release 01.05.01.00	EVE SW	01.05.01.00	01.05.02.00

OMAPS00311085	Remap & Merge Applet - Merge/Alpha Blending dataflow having issues	EVE SW	01.05.01.00	01.05.02.00
OMAPS00309963	BAM smart mem allocator misbehaves for output mem rec that are BAM_MEMATTRS_CONST or BAM_MEMATTRS_PERSISTENT	EVE SW	01.05.01.00	01.05.02.00
OMAPS00308443	LK tracker applet document does not reflect the limitation on number of Key Points	EVE SW	01.05.01.00	01.05.02.00

Known Issues

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00311044	Create time for TI PD algorithm is very high	EVE SW	01.05.01.00	NA
OMAPS00307983	- BAM: Requesting a memory record in DMEM doesn't quiet work as at creation time the returned pointer resides in DDsR	EVE SW	01.05.01.00	NA
OMAPS00309191	EVESW:APPS:Remap & Merge Applet -Artifacts seen for Bilinear Interpolation of 422 Chroma.	EVE SW	01.05.01.00	NA
OMAPS00309194	EVESW:APPS:Remap & Merge Applet -Bilinear Interpolation of 420 SP Chroma not bit-matching.	EVE SW	01.05.01.00	NA
OMAPS00305578	EVE SW:ALGOS:Limited functional verification ORB Demo algorithm	EVESW	01.04.00.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB and KERNELSLIB directory. Refer datasheet to identify such kernels	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'.* This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starterware and Applications Version 01.05

Release Notes

May 2014

Build ID: 01.05.01.00

New In This Release

- TILE based implementation for Remap and Merge applet (OMAPS00309204)
- Software Image Signal Processor (ISP) applet for RCCC sensor
- Added a Block Sort applet
- Update of fast9 BFTF to have 8-way NMS (OMAPS00309205)
- Update LK Tracker applet to allow max iterations per level and max iterations to be maxed to 20 (OMAPS00309206)
- Update of both SOF (fast9 and Harris corner based) to consume modified applets
- Support for negative scores in 32-bit Harris Score kernel and applet (OMAPS00309207)
- Add support for control calls for BAM nodes. All applets have been modified to use the new BAM control API.
- Update makefiles to support host emulation build for applets and algorithms
- Makefile changes to generate both release and debug variants of libraries (OMAPS00309200)

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu)

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.2
  - C6000 Code Generation Tools version 7.4.2
  - XDAIS 7.24

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00308287	[EVE S/W] All backward slashes to be replaced with Forward slashes	EVE SW	01.05.00.00	01.05.01.00
OMAPS00308443	LK tracker applet document does not reflect the limitation on number of Key Points	EVE SW	01.05.00.00	01.05.01.00
OMAPS00308548	Harris BFF output is wrong when MaxFeaturesIn is not a power of 2	EVE SW	01.05.00.00	01.05.01.00
OMAPS00308554	rBrief applet naturalC testbench pitch computation is wrong	EVE SW	01.05.00.00	01.05.01.00
OMAPS00308663	Wrong memory request size as part of kernel vcop_weight_computation being used in pyramid_lk_tracker applet	EVE SW	01.05.00.00	01.05.01.00
OMAPS00308665	Handle of Image Pyramid applet is not freed in LK SOF demo code	EVE SW	01.05.00.00	01.05.01.00

Known Issues

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00309191	EVESW:APPS:Remap & Merge Applet -Artifacts seen for Bilinear Interpolation of 422 Chroma.	EVE SW	01.05.01.00	NA
OMAPS00309194	EVESW:APPS:Remap & Merge Applet -Bilinear Interpolation of 420 SP Chroma not bit-matching.	EVE SW	01.05.01.00	NA
OMAPS00305578	EVE SW:ALGOS:Limited functional verification ORB Demo algorithm	EVESW	01.04.00.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB and KERNELSLIB directory. Refer datasheet to identify such kernels	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'.* This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starterware and Applications Version 01.05

Release Notes

April 2014

Build ID: 01.05.00.00

New In This Release

- Modification of Remap to support 16 bit LUT index instead of 12 bit (OMAPS00308232)
- Addition of Gray Scale Co-occurrence matrix applet (OMAPS00300785) and associated kernels of intensity scaling and glcm
- Optimization of Fast9 corner detect based SOF by using DMEM and modifying the best feature to front to have better performance for the cases where number of points are less (<= 1024)
- Enhancement of Fast9 corner detect based SOF to use Gaussian based pyramid instead of average filter and associated kernels
- Addition of HOG Applet for pedestrian detection and associated kernels (gradient and magnitude, orientation binning, location matrix, hog vector, mxn block sum)
- Addition of YUV padding applet and associated kernel
- Addition of Separable filter applet and associated kernel

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu)

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.2
  - C6000 Code Generation Tools version 7.4.2
  - XDAIS 7.24

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00308226	EVESW:APPS:remap_merge Applet - Artifacts seen for Bilinear Interpolation of 420 SP Chroma	EVE SW	01.04.01.00	01.05.00.00

Known Issues

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00305578	EVE SW:ALGOS:Limited functional verification ORB Demo algorithm	EVESW	01.04.00.00	NA
OMAPS00303696	EVESW:APPS:remap_merge Applet - convert map function is not adhering to constraint on block height	EVESW	01.03.01.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB and KERNELSLIB directory. Refer datasheet to identify such kernels	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"*'. This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starterware and Applications Version 01.04

Release Notes

Feb 2014

Build ID: 01.04.01.00

New In This Release

- Enhancement of Sparse Optical Flow demo to use FAST9 corner detection
- Enhancement of FAST9 Best Feature to front applet and associated kernel to support Threshold based FAST9 score
- Enhancement of LK Tracker applet with SAD based error measure reporting
- Improved performance of LK Tracker
- Enhanced BAM framework

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu)

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.2
  - C6000 Code Generation Tools version 7.4.2
  - XDAIS 7.24

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00303699	EVESW:APPS:remap_merge Applet - In some test case small artifact is observed in Luma	EVE SW	01.04.00.00	01.04.01.00
OMAPS00305746	Harris corner detection applet overwrite first elements of the list if number of corners detected exceed maxumum allowed.	EVE SW	01.04.00.00	01.04.01.00
OMAPS00305783	Block sort kernel testbench crashes	EVE SW	01.04.00.00	01.04.01.00
OMAPS00306204	Fast9 best feature to front applet crashes when MAX_FEATURES is not equal to 2048	EVE SW	01.04.00.00	01.04.01.00
OMAPS00306205	Fast9 corner detect expects threshold+1 for natural C and threshold for kernel	EVE SW	01.04.00.00	01.04.01.00
OMAPS00306709	Vertical non-max suppression kernel and natural C gives different output	EVE SW	01.04.00.00	01.04.01.00
OMAPS00306808	Remap Merge Applet not considering Output buffers with Stride (CSR OMAPS00306092)	EVE SW	01.04.00.00	01.04.01.00
OMAPS00306899	Remap Applet: Artifacts seen in Chroma component when input is YUV 420 SP for some Output blockSizes	EVE SW	01.04.00.00	01.04.01.00
OMAPS00307059	Fast9 best feature to front applet bug in multi level	EVESW	01.04.00.00	01.04.01.00
OMAPS00307069	Documentation Issues: XDAIS environment variable is not mentioned in getting started guide Environment variable EVE_SW_ROOT needs better description	EVESW	01.04.00.00	01.04.01.00
OMAPS00307071	Build issue starterware example build of edma_simple_eve/src/main.c and /inc/edma_csl/tistdtypes.h has issue Individual Kernel build need manual creation of elf_out directory and expect a prebuilt of bootarp32.asm EVE Programmer guide and release are not in synch for gmake usage without any command line option	EVESW	01.04.00.00	01.04.01.00

Known Issues

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release

OMAPS00305578	EVE SW:ALGOS:Limited functional verification ORB Demo algorithm & performance gap	EVESW	01.04.00.00	NA
OMAPS00303696	EVESW:APPS:remap_merge Applet - convert map function is not adhering to constraint on block height	EVESW	01.03.01.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB and KERNELSLIB directory. Refer datasheet to identify such kernels	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'.* This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starterware and Applications Version 01.04

Release Notes

Jan 2014

Build ID: 01.04.00.00

New In This Release

- Sparse Optical Flow demo algorithm using following applets
  - Image pyramid
  - Harris Corner 32 bit
  - Pyramid Lucas Kanade Tracker
- ORB demo algorithm using following applets
  - Fast 9 Corner Detect
  - Fast 9 Best Feature to Front
  - Harris Best Feature to Front
  - rBrief
- Enhanced BAM framework

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu)

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.2
  - C6000 Code Generation Tools version 7.4.2
  - XDAIS 7.24

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00297388	EVESW:KERNELS:trackFeaturesLucasKanade: Key Points at the boundary of an image are not handled properly. Refer evelib_userguide.pdf	EVE SW	01.02.00.00	01.04.00.00
OMAPS00304455	BAM's automatic block calculation fails in certain case	EVE SW	01.03.02.00	01.04.00.00
OMAPS00304458	Image pyramid applet cannot handle all image dimensions	EVE SW	01.03.02.00	01.04.00.00
OMAPS00304461	Calling BAM_createGraph() many times eventually crashes the system	EVE SW	01.03.02.00	01.04.00.00
OMAPS00304554	In BAM v2.01.01.00 , when a natural-C kernel node is plugged into the graph, the graph creation may crash or be incorrect	EVE SW	01.03.02.00	01.04.00.00
OMAPS00304770	BAM: All output ports of a compute node must have a connection to a downstream node, otherwise processing is incorrect.	EVE SW	01.03.02.00	01.04.00.00
OMAPS00304922	BAM doesn't allow getMemRec to override of memspace for internal memory record to WBUF if attribute is BAM_MEMATTRS_SCRATCH	EVE SW	01.03.02.00	01.04.00.00
OMAPS00305062	ARP32 node that have private context variables will behave incorrectly	EVE SW	01.03.02.00	01.04.00.00
OMAPS00305402	BAM smart memory allocator does not release internal memory records that are of type BAM_MEMATTRS_SCRfrom one node to another	EVE SW	01.03.02.00	01.04.00.00
OMAPS00305404	BAM smart memory allocator can sometimes hang in vcop_free()	EVE SW	01.03.02.00	01.04.00.00
OMAPS00305119	Remap Kernel : Artifacts seen in Chroma Component of Remap output for 422 ILE format.	EVESW	01.03.01.00	01.04.00.00

Known Issues

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00305578	EVE SW:ALGOS:Limited functional verification ORB Demo algorithm & performance gap	EVESW	01.04.00.00	NA
OMAPS00302290	EVESW:APPS:remap_merge Applet - In some test case small artifact is observed in Luma	EVESW	01.03.01.00	NA
OMAPS00303696	EVESW:APPS:remap_merge Applet - convert map function is not adhering to connstraing on	EVESW	01.03.01.00	NA

	block height			
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB and KERNELSLIB directory. Refer datasheet to identify such kernels	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'.* This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starterware and Applications Version 01.03

Release Notes

December 2013

Build ID: 01.03.02.00

New In This Release

- Support for Image Pyramid Creation Applet
- Improved source code quality with comments for remap and merge applet
- Added support for ARP32 node in BAM

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu)

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.2
  - C6000 Code Generation Tools version 7.4.2

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00304384	EVESW:KERNELS: 32-bit/16-bit Harris Score documentation doesn't have the details about the format of score	EVESW	01.03.01.00	NA
OMAPS00304340	EVESW:ALGFRAMEWORK:BAM graph execution fails if a graph object is restored to different location	EVESW	01.03.01.00	NA
OMAPS00304386	EVESW:ALGFRAMEWORK: `BAM_contextRestoreMemRec` is not restoring the context but it saves the context	EVESW	01.03.01.00	NA

Known Issues

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00302290	EVESW:APPS:remap_merge Applet - In some test case small artifact is observed in Luma	EVESW	01.03.01.00	NA
OMAPS00297388	EVESW:KERNELS:trackFeaturesLucasKanade: Key Points at the boundary of an image are not handled properly. Refer evelib_userguide.pdf	EVE SW	01.02.00.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB and KERNELSLIB directory	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"*'. This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starterware and Applications Version 01.03

Release Notes

November 2013

Build ID: 01.03.01.00

New In This Release

- Support for Alpha Blend and Format Conversion functionality in Remap and Merge Applet and associated kernels (OMAPS00301054)
- Addition of EDMA utility for Scatter Gather and 1D Auto increment with circular buffering

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu)

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.2
  - C6000 Code Generation Tools version 7.4.2

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00302290	EVESW:APPS:remap_merge Applet fails for few test cases if preceded by other BAM or NON BAM applets	EVESW	01.03.00.01	NA
OMAPS00303696	EVESW:APPS:remap_merge Applet - convert map function is not adhering to constraint on block height	EVE SW	01.03.00.01	NA
OMAPS00303698	EVESW:KERNELS:vcop_rmap: Remap for 4:2:0 Chroma format is not correct	EVE SW	01.03.00.01	NA

Known Issues

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00302290	EVESW:APPS:remap_merge Applet - In some test case small artifact is observed in Luma	EVESW	01.03.01.00	NA
OMAPS00297388	EVESW:KERNELS:trackFeaturesLucasKanade: Key Points at the boundary of an image are not handled properly. Refer evelib_userguide.pdf	EVE SW	01.02.00.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB and KERNELSLIB directory	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'.* This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starter ware and Applications Version 01.03.00.01

Release Notes

October 2013

Build ID: 01.03.00.01

New In This Release

- Support for following new frame level application
  - Pixel remap & merge (OMAPS00301054)
    - Currently, only the pixel remap is supported in this deliverable with support for on the fly computation of Chroma TLU index and packed TLU index support for Luma
    - Packed TLU index uses 16 bits with 12 bits for integer index and 2 bits each for fractional part of both X and Y

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu)

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.2
  - C6000 Code Generation Tools version 7.4.2

Fixed in this release

None

Known Issues

Defect ID	Description	Applicable Release	Defect found in	Defect Fixed in

		Configuration	release	release
OMAPS00302290	EVESW:APPS:remap_merge Applet fails for few test cases if preceded by other BAM or NON BAM applets	EVESW	01.03.00.01	NA
OMAPS00297388	EVESW:KERNELS:trackFeaturesLucasKanade: Key Points at the boundary of an image are not handled properly. Refer evelib_userguide.pdf	EVE SW	01.02.00.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB and KERNELSLIB directory	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'.* This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starter ware and Applications Version 01.03.00.00

Release Notes

October 2013

Build ID: 01.03.00.00

New In This Release

- Support for following new kernels
  - Hamming Distance (OMAPS00300777)
  - Block Statistics (OMAPS00300783)
  - Median Filtering (OMAPS00300782)
- Support for following new frame level applications
  - Block Statistics (OMAPS00300783)
  - Median Filtering (OMAPS00300782)
- Improved performance of the following kernels in addition to simplified API interface
  - Fast9 (OMAPS00301752)
  - rBRIEF (OMAPS00301754)
- Added EDMA utilities to ease DMA programming for auto increment
- Simplification of BAM algframework and adaptation to EDMA utilities along with migration of existing algorithms
- Removal of ispresizer and bop algorithms

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu)

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.2
  - C6000 Code Generation Tools version 7.4.2

Fixed in this release

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00299074	EVE SCTM produces spurious count for active low or High on reset signals(eg.VCOP_DONE)	EVE SW	01.02.00.00	01.03.00.00
OMAPS00299078	Host emulation build for kernels are failing	EVE SW	01.02.00.00	01.03.00.00
OMAPS00299435	Harris Score 32 bit not bit-exact when scratch buffers are in different memory banks	EVE SW	01.02.00.00	01.03.00.00
OMAPS00299441	EVELIB Resizer Applet for Gray Scale Input continues to run indefinitely for resolution 128x128	EVE SW	01.02.00.00	01.03.00.00
OMAPS00299442	EVELIB Applets Fails IF PRECEDED by Frame Padding Applet Execution	EVE SW	01.02.00.00	01.03.00.00
OMAPS00299848	Harris score kernel test case improvement	EVE SW	01.02.00.00	01.03.00.00
OMAPS00300704	EVE: EVE Starterware Examples for DSP & EVE mailbox are not working	EVE SW	01.02.00.00	01.03.00.00
OMAPS00301752	FAST9 - unclean interface and poor performance	EVE SW	01.02.00.00	01.03.00.00
OMAPS00301754	rBRIEF - unclean interface and poor performance	EVE SW	01.02.00.00	01.03.00.00

Known Issues

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00297388	EVESW:KERNELS:trackFeaturesLucasKanade: Key Points at the boundary of an image are not handled properly. Refer evelib_userguide.pdf	EVE SW	01.02.00.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB and KERNELSLIB directory	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'.* This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starter ware and Applications Version 01.02.00.01

Release Notes

July 2013

Build ID: 01.02.00.01

New In This Release

- Fix corruption seen at bottom of in BAM resizer output
- BAM resizer user guide updated with information on width and height constraints and recommendation for performance

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu)

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.1
  - C6000 Code Generation Tools version 7.4.2

Fixed in this release

Consult the data sheet of individual algorithms for the defects for individual algorithms.

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00297579	Corruption seen at the bottom for EVE resizer	EVE SW	01.02.00.00	01.02.00.01
OMAPS00297474	Remove EVE's algorithm width & height limitation	EVE SW	01.01.01.00	01.02.00.01

Known Issues

Consult the data sheet of individual algorithms for the issues for individual algorithms.

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00297388	EVESW:KERNELS:trackFeaturesLucasKanade: Key Points at the boundary of an image are not handled properly. Refer evelib_userguide.pdf	EVE SW	01.02.00.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB and KERNELSLIB directory	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'.* This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW – Kernels, Starter ware and Applications Version 01.02.00.00

Release Notes

July 2013

Build ID: 01.02.00.00

New In This Release

- Support for following new kernels
  - FAST9
  - rBRIEF
  - Harris Score 32 bit
- Inclusion of Natural C source for the kernels
- Support for following new Frame level applications
  - Harris corner detection
  - Lucas Kanade Tracker using Harris corner points
- Restructuring of EVE starter ware to avoid duplication of common files across EVE based devices
- Addition of user guide for EVE starter ware
- Addition of getting started document

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	EVE SW – Kernels, Starter ware and Applications	Vision28 Super (Vayu)

- This release is validated using following components
  - Code Composer Studio (CCS) version 5.4.0.00091
  - ARP32 Code Generation Tools version 1.0.1
  - C6000 Code Generation Tools version 7.4.2

Fixed in this release

Consult the data sheet of individual algorithms for the defects for individual algorithms.

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00291534	EVE starterware - redifinitions of tistdtypes.h	EVE SW	01.01.00.00	01.01.01.00, 01.02.00.00
OMAPS00294704	EVESW:STARTERWARE:mailbox examples:Avoid EVE reset by host for EVM testing	EVE SW	01.01.00.00	01.01.01.00, 01.02.00.00
OMAPS00294183	EVESW:KERNELS:nonMaximumSuppression: Fails Bit Exactness Test When Tested With Random Inputs	EVE SW	01.01.01.00	01.02.00.00
OMAPS00294184	EVESW:KERNELS:harrisScore:Fails Bit Exactness Test When Tested With Random Inputs & has precision issues	EVE SW	01.01.01.00	01.02.00.00
OMAPS00297389	EVESW: KERNELS: Failures to build kernels of VLIB, IMGSIGLIB and KERNELSLIB	EVE SW	01.01.01.00	01.02.00.00
OMAPS00294185	EVESW:KERNELS:trackFeaturesLucasKanade:Fails Bit Exactness Test When Tested With Random Inputs	EVE SW	01.01.01.00	01.02.00.00

Known Issues

Consult the data sheet of individual algorithms for the issues for individual algorithms.

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00297388	EVESW:KERNELS:trackFeaturesLucasKanade: Key Points at the boundary of an image are not handled properly. Refer evelib_userguide.pdf	EVE SW	01.02.00.00	NA
OMAPS00297458	Limited verification of the kernels provided in VLIB, IMGSIGLIB and KERNELSLIB directory	EVE SW	01.01.01.00	NA
OMAPS00297459	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'.* This warning is present for each test binary.	NA	01.01.01.00	NA

EVE SW - Algorithms & Kernels for EVE
Version 01.01.01.00

Release Notes

April 2013

Build ID: 01.01.01.00

New In This Release

- Support for the following frame-level function in modules\algorithms and it is included in eve kernels lib file
    - Back over prevention (BOP) algorithm
- API documentation update for Starterware and BAM.
- Updated the makefiles for kernels in KERNELSLIB, tested kernels in VLIB, IMGSIGLIB & KERNELSLIB and status is updated in test report.

Important Information

- None

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	Vision Algorithms & Kernels for EVE	CentEVE(VisionMidEVE), Vayu Virtio, Vayu Zebu

- This release is validated on using following components
    - Code Composer Studio (CCS) version 5.4 Beta
    - Code Generation Tools: ARP32 – version 1.0.0.
    - CenteEVE(VisionMidEVE) (C6A815x) EVM (Base EVM, Revision D)
    - Vayu Virtio simulation platform version VPVayu 5.3
    - Vayu Zebu versions: vayu_v_1.2.4
    - Note: EVE Sub-System Simulator version 0.7.9.0 can also be used to run this release.

Notes

- DESCRIPTION:
  - This release provides EVE Kernels, Starterware & Algorithms (ISP, Resizer & DMA MemCopy, BOP and some other algorithms/frame-level operations).

- USAGE:
  - Pre-built binaries are provided for all the algorithms. Pre-built binaries are also provided for algframework and starterware. Several optimized EVE kernels are also provided.
  - If needed the binaries of package can be built by the user. Please read the accompanying README.txt and the user guide for information on building the package.

Fixed in this release

Consult the data sheet of individual algorithms for the defects for individual algorithms.

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00292460	Please include the details on memory requirements for the following with every release datasheet	EVE SW	01.00.07.01	01.01.01.00

Known Issues

Consult the data sheet of individual algorithms for the issues for individual algorithms.

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
1	The kernels provided in VLIB, IMGSIGLIB and KERNELSLIB are only example kernels.	NA	01.01.01.00	NA
2	Test binary warnings – '*warning: entry-point symbol other than "_c_int00" specified: "_reset_handler"'.* This warning is present for each test binary.	NA	01.01.01.00	NA
3	Makefile Warning – One warning is present. *'A subdirectory or file ..\..\lib already exists.'*	NA	01.01.01.00	NA

EVE SW - Algorithms & Kernels for EVE
Version 01.01.00.00
Release Notes
March 2013

Build ID: 01.01.00.00

New In This Release

- Support for the following frame-level functions in modules\kernels\src\apps and it is included in eve kernels lib file
  - DMA MemCopy
  - Resizer
  - Grayscale Morphology
  - FIR Filter
  - FIR Filter with Scatter Gather DMA Support
  - EDMA Frame Padding
- Vayu starterware validated on Virtio
- Example applications for both Vayu and VME starterware
- Details of the linker command file recommended to be used is specified in eve_sw_userguide.pdf. Note that .algdmem section is no longer required.

Important Information

- None

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	Vision Algorithms & Kernels for EVE	CentEVE(VisionMidEVE), Vayu Virtio, Vayu Zebu

- This release is validated on using following components
  - Code Composer Studio (CCS) version 5.4 Beta
  - Code Generation Tools: ARP32 – version 1.0.0.
  - CenteEVE(VisionMidEVE) (C6A815x) EVM (Base EVM, Revision D)
  - Vayu Virtio simulation platform version VPVayu 5.3

- Vayu Zebu versions: vayu_v_1.2.4
- Note: EVE Sub-System Simulator version 0.7.9.0 can also be used to run this release.

Notes

- DESCRIPTION:
  - This release provides EVE Kernels, Starterware & Algorithms (ISP, Resizer & DMA MemCopy).

- USAGE:
  - Pre-built binaries are provided for all the algorithms. Pre-built binaries are also provided for algframework and starterware. Several optimized EVE kernels are also provided.
  - If needed the binaries of package can be built by the user. Please read the accompanying README.txt and the user guide for information on building the package.

Fixed in this release

Consult the data sheet of individual algorithms for the defects for individual algorithms.

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release
OMAPS00290310	Need updated the release with latest tools used for BIOS SDK	EVE SW	01.00.06.04	01.00.07.01

Known Issues

Consult the data sheet of individual algorithms for the issues for individual algorithms.

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release

EVE SW - Algorithms & Kernels for EVE
Version 01.00.07.01
Release Notes
February 2013

Build ID: 01.00.07.01

New In This Release

- Moved Look-up tables used in ISP from external memory to .const section.
- Removed section named ".algextmem" and using ".sysmem" instead.
- In the linker command file, the value for "-heap" increased to 0x100000 (it was 0x1000 earlier)
- Unified libraries for zebu and Virtio into one.
- Corrected linker command and Makefile used by the standalone test applications of vlib, imgsiglib and kernelslib. These changes do not affect the release binaries for BIOS SDK.
- Removed TI TSPA section from eve_sw_manifest.

Important Information

- In order to integrate the ISP and resizer algorithms into your test code or your frame work a change is required in the linker command file. See notes below and also review the "Recent Changes" section in the eve_sw_userguide to understand the details.

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	Vision Algorithms & Kernels for EVE	CentEVE(VisionMidEVE), Vayu Virtio, Vayu Zebu

- This release is validated on using following components
  - Code Composer Studio (CCS) version 5.4 Beta
  - Code Generation Tools: ARP32 – version 1.0.0.
  - CenteEVE(VisionMidEVE) (C6A815x) EVM (Base EVM, Revision D)
  - Vayu Virtio simulation platform version VPVayu 5.3
  - Vayu Zebu versions: vayu_v_1.2.2 and vayu_v_1.2.4
  - Note: EVE Simulator version 0.7.9.0 can also be used to run this release.

Notes

- DESCRIPTION:
  - This release provides EVE Kernels, Starterware & Algorithms (ISP & Resizer).

- USAGE:
  - Pre-built binaries are provided for th algorithms resizer and ISP. Pre-built binaries are also provided for algframework and starterware. Several optimized EVE kernels are also provided.
  - If needed the binaries of package can be built by the user. Please read the accompanying README.txt and the user guide for information on building the package.

- **Important:** The following needs to be defined in the linker command file in order to be able to integrate the ISP and Resizer algorithms into your framework: (Other apps or kernels does not need these entries in the linker command file)

-heap 0x100000

```
/*----------------------------------------------------------------------------------------------------*/
/* for IBAMALG_malloc : ext memory size : 1MB for now, dmem size: 12 kb for now */
/*----------------------------------------------------------------------------------------------------*/
ALG_DMEM_SIZE = 0x5000;
SECTIONS
{
  .algdmem   : { *(.algdmem)   . += (ALG_DMEM_SIZE  - 8); } > DATMEM   PAGE 1
}
```

Fixed in this release

Consult the data sheet of individual algorithms for the defects for individual algorithms.

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release

Known Issues

Consult the data sheet of individual algorithms for the issues for individual algorithms.

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release

EVE SW - Algorithms & Kernels for EVE
Version 01.00.07.00
Release Notes
February 2013

Build ID: 01.00.07.00

New In This Release

- ISP & Resizer algorithm improvements
  - Support for input width and height being a multiple of 16 in both ISP and resizer.
  - Input frame padding is added for ISP (if the input buffer has sufficient additional space). Afalg is added to enable or disable this padding.
  - A flag is added to enable or disable the sub-sampled output in ISP.
  - The coefficient tables for ISP are now placed in external memory. This enables the algorithm to work in Vayu Zebu.
  - Please consult the respective user guides for specific details of changes.
- In the linker command file, the value for entry ALG_DMEM_SIZE should be increased to 0x5000 (it was 0x3000 earlier)
- A new kernel has been added in kernels folder (vcop_yuv_to_hsl)

Important Information

- In order to integrate the ISP and resizer algorithms into your test code or your frame work a change is required in the linker command file. See notes below and also review the “Recent Changes” section in the eve_sw_userguide to understand the details.

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	Vision Algorithms & Kernels for EVE	CentEVE(VisionMidEVE), Vayu Virtio, Vayu Zebu

- This release is validated on using following components

- Code Composer Studio (CCS) version 5.3.x
- Code Generation Tools: ARP32 – version 1.0.0.
- CenteEVE(VisionMidEVE) (C6A815x) EVM (Base EVM, Revision D)
- Vayu Virtio simulation platform version vayu_v_1.2.2, vayu_v_1.2.4
- Note: EVE Simulator version 0.7.9.0 can also be used to run this release.

Notes

- DESCRIPTION:
  - This release provides EVE Kernels, Starterware & Algorithms (ISP & Resizer).

- USAGE:
  - Pre-built binaries are provided for th algorithms resizer and ISP. Pre-built binaries are also provided for algframework and starterware. Several optimized EVE kernels are also provided.
  - If needed the binaries of package can be built by the user. Please read the accompanying README.txt and the user guide for information on building the package.

- **Important:** The following needs to be defined in the linker command file in order to be able to integrate the ISP and Resizer algorithms into your framework: (Other apps or kernels does not need these entries in the linker command file)

```
/*----------------------------------------------------------------------------------------------------------*/
/* for IBAMALG_malloc : ext memory size : 1MB for now, dmem size: 12 kb for now */
/*----------------------------------------------------------------------------------------------------------*/
ALG_DMEM_SIZE = 0x5000;
ALG_EXTMEM_SIZE = 0x100000;
SECTIONS
{
  .algdmem    : { *(.algdmem)   . += (ALG_DMEM_SIZE  - 8); } > DATMEM   PAGE 1
  .algextmem  : { *(.algextmem)   . += (ALG_EXTMEM_SIZE  - 8); } > EXTDMEM   PAGE 1
}
```

Fixed in this release

Consult the data sheet of individual algorithms for the defects for individual algorithms.

Defect ID	Description	Applicable Release Configurat	Defect found in release	Defect Fixed in release

		ion		

Known Issues

Consult the data sheet of individual algorithms for the issues for individual algorithms.

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release

EVE SW - Algorithms & Kernels for EVE
Version 01.00.06.04
Release Notes
January 2013

Build ID: 01.00.06.04

New In This Release

- Fixed compilation warnings and corrected mistakes in some documents.
- The image width supported for ISP and Resizer algorithms have been relaxed to be a multiple of 16 (earlier it needed to be a multiple of 32). This enables support for a width of 720.
- Kernels there were part of the earlier CentEVE(VisionMidEVE) releases have been included.
- Slice mode and context save restore support for ISP and Resizer algorithms.
- Refer to the user guides of ISP and Resizer algorithms to understand the recent changes. The section called “Recent changes” highlights these changes and also points to the sections to further understand these changes.

Important Information

- In order to integrate the ISP and resizer algorithms into your test code or your frame work a change is required in the linker command file. See notes below and also review the “Recent Changes” section in the eve_sw_userguide to understand the details.

Validation Information

Release Configuration	Description	Validation Platform
EVE_SW	Vision Algorithms & Kernels for EVE	CentEVE(VisionMidEVE) / Vayu Virtio

- This release is validated on using following components
  - Code Composer Studio (CCS) version 5.2.x
  - Code Generation Tools: ARP32 – version 1.0.0.
    - The latest CG Tools are available in http://syntaxerror.dal.design.ti.com

- CenteEVE/VisionMidEVE (C6A815x) EVM (Base EVM, Revision D)
- Vayu Virtio simulation platform version vayu_v_1.2.2
- EVE Simulator version 0.7.9.0 can also be used to run this release.

Notes

- DESCRIPTION:
  - This release is performance ready – standalone measurements show that the performance is sufficient to run in real-time on EVE.
  - This release supports slice mode for resizer and ISP.
  - This release supports context save restore for ISP and resize – this means that ISP and resize can run on the same EVE, one after the other.

- USAGE:
  - Pre-built binaries are provided for th algorithms resizer and ISP. Pre-built binaries are also provided for algframework and starterware. Several optimized EVE kernels are also provided.
  - If needed the binaries of package can be built by the user. Please read the accompanying README.txt and the user guide for information on building the package.

- **Important:** The following needs to be defined in the linker command file in order to be able to integrate the ISP and Resizer algorithms into your framework: (Other apps or kernels does not need these entries in the linker command file)

```
/*----------------------------------------------------------------------------------------------------------*/
/* for IBAMALG_malloc : ext memory size : 1MB for now, dmem size: 12 kb for now */
/*----------------------------------------------------------------------------------------------------------*/
ALG_DMEM_SIZE = 0x3000;
ALG_EXTMEM_SIZE = 0x100000;
SECTIONS
{
  .algdmem    : { *(.algdmem)   . += (ALG_DMEM_SIZE  - 8); } > DATMEM   PAGE 1
  .algextmem  : { *(.algextmem)   . += (ALG_EXTMEM_SIZE  - 8); } > EXTDMEM   PAGE 1
}
```

Fixed in this release

Consult the data sheet of individual algorithms for the defects for individual algorithms.

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release

Known Issues

Consult the data sheet of individual algorithms for the issues for individual algorithms.

Defect ID	Description	Applicable Release Configuration	Defect found in release	Defect Fixed in release

EVE SW - Algorithms & Kernels for EVE
Version 01.00.05.03 to Version 01.00.05.04
Release Notes
December/January 2012

Build ID: 01.00.05.04

New In This Release

- ISP & Resizer algorithms tested on CentEVE(VisionMidEVE). Only frame mode processing is supported in this release.

Validation Information

Release Configuration	Description	Validation Platform
EVE SW	Vision Algorithms & Kernels for EVE	CentEVE(VisionMidEVE)

- This release is validated on CenteEVE Simulator using following components
  - Code Composer Studio (CCSv4) version 5.2.1
  - EVE Simpack (Simulator) version 0.7.7.0 (on windows 7 machines the patch 0.7.7.1 is also reauired)
    - https://cdds.ext.ti.com/ematrix/common/emxNavigator.jsp?objectId=28670.42872.50110.57136
    - https://cdds.ext.ti.com/ematrix/common/emxNavigator.jsp?objectId=28670.42872.23035.43556
  - Code Generation Tools: ARP32 – version 1.0.0.
    - If the EVE simpack does not install 1.0.0 or later, download the latest CG Tools from http://syntaxerror.dal.design.ti.com
  - Code Generation Tools: C6000 – latest version or the version installed by simpack should be fine. Version 7.4.1 was used for validation.
    - ARP32 CG Tools prior to 1.0.0 may not work.
- Other software components that are not included in this package, but may be helpful for EVE software development (such more EVE kernels) can be found as part of the AV BIOS SDK at:
  - https://cdds.ext.ti.com/ematrix/common/emxNavigator.jsp?objectId=28670.42872.65156.34440

Fixed In This Release

Defect ID	Description	Applicable Release Configuration

Known Issues

Defect ID	Description	Applicable Release Configuration

EVE SW - Algorithms & Kernels for EVE
Version 01.00.01.00
Release Notes
October 2012

Build ID: 01.00.01.00

This is the very first release of EVE Algorithms and kernels (EVE SW). Validated on EVE Simulator.

New In This Release

Very first release of EVE Vision Algorithms & KernelsValidation Information

Notes

- None
- VERSION : preliminary
- DATE : 2012 November 08
- MODULE : EVE SW
-
- DESCRIPTION: EVE Algorithms, EVE Library, EVE Algorithm frame work (BAM)
- This release is not for performance or functionality, but to show the interface of algorithms and BAM.
-
- USAGE : Change directory to either evelib\source or evelib\release and do gmake
- Tt creates two sample applications algo\isp\test and algo\resizer\test.
- These are example algorithms on how to use BAM algorithm framework.
- These algorithms also feature a unified xdais-like interface.

The unified interface will enable to implement an algorithm queue in EVE.