8.14.6 Pin configuration

The CLK and DIN signals associated to the PDM module are mapped to physical pins according to the configuration specified in the PSEL.CLK and PSEL.DIN registers respectively. If the CONNECT field in any PSEL register is set to Disconnected, the associated PDM module signal will not be connected to the required physical pins, and will not operate properly.

The PSEL.CLK and PSEL.DIN registers and their configurations are only used as long as the PDM module is enabled, and retained only as long as the device is in System ON mode. See POWER — Power control on page 92 for more information about power modes. When the peripheral is disabled, the pins will behave as regular GPIOs, and use the configuration in their respective OUT bit field and PIN_CNF[n] register.

To ensure correct behavior in the PDM module, the pins used by the PDM module must be configured in the GPIO peripheral as described in GPIO configuration before enabling peripheral on page 403 before enabling the PDM module. This is to ensure that the pins used by the PDM module are driven correctly if the PDM module itself is temporarily disabled or the device temporarily enters System OFF. This configuration must be retained in the GPIO for the selected I/Os as long as the PDM module is supposed to be connected to an external PDM circuit.

Only one peripheral can be assigned to drive a particular GPIO pin at a time. Failing to do so may result in unpredictable behavior.

PDM signal	PDM pin	Direction	Output value	Comment
CLK	As specified in PSEL.CLK	Output	0	
DIN	As specified in PSEL.DIN	Input	Not applicable	

Table 48: GPIO configuration before enabling peripheral

8.14.7 Registers

Instances

Instance	Domain	Base address	TrustZone			Split	Description
			Map	Att	DMA	access	
PDM20 : S	GLOBAL	0x500D0000	US	S	SA	No	Pulse density modulation (digital
PDM20 : NS		0x400D0000					microphone) interface PDM20
PDM21 : S	GLOBAL	0x500D1000	US	S	SA	No	Pulse density modulation (digital
PDM21 : NS		0x400D1000					microphone) interface PDM21

Configuration

Instance	Domain	Configuration
PDM20 : S PDM20 : NS	GLOBAL	Use GPIO port P1
		Supports 8, 16, 32, 48 kHz sample rate.
		CURRENTAMOUNT register included.
PDM21 : S PDM21 : NS	GLOBAL	Use GPIO port P1
		Supports 8, 16, 32, 48 kHz sample rate.
		CURRENTAMOUNT register included.

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