



Customer Information Notification

202109034I : VR5510 Power Management IC Data Sheet Update Rev 4.0 (Technical Clarifications / Corrections)

Note: This notice is NXP Company Proprietary.

Issue Date: Oct 09, 2021 **Effective date:** Oct 10, 2021

Here is your personalized notification about a NXP general announcement.
For detailed information we invite you to view this notification online

Change Category

<input type="checkbox"/> Wafer Fab Process	<input type="checkbox"/> Assembly Process	<input type="checkbox"/> Product Marking	<input type="checkbox"/> Test Process	<input type="checkbox"/> Design
<input type="checkbox"/> Wafer Fab Materials	<input type="checkbox"/> Assembly Materials	<input type="checkbox"/> Mechanical Specification	<input type="checkbox"/> Test Equipment	<input type="checkbox"/> Errata
<input type="checkbox"/> Wafer Fab Location	<input type="checkbox"/> Assembly Location	<input type="checkbox"/> Packing/Shipping/Labeling	<input type="checkbox"/> Test Location	<input type="checkbox"/> Electrical spec./Test coverage
<input type="checkbox"/> Firmware	<input checked="" type="checkbox"/> Other: Data Sheet Update (Technical Clarifications/Corrections)			

PCN Overview Description

NXP Semiconductors announces the data sheet update to revision 4.0 for the VR5510 Power Management IC family products associated with this notification.

The revision history included in the updated document provides a detailed description of the changes. Key changes are summarized below.

The new data sheet revision provides updated specification information and clarifications, including:

- The R θ JC bottom and top values
- A table with recommended compensation network components
- Updated boost output voltage capability
- C_{in} / C_{out} values for BUCKs and LDOs regulators updated
- Updated electrical characteristics of PWRON1 and PWRON2 pins.

VR5510 Data Sheet Rev 4.0 Key Change Summary:

1. Table 5

- Added "R θ JC_BOTTOM" and associated values
- Added "R θ JC_TOP" and associated values

2. Section 11.1

- Changed to "...(CFG_BOOST_1_OTP register) from 4.5 V to 6 V." from "...(CFG_BOOST_1_OTP

register) from 4.5 V to 5.74 V."

3. Table 17

- IBUCK12_Q, Changed parameter to "Quiescent Current, PFM Mode, VSUP = 12 V" from "Quiescent Current, PFM Mode"

- COUT_BUCK12, Changed Min to "35" from "44"

- CIN_BUCK12, Changed Min to "4.23" from "4.7"

4. Table 19

- COUT_BUCK3, Changed Min to "35" from "44"

- CIN_BUCK3, Changed Min to "4.23" from "4.7"

5. Table 21

- COUT_LDO1_150, Changed to "Effective output capacitor, 150 mA current capability" from "Output capacitor, 150 mA current capability" and changed Min to "3" from "4.7" and changed Max to "100" from "—"

- COUT_LDO1_400, Changed to "Effective output capacitor, 400 mA current capability" from "Output capacitor, 400 mA current capability" and changed Min to "4.5" from "6.8" and changed Max to "100" from "—"

6. Table 22

- ILDO23_Q, Changed parameter to "Quiescent Current, No load, VSUP = 12 V" from "Quiescent Current, No load"

- COUT_LDO23, Changed Min to "3.3" from "4.7" and changed Max to "100" from "—"

7. Section 16.3

- COUT_HVLDO, Changed Min to "2.2" from "4.7"

8. Table 32

- PWRON1VIL, Changed Min to "—" from "3.25" and Max to "2.7" from "—"

- PWRON2VIL, Changed Min to "—" from "1" and Max to "0.7" from "—"

- PWRON1VIH, Changed Min to "3.5" from "—" and Max to "—" from "3"

- PWRON2VIH, Changed Min to "1.15" from "—" and Max to "—" from "0.85"

** Documentation changes only for higher output voltage capability, more relaxed output/input capacitor requirement, better information about compensation network, and additional technical clarifications, corrections - absolutely no changes to the device / product **

New VR5510 revision 4.0 data sheet is attached to this notice and can be accessed at:

<https://www.nxp.com/docs/en/data-sheet/VR5510.pdf>

Corresponding ZVEI Delta Qualification Matrix ID: SEM-DS-02, SEM-DS-03

Reason

The data sheet has been updated to collect and make clear to customers several technical clarifications / corrections.

Identification of Affected Products

Product identification does not change

Anticipated Impact on Form, Fit, Function, Reliability or Quality

No Impact on form, fit, function, reliability or quality

Data Sheet Revision

A new datasheet will be issued

Contact and Support

For all inquiries regarding the ePCN tool application or access issues, please contact NXP "Global Quality Support Team".

For all Quality Notification content inquiries, please contact your local NXP Sales Support team.

For specific questions on this notice or the products affected please contact our specialist directly:

Name Andrea Aspurz Aincia
Position Applications Engineering
e-mail address andrea.aspurzaincia@nxp.com

At NXP Semiconductors we are constantly striving to improve our product and processes to ensure they reach the highest possible Quality Standards. Customer Focus, Passion to Win.

NXP Quality Management Team.

About NXP Semiconductors

NXP Semiconductors N.V. (NASDAQ: NXPI) provides High Performance Mixed Signal and Standard Product solutions that leverage its leading RF, Analog, Power Management, Interface, Security and Digital Processing expertise. These innovations are used in a wide range of automotive, identification, wireless infrastructure, lighting, industrial, mobile, consumer and computing applications.

You have received this email because you are a designated contact or subscribed to NXP Quality Notifications. NXP shall not be held liable if this Notification is not correctly distributed within your organization.

This message has been automatically distributed. Please do not reply .

NXP Semiconductors
High Tech Campus, 5656 AG Eindhoven, The Netherlands

© 2006- 2021 NXP Semiconductors. All rights reserved.

MVR5510AVMA4EPR2	935411861528	MVR5510AVMA4EPR2	VR5510 QM	H(V)QFN56	SOT684-21	RFS	No	BLC4
MVR5510AVMA4EP	935411861557	MVR5510AVMA4EP	VR5510 QM	H(V)QFN56	SOT684-21	RFS	No	BLC4
PVR5510AVMA4EPR2	935405332697	PVR5510AVMA4EPR2	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4
PVR5510AVMA4EP	935405332699	PVR5510AVMA4EP	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4
PVR5510AVMA5EPR2	935405334697	PVR5510AVMA5EPR2	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4
PVR5510AVMA5EP	935405334699	PVR5510AVMA5EP	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4
MVR5510AVMA5EPR2	935410719528	MVR5510AVMA5EPR2	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4
MVR5510AVMA5EP	935410719557	MVR5510AVMA5EP	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4
PVR5510AVMA6EPR2	935405336697	PVR5510AVMA6EPR2	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4
PVR5510AVMA6EP	935405336699	PVR5510AVMA6EP	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4
MVR5510AVMA6EP	935410717557	MVR5510AVMA6EP	VR5510 QM	H(V)QFN56	SOT684-21	RFS	No	BLC4
MVR5510AVMA6EPR2	935410717528	MVR5510AVMA6EPR2	VR5510 QM	H(V)QFN56	SOT684-21	RFS	No	BLC4
PVR5510AVMAHEP	935418945699	PVR5510AVMAHEP	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4
PVR5510AVMAHEPR2	935418945697	PVR5510AVMAHEPR2	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4
MVR5510AVMAHEPR2	935418798528	MVR5510AVMAHEPR2	VR5510 QM	H(V)QFN56	SOT684-21	RFS	No	BLC4
MVR5510AVMAHEP	935418798557	MVR5510AVMAHEP	VR5510 QM	H(V)QFN56	SOT684-21	RFS	No	BLC4
PVR5510AVMALEPR2	935427613697	PVR5510AVMALEPR2	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4
PVR5510AVMALEP	935427613699	PVR5510AVMALEP	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4
PVR5510AVMANEP	935427615699	PVR5510AVMANEP	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4
PVR5510AVMANEPR2	935427615697	PVR5510AVMANEPR2	VR5510 QM	H(V)QFN56	SOT684-21	ASM	No	BLC4