How to Read GPIO Register values using ADB on MSM8x26, MSM8974

Solution Number 00027715

Please Note:
If Qualcomm documentation is referenced in this solution, your access to it is based on your company's licensing agreement.

Language Key Words

Detail Information

Solution Title How to Read GPIO Register values using ADB on MSM8x26, MSM8974

Solution Details GPIO configuration register values can be read using ADB/Jtag

On MSM8974, we can use the below adb command and can read the GPIO register configuration for that particular GPIO.

/system/bin/r (0xFD511000+(0x10 *gpio_no)) - for GPIO 'gpio_no'

Reading the Secondary MI2S BIT Clock GPIO Register (GPIO 79) configuration value

Register address = (0xFD511000+(0x10 * GPIO 79) = (0xFD511000+(0x10 * 0x4F) = 0xFD5114F0

adb shell "/system/bin/r 0xFD5114F0"

Reading the Secondary MI2S WS GPIO Register (GPIO 80) configuration value

Register address = (0xFD511000+(0x10 * GPIO 80) = (0xFD511000+(0x10 * 0x50) = 0xFD511500

adb shell "/system/bin/r 0xFD511500"

The Bit Fields for the GPIO registers :

Bits	Field Name	Description
31:11	RESERVED_BITS31_11	
10	GPIO_HIHYS_EN	Controls the hihys_en for GPIO[n]
9	GPIO_OE	Controls the OE for GPIO[n] when in GPIO mode.
8:6	DRV_STRENGTH	Controls the GPIO pad drive strength. This applies regardless of the FUNC_SEL field selection. 0x0: DRV_2_MA (Sets the drive stength to 2mA) 0x1: DRV_4_MA (Sets the drive stength to 4mA) 0x2: DRV_6_MA (Sets the drive stength to 6mA) 0x3: DRV_8_MA (Sets the drive stength to 8mA) 0x4: DRV_10_MA (Sets the drive stength to 10mA) 0x5: DRV_12_MA (Sets the drive stength to 12mA) 0x6: DRV_14_MA (Sets the drive stength to 14mA) 0x7: DRV_16_MA (Sets the drive stength to 16mA)
5:2	FUNC_SEL	Many of the GPIO pads have one or more functional hardware interfaces behind them. This field controls how the pad is used. Set this to the appropriate value for the function desired.
1:0	GPIO_PULL	The pad can be configured to employ an internal weak pull up, pull down, or keeper function. This applies regardless of the FUNC_SEL field selection. 0x0: NO_PULL (Disables all pull) 0x1: PULL_DOWN (Weak Pull_down) 0x2: KEEPER (Weak Keeper) 0x3: PULL_UP (Weak Pull-Up)

Applicable Products APQ8064, APQ8074, APQ8084, MSM8226, MSM8626, MSM8926, MSM8974, MSM8974AB