

# nPM1100

## Revision 2

**Errata**

v1.3

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# 1 nPM1100 Revision 2 Errata

This Errata document contains anomalies and configurations for the nPM1100 chip, Revision 2 (CAAA-E00, CAAA-F00, CAAB-F00, QDAA-F00, QDAB-F00).

The document indicates which anomalies are fixed, inherited, or new compared to [Revision 1](#).

## 2 Revision history

See the following list for an overview of changes from previous versions of this document.

| Version                    | Date       | Change  |
|----------------------------|------------|---|
| nPM1100<br>Revision 2 v1.3 | 24.05.2023 | <ul style="list-style-type: none"><li>• Updated for CAAA-F00, CAAB-F00, QDAA-F00, and QDAB-F00</li></ul>  |
| nPM1100<br>Revision 2 v1.2 | 25.10.2022 | <ul style="list-style-type: none"><li>• Edited: No. 7. "CHARGER gets stuck with no VBAT capacitor"</li></ul>  |
| nPM1100<br>Revision 2 v1.1 | 08.09.2022 | <ul style="list-style-type: none"><li>• Added: No. 7. "CHARGER gets stuck with no VBAT capacitor"</li><li>• Added: No. 8. "CHARGER gets stuck for certain types of PCM"</li></ul> |
| nPM1100<br>Revision 2 v1.0 | 31.05.2022 | <ul style="list-style-type: none"><li>• Added: No. 4. "Inserting USB causes VSYS voltage to undershoot"</li></ul>   |

# 3 New and inherited anomalies

The following anomalies are present in Revision 2 of the nPM1100 chip.

| ID | Module       | Description                                     | Inherited from Revision 1 |
|----|--------------|---|---------------------------|
| 4  | BUCK, SYSREG | Inserting USB causes VSYS voltage to undershoot | X                         |
| 7  | Charger      | CHARGER gets stuck with no VBAT capacitor       | X                         |
| 8  | Charger      | CHARGER gets stuck for certain types of PCM     | X                         |

Table 1: New and inherited anomalies

## 3.1 [4] BUCK, SYSREG: Inserting USB causes VSYS voltage to undershoot

This anomaly applies to Revision 2, build codes CAAA-E00, CAAA-F00, CAAB-F00, QDAA-F00, QDAB-F00.

It was inherited from the previous IC revision [Revision 1](#).

### Symptoms

Inserting USB causes VSYS voltage to undershoot and BUCK converter to reset.

### Conditions

USB power source has slow VBUS rise time in the range of 1 V/ms, battery voltage is below 3.1 V, and system load is higher than 370 mA.

### Consequences

BUCK converter resets.

### Workaround

If the system cannot tolerate a reset, avoid operating under the described conditions.

## 3.2 [7] Charger: CHARGER gets stuck with no VBAT capacitor

This anomaly applies to Revision 2, build codes CAAA-E00, CAAA-F00, CAAB-F00, QDAA-F00, QDAB-F00.

It was inherited from the previous IC revision [Revision 1](#).

### Symptoms

Battery stops charging, and CHARGER gets stuck in error state.

## Conditions

Battery pack's overdischarge protection is active when VBUS gets connected to a power source.

## Consequences

Charging does not start, and CHARGER gets stuck in error state.

## Workaround

Add a 1.0  $\mu\text{F}$  capacitor to the VBAT pin as shown in the reference circuit in nPM1100 Product Specification v1.2 or later.

## 3.3 [8] Charger: CHARGER gets stuck for certain types of PCM

This anomaly applies to Revision 2, build codes CAAA-E00, CAAA-F00, CAAB-F00, QDAA-F00, QDAB-F00.

It was inherited from the previous IC revision [Revision 1](#).

## Symptoms

Battery stops charging, and CHARGER gets stuck in error state.

## Conditions

VBAT voltage drops from above  $V_{\text{TRICKLEFAST}}$  to below  $V_{\text{TRICKLEFAST}}$  during charging.

Some battery Protection Circuit Modules (PCM) add a diode junction between the external battery terminals and the lithium cell when the overdischarge protection is active. This diode adds a voltage to the battery terminals during charging. When the protection is released, the diode junction is bypassed and the VBAT voltage drops.

## Consequences

Charging stops when overdischarge protection is released, and the charging cannot be restarted.

## Workaround

Use a battery with a PCM that does not cause this drop when overdischarge protection is released. Alternatively, use a battery with a PCM that drops to a voltage that is higher than  $V_{\text{TRICKLEFAST}}$  or drops from a voltage that is lower than  $V_{\text{TRICKLEFAST}}$ .

# 4 Fixed anomalies

The anomalies listed in this table are no longer present in the current chip version.

For a detailed description of the fixed anomalies, see the [Errata for Revision 1](#).

| ID | Module | Description  |
|----|--------|--|
| 5  | BUCK   | VOUTB voltage overshoots during mode change through MODE pin |
| 6  | BUCK   | BUCK converter shuts off unexpectedly                        |

*Table 2: Fixed anomalies*