PCN Number:	20191117000	PCN Date:	Jan. 14, 2020
Title:	Datasheet for LMX2595		
Customer Contact:	PCN Manager	Dept:	Quality Services

Change Type:					
☐	Assembly Site	☐	Design	☐	Wafer Bump Site
☐	Assembly Process	☒	Data Sheet	☐	Wafer Bump Material
☐	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☐	Test Site	☐	Wafer Fab Site
☐	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

Notification Details

Description of Change:

Texas Instruments Incorporated is announcing an information only notification.
The product datasheet(s) is being updated as summarized below.
The following change history provides further details.

TEXAS INSTRUMENTS

LMX2595

SNAS736C – JUNE 2017 – REVISED APRIL 2019

Changes from Revision B (March 2018) to Revision C **Page**

- Changed the maximum output frequency from 19 GHz to 20 GHz everywhere in the data sheet. The newly recommended value for the DBLR_IBIAS_CTRL1 (R25[15:0]) extended the output frequency range and improved high frequency performance. The old value (1572) for the DBLR_IBIAS_CTRL1 still supports up to 19-GHz output and specs characterized in the *Electrical Characteristics* table. The new value (3115) provides a bonus in performance. . 1
- Deleted the recommended bypass capacitor values for Vcc pins 7, 11, 15, 21, 26 and 37, as these capacitor values are not mandatory and the power supply filtering design is up to the user. 7
- Added test condition "DBLR_IBIAS_CTRL1 = 1572" for P_{OUT}, L_{VCO2X} and H1/2, in order to emphasize that these data are taken while DBLR_IBIAS_CTRL1 is set to the old value (1572). With this register set to 3115, these specs can be improved. The details can be found in the applications section. 9
- Added a new row for VCO doubler output range in EC table with DBLR_IBIAS_CTRL1 set to 3115. The frequency range is extended to 20 GHz. 9
- Added table note for EC table stating that the performance of 1/2 harmonic, output power and noise floor with doubler enabled can be improved by setting DBLR_IBIAS_CTRL1 = 3115. 9
- Changed all the 'FRAC_ORDER' to 'MASH_ORDER' to avoid confusion 10
- Changed the names of timing specs to align with timing diagram: changed t_{CE} to t_{ES}, t_{CS} to t_{DCS}, t_{CH} to t_{CDH}, and t_{CES} to t_{ECS} 12
- Changed the names of timing specs to align with timing diagram: changed t_{ES} to t_{CE}, t_{CES} to t_{ECS}, added t_{DCS} and t_{CDH}, and changed t_{CS} to t_{CR} 13
- Changed the serial data input timing diagram and corrected the typo for 'SCK' 13
- Deleted the note 'The CSB transition from high to low must occur when SCK is low' from the serial data input timing diagram, because SPI mode 4 (CPOL = 1, CPHA = 1) is also supported, and SCK is held high when idle in mode 4 13
- Added note for the serial data input timing diagram to explain the t_{CE} requirement for mode 4 (CPOL = 1, CPHA = 1) of SPI, because the diagram only indicated SPI mode 1 (CPOL = 0, CPHA = 0) 13
- Changed the serial data readback timing diagram 14
- Changed the note about MUXout clocking out and emphasized the effect of t_{CR} on the readback data available time 14
- Added phase noise plot for 16-, 17- and 20-GHz frequency output 15
- Changed the phase noise plot for 18- and 19-GHz frequency output after changing DBLR_IBIAS_CTRL1

The datasheet number will be changing.

Device Family	Change From:	Change To:
LMX2595	SNAS736B	SNAS736C

These changes may be reviewed at the datasheet links provided.

http://www.ti.com/product/LMX2595

Reason for Change:

To accurately reflect device characteristics.

Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):			
No anticipated impact. This is a specification change announcement only. There are no changes to the actual device.			
Changes to product identification resulting from this PCN:			
None.			
Product Affected:			
LMX2595RHAR	LMX2595RHAT		

For questions regarding this notice, e-mails can be sent to the contacts shown below or your local Field Sales Representative.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
WW PCN Team	PCN_ww_admin_team@list.ti.com

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI’s products are provided subject to TI’s Terms of Sale (www.ti.com/legal/termsofsale.html) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI’s provision of these resources does not expand or otherwise alter TI’s applicable warranties or warranty disclaimers for TI products.