



June 29, 2009

Si4330 Errata (Rev. A0)

Errata Status Summary

Errata #	Title	Impact	Status
1	Some non-standard frequencies are not supported.	Major	Will be fixed in the next revision.
2	Radio does not return to the low power state when in Low Duty Cycle Mode.	Minor	Will be fixed in the next revision.
3	Additional tuning steps required for proper RX mode operation.	Minor	Will be fixed in the next revision.
4	Potential modem failure with default settings.	Minor	Will be fixed in the next revision.
5	Default register settings for optimal current consumption.	Minor	Will be fixed in the next revision.
6	Wake Up Timer and Low Duty Cycle mode not functional.	Minor	Use the micro or 32 kHz option for these functions. Will be fixed in the next revision
7	False preamble detection issue.	Minor	Software workaround available.

Impact Definition: Each erratum is marked with an impact, as defined below:

- Minor: Workaround exists.
- Major: Errata that do not conform to the data sheet or standard.
- Information: The device behavior is acceptable the data sheet will be changed to match the device behavior.

Errata Details

1. **Description:** Some non-standard frequencies are not supported.

Impacts: Operation in frequencies between 240-280 MHz and 480-560 MHz should be avoided.

Workaround: These are non-standard bands and should result in no customer impact; no workaround at this time.

Resolution: Will be fixed in the next revision.

2. **Description:** Radio does not return to the low power state when in Low Duty Cycle mode.

Impacts: When using the Low Duty Cycle mode, the radio will not automatically return to the low power state.

Workaround: The radio mode control can be implemented on the external MCU for controlling the RX power state.

Resolution: Will be fixed in the next revision.

3. **Description:** Additional tuning steps are required for proper RX mode operation.

Impacts: Tuning can fail if additional steps are not implemented in customer firmware.

Workaround: The following steps should be followed to ensure proper operation:

1. Program desired RX frequency minus 937.5kHz: *Program registers 75h, 76h, and 77h*
2. Program tune mode: *Program register 07h bit 1 (pllon = 1)*
3. Disable VCO calibration: *Program register 55h bit 0 (skipvco = 1)*
4. Program desired RX frequency: *Program registers 75h, 76h, and 77h*
5. Program RX mode: *Program register 07h bit 2 (rxon = 1)*
6. Implement normal operation

Resolution: Will be fixed in the next revision

4. **Description:** Potential modem failure in receive mode with default settings.

Impacts: Under strong blocker conditions, the modem can fail unless the listed workaround is followed.

Workaround: Operate the radio with AFC enabled: *Program register 56h to C1h*

Resolution: Will be fixed in the next revision.

5. **Description:** Default register settings for optimal current consumption.

Impacts: Current consumption.

Workaround: Program register 57h bits 2:0 (cdcurr[2:0] = 001), register 59 bit 6 (fbdivhc = 0), register 5Ah bits 1:0 (vcocur[1:0] = 01).

Resolution: Will be fixed in the next revision.

6. **Description:** Wake-up Timer and Low Duty Cycle Modes not functional.

Impacts: These features are not supported.

Workaround: Use the external microcontroller or the 32 kHz XTAL option on the Si4432 to implement these functions.

Resolution: Will be fixed in the next revision.

7. **Description:** If a false preamble is detected the chip will remain in the sync detection state indefinitely or until a valid sync word is detected.

Impacts: RX link performance and batter life.

Workaround: Extend the preamble detection threshold to prevent false preamble detection or implement a software work around and perform the sync timeout on the microcontroller.

Resolution: Will be fixed in the next revision.