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|  | Multi Media Test Environment |

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# 1. Multimedia Test Environment

## 1.1 Introduction

STE MMTE test suit is used for validating sensor integration/adaptation at OSI level. MMTE environment is available as part of STE release.

## 1.2 MMTE setup

Here are the steps to include MMTE on Android setup & run the test scripts:

1. Set BUILD\_ITE\_OMX\_USE\_CASES=true in file **\vendor\st-ericsson\multimedia\linux\build\Dirs.u8500.mk**

**\vendor\st-ericsson\multimedia\linux\build\Dirs.u8500.mk file**

24 BUILD\_KHRONOS\_CTS=false

25

26 BUILD\_VALID=$(BUILD\_ALL)

27 BUILD\_VALID=true

28 BUILD\_ITE\_OMX\_USE\_CASES=true

29 ifeq ($(ENABLE\_FEATURE\_BUILD\_HATS),true)

30 BUILD\_ITE\_OMX\_USE\_CASES=true

31 endif

2. Compile the code from the parent folder itself & give the command **make -j8**

3. After the completion of step 2, flash the board with the latest image.

4. Now boot the board with SD card inserted in it. When booting is done, do the following steps:

5. Create the following folders on the sdcard /sdcard/kanna/bmp and /sdcard/ite\_omx\_use\_cases/imaging\_scripts/test\_report/kanna/v2/.

6. Run mmte\_bellagio command

|  |
| --- |
| # Running MMTE  $ ./mmte\_belllagio  (c) STEricsson  MMTE Shell - Multimedia Test Environment  Version : 0.24.5  Last built: Mar 24 2011, 13:06:59  ENS initialization .....  [ 55.856140] CM Driver: Remove QoS OPP for sva  [ 55.861022] CM Driver: Remove QoS OPP for sia  Entering ite\_Init  Entering vte\_Init  MMTE> |

7. Create a file by the name do\_<sensor>.ite with the following contents on the sdcard

alias IMAGING\_PATH /system/usr/share/mm-valid/imaging/

alias TEST\_PATH /system/usr/share/mm-valid/imaging/ite\_omx\_use\_cases/imaging\_scripts/

do $(IMAGING\_PATH)/ite\_omx\_use\_cases/imaging\_scripts/init\_kanna\_v2\_linux.ite

alias IMG\_FILTER\_PATH\_BACKUP\_IMAGE /sdcard/$(IMG\_SENSOR)/bmp/

alias IMG\_FILTER\_PATH\_STORE\_IMAGE /sdcard/$(IMG\_SENSOR)/bmp/

alias IMG\_OUTPUT /sdcard/$(IMG\_SENSOR)/out/

alias OMX\_DISPLAYSINK\_NAME OMX\_FAKESINK\_NAME

8. Run Sensor specific initialization script, for STE Reference sensor script name is ‘*do\_<sensor>.ite’*

|  |
| --- |
| MMTE> do /sdcard/do\_<sensor>.ite |

9. Run following commands to ensure that all of imaging components are properly registered.

|  |
| --- |
| MMTE> OMX\_GetHandle imgfilter OMX\_IMGFILTER\_NAME  MMTE> OMX\_GetHandle fakesink OMX\_FAKESINK\_NAME  MMTE> OMX\_GetHandle camera OMX\_CAMERA\_NAME  MMTE> OMX\_GetHandle ispproc OMX\_ISPPROC\_NAME |

If you get any errors like component not found. Then compile the missing component & copy its .so file & push them to the respective path mentioned below:

cp -rf /sdcard/libcamera.so /system/lib

cp -rf /sdcard/libste\_ens\_image\_common.so /system/lib

cp -rf /sdcard/libste\_ensloader.so /system/lib

cp -rf /sdcard/libste\_camera.so /system/lib/ste\_omxcomponents

cp -rf /sdcard/libste\_fakesink.so /system/lib/ste\_omxcomponents

cp -rf /sdcard/libste\_ens\_ispproc.so /system/lib/ste\_omxcomponents

cp -rf /sdcard/libst\_omxsplitter.so /system/lib/ste\_omxcomponents

cp -rf /sdcard/libste\_imgfilter.so /system/lib/ste\_omxcomponents

10. Run test cases, e.g. to run normal view finder script give following command:

|  |
| --- |
| MMTE> do $(TEST\_PATH)/usecases/omx\_stillpreview\_omvfstill\_metric.ite |

11. Each MMTE test case generates a corresponding ‘*.out’* file which is used for report generation. Output files created at /sdcard/ite\_omx\_use\_cases/imaging\_scripts/test\_report/kanna/v2/omx\_stillpreview\_omvfstill\_metric.out

12. To quit MMTE,

|  |
| --- |
| MMTE> quit |

## 1.3 MMTE TestScripts

This section provides details about common MMTE test scripts.

#### 1.3.1 Streaming

Following are the test cases for verifying normal streaming:

|  |
| --- |
| #Basic Streaming test scripts  do $(TEST\_PATH)/usecases/omx\_colorformat\_noispproc\_omstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_colorformat\_omstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_colorformat\_omvfstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_colorformat\_omvfvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_colorformat\_omvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_colorformat\_reso\_dynamic\_change\_state\_omvfstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_colorformat\_reso\_dynamic\_change\_state\_omvfvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_colorformat\_reso\_dynamic\_change\_state\_omvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_resolution\_noispproc\_omstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_resolution\_omstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_resolution\_omvfstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_resolution\_omvfvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_resolution\_omvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_framerate\_fixed\_omvfstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_framerate\_fixed\_omvfvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_framerate\_fixed\_omvideo\_metric.ite |

#### 1.3.2 Basic Test

Following are the basic test that does port enable/disable; still capture etc… to confirm any regression caused by new sensor integration.

|  |
| --- |
| #Basic functional test  do $(TEST\_PATH)/usecases/omx\_omxstandard\_port\_enable\_disable\_vpb2\_omvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_omxstandard\_port\_enable\_disable\_all\_omvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_still\_burst\_time\_lapse\_omstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_omxstandard\_port\_enable\_disable\_vpb1\_1\_omstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_videopreview\_omvfvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_omxstandard\_port\_allocation\_omna\_metric.ite  do $(TEST\_PATH)/usecases/omx\_stillpreview\_omvfstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_omxstandard\_port\_enable\_disable\_vpb0\_omvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_omxstandard\_nbuffercountactual\_omvfstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_omxstandard\_port\_enable\_disable\_vpb0\_omvfstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_omxstandard\_state\_transition\_omvfvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_still\_burst\_omstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_switch\_sensor\_uc\_stim.ite  do $(TEST\_PATH)/usecases/omx\_preview\_switch\_vfstill\_vf\_video\_omvf\_stim.ite  do $(TEST\_PATH)/usecases/omx\_omxstandard\_nbuffercountactual\_omvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_omxstandard\_state\_transition\_omvfstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_omxstandard\_port\_enable\_disable\_vpb1\_0\_omstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_omxstandard\_nbuffercountactual\_omvfvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_videorecord\_omvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_omxstandard\_nbuffercountactual\_omstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_videostill\_omvideostill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_autopause\_omstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_stillcapture\_omstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_omxstandard\_state\_transition\_omvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_focus\_continuous\_omvfvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_focus\_continuous\_explicit\_lock\_omvfvideo\_stim.ite  do $(TEST\_PATH)/usecases/omx\_focus\_continuous\_omvideo\_stim.ite  do $(TEST\_PATH)/usecases/omx\_focus\_manual\_omvfstill\_stim.ite  do $(TEST\_PATH)/usecases/omx\_focus\_continuous\_omvfstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_focus\_manual\_omvfvideo\_stim.ite  do $(TEST\_PATH)/usecases/omx\_focus\_manual\_omvfvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_focus\_region\_omvfvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_focus\_single\_shot\_omvfstill\_stim.ite  do $(TEST\_PATH)/usecases/omx\_focus\_continuous\_failure\_managment\_omvfvideo\_stim.ite  do $(TEST\_PATH)/usecases/omx\_focus\_continuous\_omvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_focus\_region\_omvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_focus\_manual\_omvfstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_focus\_region\_omvfstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_focus\_continuous\_omvfstill\_stim.ite  do $(TEST\_PATH)/usecases/omx\_focus\_region\_omvfstill\_stim.ite  do $(TEST\_PATH)/usecases/omx\_focus\_continuous\_omvfvideo\_stim.ite  do $(TEST\_PATH)/usecases/omx\_focus\_region\_omvfvideo\_stim.ite  do $(TEST\_PATH)/usecases/omx\_darkybox\_focus\_assistant\_light\_omvfstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_focus\_single\_shot\_omvfstill\_metric.ite  do $(TEST\_PATH)/usecases/omx\_focus\_manual\_omvideo\_stim.ite  do $(TEST\_PATH)/usecases/omx\_focus\_region\_omvideo\_stim.ite  do $(TEST\_PATH)/usecases/omx\_focus\_manual\_omvideo\_metric.ite  do $(TEST\_PATH)/usecases/omx\_focus\_single\_shot\_failure\_managment\_omvfstill\_stim.ite |

‘Camera\_TestPlan\_OSI\_wk12.xls ‘ Contains list of all Test cases available at MMTE.

## 1.4 MMTE Test Reports

As described earlier, MMTE tests generate .out files that are used for generating test reports in HTML format.

Follow following steps for report generation:

|  |
| --- |
| #HTML format test report generation   1. Copy generated *‘.out’* files from sdcard to *‘*vendor/st-ericsson/multimedia’ 2. Change directory to ‘multimedia/imaging/ite/ite\_report\_tools” and execute command.   **$ perl create\_report\_ite.pl -tag <HTML name> -path <path name> -v**  Where:-  HTML name – HTML report name.  Path name – Path of .out files   1. Test report will be generated in same directory with the specified name. |