Chapter 17 Extended configuration

17.1 Extended Configuration

The system provides the EXTEND extended configuration unit (EXTEND_CTR register). This unit uses the HB clock and performs a reset action only at system reset. It mainly includes the following extended control bit functions.

1) Adjusting the built-in voltage: The LDOTRIM field selects the default value, which can be modified when adjusting performance and power consumption.

2) Lock-up function monitoring: The LKUPEN field is enabled, which will open the Lock-up situation monitoring of the system. Once the Lock-up situation occurs, the system will perform a software reset and set the LKUPRESET field to 1. After reading, you can write 1 to clear this flag.

3) Configure the op-amp: set OPA_EN to enable the OPA, configure OPA_PSEL to select the positive input pin of the OPA, and configure OPA_NSEL to select the negative input pin of the OPA.
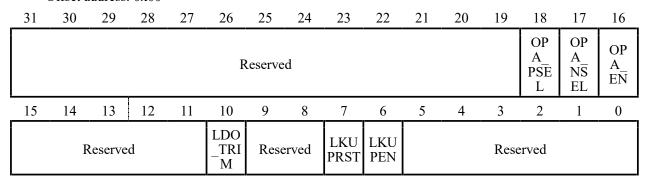
17.2 Register Description

Table 17-1 EXTEND-related registers list

Name	Access address	Description	Reset value
R32_EXTEN_CTR	0x40023800	Configure extended control registers	0x00000400

17.2.1 Configure Extended Control Register (EXTEND_CTR)

Offset address: 0x00

31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
					Reserved								OPA_PSEL	OPA_NSEL	OPA_EN

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Reserved				LDO_TRIM	Reserved		LKUPRST	LKUPEN			Reserved			

Bit	Name	Access	Description	Reset value
[31:19]	Reserved	RO	Reserved	0
18	OPA_PSEL	RW	OPA positive end channel selection 0: Positive end channel 0 1: Positive end channel 1	0
17	OPA_NSEL	RW	OPA negative end channel selection 0: Negative end channel 0 1: Negative end channel 1	0
16	OPA_EN	RW	OPA Enable 1: Turn on enable 0: Turn off OPA	0
[15:11]	Reserved	RO	Reserved	0
10	LDOTRIM	RW	Core voltage modes. 0: Normal voltage mode 1: Boost voltage mode	0
[9:8]	Reserved	RO	Reserved	0
7	LKUPRST	RW1	LOCKUP reset flag. 1: occurrence of LOCKUP resulting in system reset, write 1 cleared.0: Normal.	0

| 6 | LKUPEN | RW | LOCKUP monitoring function.
1: Enabled, performs a reset and sets LOCKUP_RESET when a lock-up occurs on the system.
0: Not enabled. | 1 |
| [5:0] | Reserved | RO | Reserved | 0 |