

## KSZ8895/KSZ8864 Silicon Errata and Data Sheet Clarification

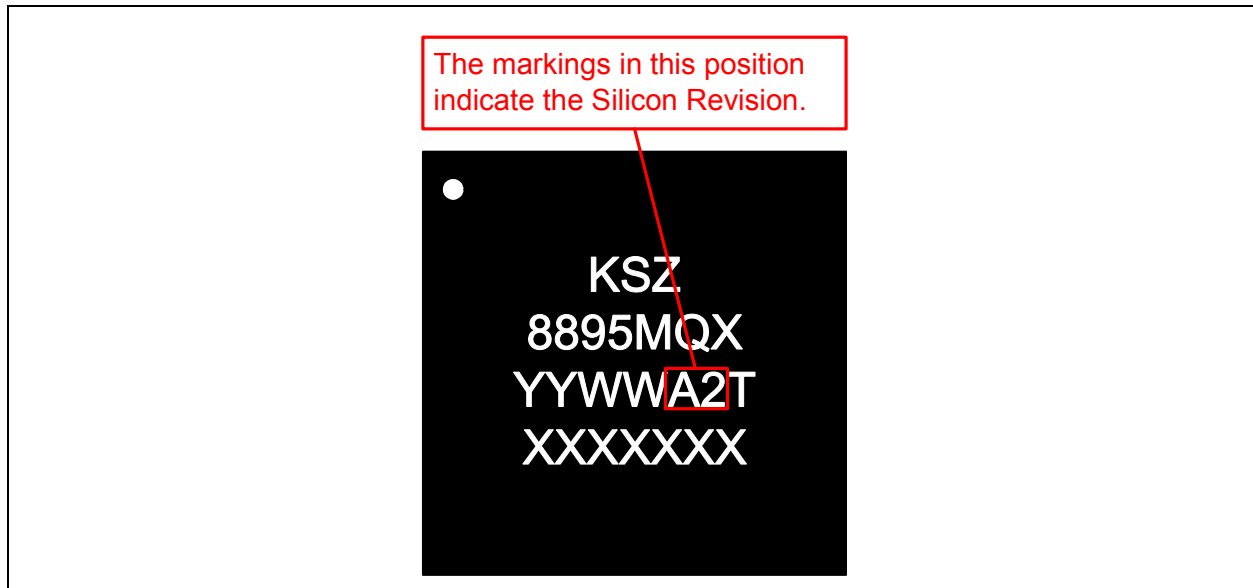
- KSZ8895MQX
- KSZ8895RQX
- KSZ8895FQX
- KSZ8895ML
- KSZ8895MLUB
- KSZ8864CNX
- KSZ8864RMNUB

The silicon errata discussed in this document are for silicon with silicon revisions as listed in [Table 1](#). The silicon revision can be determined by the device's top marking as indicated in [Figure 1](#). A summary of KSZ8895/KSZ8864 silicon errata, and the silicon revisions they apply to is provided in [Table 2](#).

**TABLE 1: AFFECTED SILICON REVISIONS**

Part Numbers	Silicon Revisions
KSZ8895MQX, KSZ8895RQX, KSZ8895FQX, KSZ8864CNX	A2, A3, A4
KSZ8895ML (SPNZ801061 for B3, KSZ8895MLX for A4)	B3, A4
KSZ8895MLUB, KSZ8864RMNUB	B2

**FIGURE 1: TOP MARKING SILICON REVISION INDICATION**



**Note:** The purpose of [Figure 1](#) is to detail the top markings of an example part and highlight the location of the silicon revision. Other top marking values may differ (lot codes, location of manufacture, etc.).

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TABLE 2: SILICON ISSUE SUMMARY

Item Number	Silicon Issue Summary	Affected Silicon Revisions
1.	In I <sup>2</sup> C mode, the EEPROM contents cannot be downloaded after reset	A2, A3, B2, B3, A4
2.	Packet loss due to long/short cable length	A2, A3, B2, B3
3.	Packet loss due to 20m cable length	A2, B2

## Silicon Errata Issues

### Module 1: In I<sup>2</sup>C mode, the EEPROM contents cannot be downloaded after reset

#### DESCRIPTION

In I<sup>2</sup>C mode, the EEPROM contents cannot be downloaded after a reset.

#### END USER IMPLICATIONS

When using I<sup>2</sup>C mode, the device will fail to read the EEPROM contents after a reset.

#### Work Around

Writing 0x0 to register 1 bits 7:4 (chip ID) in EEPROM will correct this issue.

#### PLAN

This errata is not planned to be corrected in a future revision.

### Module 2: Packet loss due to long/short cable length

#### DESCRIPTION

Depending on the PCB implementation and quality of the cable, a minority of devices may exhibit packet losses with the LED always blinking on any PHY port. Typically this is likely to occur with long cable (>100m) or short cable (<2m or capacitor AC coupling).

#### END USER IMPLICATIONS

If using a long cable (>100m) or short cable (<2m or capacitor AC coupling), minor packet loss may be observed along with a blinking LED.

#### Work Around

Run the following initialization script after device power up, hardware reset and software power up:

```
w 0x47 1 // data 1
w 0x27 0 // write
w 0x37 0 // indirect register address 0x0
w 0x47 1 // data 1
w 0x27 0 // write
w 0x37 1 // indirect register address 0x1
w 0x79 0 // write 0x00 to direct register 0x79
// re-link each PHY port
w 0xnD 8 // Port n PHY power down
w 0xnD 0 // Port n PHY power up
// now configure the device as normal
```

Where *n* is 1 through 5 for the KSZ8895MQX/RQX/FQX/ML, 1 through 4 for the KSZ8895MLUB, and 2-3 for the KSZ8864CNX and KSZ8864RMNUB. The “w” in the script indicates a write to the specified register address.

If the switch ports are not connected to a link partner or the link partner is unpowered, it is not necessary to run the re-link section of this script.

#### PLAN

This errata has been corrected in silicon revision A4.

## Module 3: Packet loss due to 20m cable length

### DESCRIPTION

Depending on the PCB implementation and quality of the cable, there may be minor packet loss (approximately 2ppm) observed on any PHY port when using a cable length of approximately 20m +/- 2m.

### END USER IMPLICATIONS

If using a cable length of approximately 20m +/- 2m, minor packet loss may be observed.

#### Work Around

Run the following initialization script after device power up, hardware reset and software power up:

```
w 0xAC 5 // write 0x05 to direct register 0xAC
w 0xAD 1 // write 0x01 to direct register 0xAD
           // now configure the device as normal
```

The “w” in the script indicates a write to the specified register address.

### PLAN

This errata has been corrected in silicon revisions A3/B3 and A4.

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## APPENDIX A: DOCUMENT REVISION HISTORY

Revision Level & Date	Section/Figure/Entry	Correction
DS80000697A (04-18-16)	All	Initial release

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