

## ***PRELIMINARY - Product Brief***

---



# **M2-SM6-xx - i.MX 6 SMARC Modules**

## **SDK Software Package - *Linux***

### **Introduction**

Using the new SMARC standard for embedded modules, TES introduces a series of ultra-low power ARM COMs (Computer-On-Module) based on the Freescale i.MX6 Family which is powered by ARM Cortex A9 CPUs as well as application specific carrier cards and associated software packages.

MAGIK-2 Linux software SDK provide customers a quick start to evaluate the i.MX6 based MAGIK-2 module with the MAGIK-2 Carrier EVAL board, also it provides the customers an application development environment to develop their end application and evaluate it on MAGIK-2 module with MAGIK-2 Carrier EVAL board. MAGIK-2 Linux SDK is the customized version of Freescale software release for i.MX6 processors.

Main advantage of TES Linux software SDK is to provide customers a platform to get started and evaluate their end applications within minutes of getting the SDK from TES. Targeted Applications could be:

- Human Machine Interface (HMI)
- Audio processing
- Video processing
- Video combined with graphics
- Network and Connectivity
- Wireless Remote Controls

### **Highlights**

- Common BSP for i.MX6 Quad/Dual/DualLite/Solo
- Guiliani -TES proprietary HMI framework integrated and available on request
- MINI-PCIe 4-Channel NTSC/PAL video capture driver/application for surveillance application integrated and available on request
- H264 decoding is supported over RTSP & HTTP
- MJPEG decoding over HTTP
- Framework support: GStreamer, CanFestival, OpenGL/ES 2.0
- Easy to upgrade software over USB OTG or Ethernet

- Easy to install and integrate
- Optimized BSP for fast boot

**SDK options:**

- MAGIK-2 SW without HOST setup
- MAGIK-2 SW with HOST setup

**MAGIK-2 SW without HOST setup:**

This SDK lets customer to use their own Ubuntu 12.04 host and provides only MAGIK-2 related SW. The components are as listed below:

```
|-- documents
|  |-- MAGIK-II_M1_Release_Notes.pdf
|  |-- SW_MAGIK-2_Developer_User_Guide_V1.0.pdf
|-- prebuilt
|  |-- u-boot-q.imx
|  |-- ulmage
|  |-- rootfs.tar.bz2
|-- source
|  -- linux-magik2.tar.gz
|-- utils
|  |-- can
|  |  |-- usr
|  |  |  |-- bin
|  |  |  |  |-- candump
|  |  |  |  |-- canecho
|  |  |  |  |-- cansend
|  |  |  |  |-- cansequence
|  |  |-- lib
|  |  |  |-- libsocketcan.a
|  |  |  |-- libsocketcan.so
|  |  |  |-- libsocketcan.so.2
|  |  |  |-- libsocketcan.so.2.2.0
|-- Magik2_TestAPP
|-- magik2-toolchain.tar.gz
|-- media
|  |-- audios
|  |-- videos
```

**MAGIK-2 SW with HOST setup:**

This SDK lets customer to kick start their application development without worrying about host setup and host configuration. This SDK will be in the form of UBUNTU 12.04 Linux Virtual Machine “.vdi” file, which customers can install on to their windows or Linux PC and straight away start developing their applications. The components are as listed below:

- Linux Ubuntu 12.04 .vdi file: with following features
  - Pre-installed dependencies for MAGIK-2 SW release

```
|-- documents
| |-- MAGIK-II_M1_Release_Notes.pdf
| |-- SW_MAGIK-2_Developer_User_Guide_V1.0.pdf
| |-- how to use and install magik2.vdi file on windows PC
|-- prebuilt
| |-- u-boot-q.imx
| |-- ulmage
| |-- rootfs.tar.bz2
|-- source
| -- linux-magik2.tar.gz
|-- utils
| -- can
| |-- usr
| | |-- bin
| | | |-- candump
| | | |-- canecho
| | | |-- cansend
| | | |-- cansequence
| | |-- lib
| | | |-- libsocketcan.a
| | | |-- libsocketcan.so
| | | |-- libsocketcan.so.2
| | | |-- libsocketcan.so.2.2.0
|-- Magik2_TestAPP
|-- magik2-toolchain.tar.gz
|-- media
| |-- audios
| |-- videos
```

### Peripherals/Drivers

- VPU/GPU
  - Hardware Video codec integration
- IPU
  - Single/dual screen support
- Multi monitor/Panel Support
- Multimedia
  - Audio: MP3, AAC
  - Video: MPEG4 AVC(H264, AAC)
- HDMI/LVDS display
- Ethernet
- Peripherals
  - UART, SPI, I2C, PCIe, CAN, USB (OTG, Host, Device), GPIO, PMIC
- Storage
  - SATA, uSD card, eMMC, USB
- General Purpose Timers, Watch Dog Timer

### Supported hardware Platform

- i.MX6 Magik-2 (Quad/Dual/Dual Lite/Solo processor core)

### Support and services

- BSP and driver development
- Embedded application development
- Hardware design
- Systems optimization
- Support contracts
- Training, workshops
- Design reviews
- Consulting and system integration services