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How to config power on reset in SBL1 on platform 8x26/8x10/8x12/8916?

Solution Number 00027787

Please Note:

If Qualcomm documentation is referenced in this solution, your access to it is based on your company's

Language Key Words

Detail Information

Solution Title How to config power on reset in SBL1 on platform 8x26/8x10/8x12/8916?

Solution Details This solution is compatible with these releases:
MSM8626.LA.1.0/1.1/1.5/1.6 and later
MSM8610.LA.1.0/1.1 and later
MSM8916.LA.1.0/1.1 and later
MSM8939/36.LA.1.1/1.1 and later

Three stages of resets is the new feature for B-family that include: software configurable bark, software configurable reset, fail-safe reset

S(tag) 1: software configurable bark

User can select reset source(for example pwr-key) and S1 timer, when control reset source until S1 time out, PMIC generates interrupt, giving the MSM device the opportunity to fix the problem or gracefully reset the system.

S(tag) 2: software configurable reset(bite)

User can select reset source(for example pwr-key) and S2 timer, when control reset source until S2 time out, PMIC will force a reset event (selectable by software).

S(tag) 3: fail-safe reset(hardware-mandatory bite)

User can generate a mandatory shut down by long key press of RESIN_N, KYPD_PWR_N, or RESIN_N and KYPD_PWR_N in combination (selectable in SBL by directly writing appropriate registers).

There are three APIs that implemented in
pm_pon.c(core\systemdrivers\pmic\drivers\pon\src):

config reset source with s1 and s2

pm_pon_reset_source_cfg(unsigned pmic_device_index, pm_pon_reset_source_type reset_source, uint32 s1_timer, uint32 s2_timer, pm_pon_reset_cfg_type reset_cfg_type)

- *pmic_device_index*

This parameter should be 0, only one pmic.

- *reset_source*

You can select power-key, RESETIN or power-key+RESETIN.

- *s1_timer*

Stage 1 (Bark) Timer, 0 - 10256 ms

- *s2_timer*

Stage 2 (bite) configuration, 0 - 2 seconds

- *reset_cfg_type*

When the s2 time out, pmic will trigger reset event, you can select warem_reset, shut_down or hard_reset.

enable/disable S2

```
pm_pon_reset_source_ctl(unsigned pmic_device_index,
                        pm_pon_reset_source_type reset_source, pm_on_off_type on_off)
```

- *pmic_device_index*

This parameter should be 0, only one pmic.

- *reset_source*

You can select power-key, RESETIN or power-key+RESETIN.

- *on_off*

This parameter enables or disables the *Stage 2*.

For example:

Set s2 timer to 2s and reset type is shut down, and reset source is power key.

So if press power key more than 2 seconds, system will shut down.

```
pm_pon_reset_source_cfg(0, PM_PON_RESET_SOURCE_KPDPWR, 0, 2,
PM_PON_RESET_CFG_NORMAL_SHUTDOWN);
pm_pon_reset_source_ctl(0, PM_PON_RESET_SOURCE_KPDPWR, PM_ON);
```

config S3 reset source and timer

```
pm_pon_stage3_reset_source_cfg(unsigned pmic_device_index,
                               pm_pon_reset_source_type reset_source,
                               uint32 s3_timer)
```

- *pmic_device_index*

This parameter should be 0, only one pmic.

- *reset_source*

You can select power-key, RESETIN or power-key+RESETIN.

- *s3_timer*

When the s3 time out, pmic will trigger shutdown event. You can select 1, 2, 4, 8, 16, 32, 64, 128 seconds.

For example:

If press power-key+RESETIN more than 32s, system will shutdown.

```
pm_pon_stage3_reset_source_cfg(0, PM_PON_RESET_SOURCE_RESIN_AND_KPDPWR, 32);
```

Applicable Products	AMSS 8226, AMSS 8626, AMSS 8936, AMSS 8939, AMSS8110, AMSS8112, AMSS8610, AMSS8612, AMSS8626, AMSS8916, AMSS8926, PM8909
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