Errata

CC330x SimpleLink Wi-Fi 6 and Bluetooth Low Energy Transceiver

ABSTRACT

This document describes the known exceptions to functional specifications (advisories) to the CC330x SimpleLink™ Wi-Fi® 6 and Bluetooth® Low Energy companion IC.

Table of Contents

1 Advisories Matrix....2
2 Nomenclature, Package Symbolization, and Revision Identification....2
2.1 Device and Development Support Tool Nomenclature....2
2.2 Devices Supported....2
2.3 Package Symbolization and Revision Identification....2
3 Silicon Revision *2.0* Advisories....3
4 Trademarks....4
5 Revision History....4

List of Figures

Figure 2-1. Package Symbolization....3

List of Tables

Table 1-1. Advisories Matrix....2
Table 2-1. Revision Identification....3
Table 3-1. Advisory List....3

1 Advisories Matrix

Table 1-1. Advisories Matrix

MODULE	DESCRIPTION	SILICON REVISIONS AFFECTED
		2.0
RADIO	Advisory RADIO_01 - Runtime calibration only enabled for Ta = 25 C	Yes
RADIO	Advisory RADIO_02 - Use at ambient temperatures >85 C potentially causes device heating that exceeds maximum operating conditions	Yes
WiFi CORE	Advisory WIFI_01 - Throughput impact at short range due to minor statistical variation of downstream rate selection.	Yes

2 Nomenclature, Package Symbolization, and Revision Identification

2.1 Device and Development Support Tool Nomenclature

To designate the stages in the product development cycle, TI assigns prefixes to the part numbers of all microprocessors (MPUs) and support tools. Each device has one of three prefixes: X, P, or null (no prefix) (for example, *CC3300 or CC3301*). Texas Instruments recommends two of three possible prefix designators for its support tools: TMDX and TMDS. These prefixes represent evolutionary stages of product development from engineering prototypes (TMDX) through fully qualified production devices and tools (TMDS).

Device development evolutionary flow:

X Experimental device that is not necessarily representative of the final device's electrical specifications and may not use production assembly flow.

P Prototype device that is not necessarily the final silicon die and may not necessarily meet final electrical specifications.

null Production version of the silicon die that is fully qualified.

Support tool development evolutionary flow:

TMDX Development-support product that has not yet completed Texas Instruments internal qualification testing.

TMDS Fully-qualified development-support product.

X and P devices and TMDX development-support tools are shipped against the following disclaimer:

"Developmental product is intended for internal evaluation purposes."

Production devices and TMDS development-support tools have been characterized fully, and the quality and reliability of the device have been demonstrated fully. TI's standard warranty applies.

Predictions show that prototype devices (X or P) have a greater failure rate than the standard production devices. Texas Instruments recommends that these devices not be used in any production system because their expected end-use failure rate still is undefined. Only qualified production devices are to be used.

2.2 Devices Supported

This document supports the following devices:

- CC3300
- CC3301

2.3 Package Symbolization and Revision Identification

Figure 2-1 and Table 2-1 describe package symbolization and device revision codes.

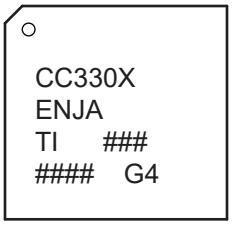

Figure 2-1. Package Symbolization

Table 2-1. Revision Identification

DEVICE REVISION CODE	SILICON REVISION
ENJA	PG2.0

3 Silicon Revision *2.0* Advisories

The following advisories are known design exceptions to functional specifications. Advisories are numbered in the order in which the advisory was added to this document. Some advisory numbers are removed in future revisions of this document because the design exception was fixed or documented in the device-specific data manual or technical reference manual. When items are deleted, the remaining advisory numbers are not re-sequenced.

Table 3-1. Advisory List

Advisory	Description
Advisory RADIO_01	Runtime calibration only enabled for Ta = 25 C
Advisory RADIO_02	Use at ambient temperatures >85 C potentially causes device heating that exceeds maximum operating conditions
Advisory WIFI_01	Throughput impact at short range due to minor statistical variation of downstream rate selection

Advisory *RADIO_01* — ***Runtime calibration only enabled for Ta = 25 C***

Revisions Affected

"X" marked PG2.0

Details

The device runtime calibration is optimized for T_A = 25 C and occurs only at initialization. RF performance degredation is expected at temperatures where T_A != 25 C.

Workaround

Maintain T_A = 25 C for RF performance measurements with samples.

Advisory *RADIO_02* — ***Use at ambient temperatures >85 C potentially causes device heating that exceeds maximum operating conditions***

Revisions Affected

PG2.0

Details

The RF core does not limit radio activity at 105C > T_A > 85 C. Continuous operation of the radio at temperatures >85 C potentially causes the device to exceed maximum ratings.

Workaround

Limit transmission from the host or disable Wi-Fi and BLE functions when ambient temperature rises above 85 C.

Advisory *WiFi_01*	***Throughput impact at short range due to minor statistical variation of downstream rate selection***
Revisions Affected	PG2.0
Details	When the CC330x device is physically close to an Access Point that it is associated with, and operating in 802.11ax mode, data packets sent from the Access Point downstream to the device are generally expected to be transmitted using Modulation Coding Scheme 7 (MCS7). This will be observed in most cases, however, there are situations in which the Access Point may use MCS4-6 slightly more often than expected instead of MCS7 for downstream traffic. This can result in lower throughput at short ranges. Data sent upstream from the CC330x to the Access Point is not impacted. Typical application operation is not expected to be affected by this behavior.
Workaround	This issue is expected to be resolved by a very limited scope revision to CC3301 digital receive path logic that will be in volume production in March 2024 as a HW and SW “drop-in compatible” replacement. TI will issue a Product Change Notification to provided advanced notice of the change.

4 Trademarks

SimpleLink™ is a trademark of Ti.
Wi-Fi® is a registered trademark of Wi-Fi Alliance.
Bluetooth® is a registered trademark of Bluetooth SIG, Inc.
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5 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

Changes from October 12, 2023 to December 18, 2023 (from Revision * (October 2023) to Revision A (December 2023))	**Page**
• Added Wifi advisory	2

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