

## Re: Help in accessing GPIOs in an i.MX21 (ADS21 board)

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*Source:*

<http://www.tech-archive.net/Archive/DotNet/microsoft.public.dotnet.framework.compactframework/2006-09/msg004>

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- *From:* "Paul G. Tobey [eMVP]" <p space tobey no spam AT no instrument no spam DOT com>
  - *Date:* Thu, 21 Sep 2006 13:59:20 -0700
- 

OK, so forget about trying to P/Invoke with a managed enumeration. Declare the parameter as an Int32 and pass the value that corresponds to some other port (1, 2, 3, whatever), and see what you get in that case. It would be useful to verify the size of the enumeration expected by the unmanaged code, also. I would expect it to be 32-bit, but I could be wrong about that.

Paul T.

"Mario" <alphantommy@xxxxxxxxxxxx> wrote in message  
<news:1158870731.936903.11560@xx>

Hi Paul,

Sorry, what I meant by "did not work" was that regardless of what value I sent as Port (GPIO\_PORT\_B, C, D, E or MAX) I still see that the value passed for Port is GPIO\_PORT\_A. I see this by breaking on the driver, and GPIO\_PORT\_A is the value that shows up when I place the cursor on top of Port or through Quick Watch. The value that is returned is wrong because it is looking at the different port that I have selected. I still have to try to call the method from an unmanaged application. Thanks.

-- mario

Paul G. Tobey [eMVP] wrote:

Sorry, "did not work" is useless information. What value did you pass? What was returned in the byte? What do you get when you pass the same values from unmanaged code?

Paul T.

"Mario" <alphantommy@xxxxxxxxxxxx> wrote in message  
<news:1158794169.432339.250470@xx>

Hi Paul,

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I could try using byte for return value. On the GPIO\_PORT, I have tried Int32 before, but it did not work. Thanks.

-- mario

Paul G. Tobey [eMVP] wrote:

Well, that return type is wrong. Clearly you should be returning some 8-bit value, which you aren't. Try 'byte'; it's a good choice.

Try also, for now, just making the GPIO\_PORT parameter an Int32 and passing the right value as an integer to it. Does that work?

Paul T.

"Mario" <alphantommy@xxxxxxxxxxxx> wrote in message

[news:1158791251.466377.92460@xx](mailto:news:1158791251.466377.92460@xx)

Hi Paul,

For the method INT8  
DDKGetGpioSignalState(GPIOHANDLE  
gpiohandle,  
GPIO\_PORT port, UINT32  
signal)

I did the following:

```
[DllImport("mx21ddk.dll")]  
//mx21ddk.dll contains the  
methods  
that  
I am calling  
public static extern Int16  
DDKGetGpioSignalState(IntPtr  
gpiohandle,  
GPIO_PORT port, UInt32  
signal);
```

The reason why I used Int16 is because there is no Int16

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in C#.

```
//GPIO in C#  
public enum  
{  
    GPIO_PORT_A,  
    GPIO_PORT_B,  
    GPIO_PORT_C,  
    GPIO_PORT_D,  
    GPIO_PORT_E,  
    GPIO_PORT_F,  
    GPIOPORTMAX  
}
```

Please let me know if you see any errors. Thanks.

mario

Paul G. Tobey [eMVP]  
wrote:

Those don't appear to be standard DDK calls to me, but I'm no expert on any i.MX21 BSPs. How have you P/Invoked them? GPIOHANDLE is probably an IntPtr, GPIO\_PORT you can probably create an enum for that corresponds directly to what the C/C++ code

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uses,  
UINT32 is  
pretty  
obvious,  
'uint',  
etc.  
What value,  
integer  
value, are  
you passing  
in the  
GPIO\_PORT  
parameters?

Paul T.

"Mario"  
<alphantommy@xxxxxxxxxxxx>  
wrote in  
message  
[news:1158785258.148715.111740@xx](mailto:news:1158785258.148715.111740@xx)

Hi  
Paul,

I  
have  
tried  
the  
following  
methods  
(their  
signatures  
are  
as  
follow):

1.  
INT8  
DDKGetGpioSignalState(GPIOHANDLE  
gpiohandle,  
GPIO\_PORT  
port,  
UINT32  
signal)
2.  
void  
DDKSetGpioSignalState(GPIOHANDLE  
gpiohandle,  
GPIO\_PORT  
port,

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```
UINT32  
signal,  
UINT8  
state,  
BOOL  
bInPowerMode)
```

```
3.  
UINT32  
DDKGetGpioSignals(GPIOHANDLE  
gpiohandle,  
GPIO_PORT  
port,  
UINT32  
signalMask)
```

```
4.  
void  
DDKSetGpioSignals(GPIOHANDLE  
gpiohandle,  
GPIO_PORT  
port,  
UINT32  
signalMask,  
UINT32  
stateMask)
```

GPIO\_PORT  
is  
defined  
in  
the  
driver  
header  
as:

```
typedef  
enum  
{  
GPIO_PORT_A,  
GPIO_PORT_B,  
GPIO_PORT_C,  
GPIO_PORT_D,  
GPIO_PORT_E,  
GPIO_PORT_F,  
GPIO_PORT_MAX,  
}  
GPIO_PORT;
```

Thanks  
in

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advance  
for  
any  
input.

--  
mario

Paul  
G.  
Tobey  
[eMVP]  
wrote:

What  
GPIO  
method  
calls?

Paul  
T.

"Mario"  
<alphantommy@xxxxxxxxxxxx>  
wrote  
in  
message  
[news:1158076582.805617.137440@xxxxxxxxxxxxxxxx](mailto:news:1158076582.805617.137440@xxxxxxxxxxxxxxxx)

Hi,

Has  
anyone  
had  
any  
success  
in  
accessing  
(reading  
and  
writing)  
the  
GPIOs  
in  
a  
Freescale  
i.MX21  
(ADS21  
board)  
from

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a  
managed  
code  
application?  
The  
problem  
that  
I  
have  
is  
that  
regardless  
of  
which  
port  
parameter  
I  
pass  
in  
the  
GPIO  
method  
calls,  
the  
GPIO  
driver  
always  
take  
Port\_A  
as  
default.  
The  
rest  
of  
the  
parameters  
are  
passed  
correctly.  
Any  
inputs  
or  
suggestions  
on  
how  
to  
fix  
this  
is  
appreciated.  
Thanks.

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I  
am  
not  
sure  
if  
this  
is  
the  
correct  
forum,  
but  
I  
did  
not  
get  
any  
response  
after  
posting  
the  
same  
question  
in  
the  
freescale  
site  
for  
almost  
two  
weeks.

--  
mario