Freescale MQX RTOS Example Guide

Sai_dma_demo example

This document explains the Frequency change example, what to expect from the example and a brief introduction to the API used.

The example

The Sai_dma_demo has the same feature of I2S_demo. It provides playback and record function.

Playback: The demo would play the audio wav file from the SD card.
Record: The demo would record the sound to the SD card.

The demo supports 16bit, 32bit quantization level.
Supporting sample rates: 8K, 11.025k, 12k, 16k, 22.05k, 24k, 32k, 44.1k, 48k, 96KHZ.

Example platform: SAI + SGTL5000 + sdcard.

Examples of the command in shell:
play sai: a:/<filename>.wav
record sai: a:/<filename>.wav <time>:<sample rate>:<quantization>:<channel>
For example: record sai: a:/test.wav 5:44100:16:2

Notice:
1. The demo cannot record in Vybrid_M4 and K40D100M, as the ram size is too small.
2. If record high quality music (i.e. 96KHZ sample rate), it needs a high speed SD card, not all SD card can reach that speed.

The demo now can only play the standard PCM file, and the header of the file should be standard. You can get some sample wav file in: http://www.cs.bath.ac.uk/~rwd/cardattrit.html and http://www-mmsp.ece.mcgill.ca/Documents/AudioFormats/WAVE/Samples.html

Not all the audio files can be played by the demo. Actually most of them can't, as they are not PCM format or have no standard header. An example which can play is the "Soundfile 1: a basic minimum-header standard mono WAVE file." in the first website.

In Auto evb, there is no codec for sai (sgtl5000), please use esai demo example instead.

As in K20D50, there is no SDCARD module, the demo is removed from the platform.