드라이버 Test User's 가이드

cmd_nx_gpio_ctrl (Nexell Gpios Control Driver user application) / common

```
∨ common
  C cmd_nx_gpio_ctrl.c
  ≡ Kconfig
  M Makefile
∨ misc
  ≡ Kconfig
  M Makefile
  C nx_gpio_ctrl.c
  C nx_gpio_ctrl.h
≡ configs-s5p4418_daudio_ref_defconfig
≡ s5p4418-daudio-ref.dts
```
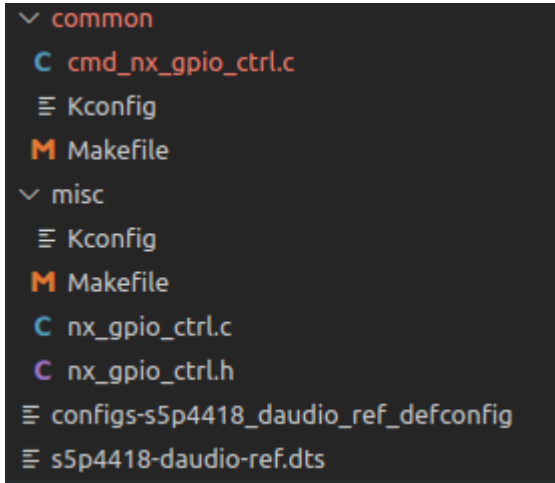
common folder ->

- This cmd application is for testing the misc gpio driver by DTS file.
- > cmd 응용 프로그램은 DTS 파일의 misc gpio 드라이버를 테스트하기 위한 것입니다.
- You can check the Ioctol operations are Gpio direction set, direction set check, read and write value setting.
- > Ioctol 동작은 Gpio direction set, direction set check, read, write 값 설정 등을 확인할 수 있습니다.
- According to the direction, when read operation get the current gpio value and write operation set the gpio value, direction also set.
- > 방향에 따라 읽기 연산이 현재 gpio 값을 가져오고 쓰기 연산이 gpio 값을 설정할 때 방향도 설정됩니다.

등록된 드라이버 테스트를 위해 CMD 형식으로 커맨드를 등록을 해야하며 Makefile, Board config에 해당 CMD를 등록해야한다.

- How to add a command in command **Kconfig** → command/Kconfig

```
config CMD_GPIO_TEST
    bool "ngc commands"
    help
        GPIO control support.
```

- How to add a command in command **Makefile** → command/Makefile

```
obj-$(CONFIG_CMD_NX_GPIO_CTRL) += cmd_nx_gpio_ctrl.o
```

- How to add a command config in the **board config** → configs/s5p4418_daudio_ref_defconfig

```
CONFIG_CMD_NX_GPIO_CTRL=y
```

- **CMD Rules**
    - At least 3 and maximum is 4 arguments could be accepted, if you type less than 3 or more than 4, it will return to CMD_RET_USAGE.
    - first argument which is a driver cmd command is **ngc**(nexell gpio control).
    - Commands are set, get, and toggle. Other arguments are return to CMD_RET_USAGE
    - you can simply type s for Set, g for Get, t for Toggle.

- **ngc Help**

```
s5p4418_daudio_ref# ngc help
ngc - Control Nexell's banked gpio pins

Usage:
ngc
command = toggle, set, get
> ngc toggle pin# sec#
> ngc set pin# value(0 or 1)#
> ngc get pin#
```

- **ngc Set** (4 argc)

```
s5p4418_daudio_ref# ngc set 2 0
--output mode--
write value : 0
```

You can check what write value you are trying to write on the selected gpio and direction check.

- **ngc Get** (3 argc)

```
s5p4418_daudio_ref# ngc get 2
--input mode--
read value : 0
```

You can check what read value on the selected gpio and direction check.

- **Toggle** (4 argc)

```
s5p4418_daudio_ref# ngc toggle 2 10
--output mode--
write value : 0
--input mode--
read value : 0
---------1s--------
--output mode--
write value : 1
--input mode--
read value : 1
---------2s--------
--output mode--
write value : 0
--input mode--
read value : 0
---------3s--------
--output mode--
write value : 1
--input mode--
read value : 1
---------4s--------
--output mode--
write value : 0
--input mode--
read value : 0
---------5s--------
```

You can check the write and read values and directions are changed by each second.