|              |   |  | 2005        |             |          |                | 1 -     | <u> </u>    | 40 -      | 222  |
|--------------|---|--|-------------|-------------|----------|----------------|---------|-------------|-----------|--|
|              | N Number:   | 2020020  |             |             |          | PCN Date       |         |             | . 18, 20  |  |
| Tit          |   |  |             | 5, MSP      | 430FI    | R2353, MS      | SP430   |             |           | MSP430FR2153   |
|              | stomer Contact:   | PCN Man  | <u>ager</u> |             |          |                |         | D           | ept:      | Quality Services                                       |
| Cha          | ange Type:  |  |             |             |          |                |         |             |           |  |
|              | Assembly Site   |  |             | Desig       | n        |                |         |             | Wafe      | er Bump Site   |
|              | Assembly Process  |  |             | Data        | Sheet    |                |         |             | Wafe      | er Bump Material                                       |
|              | Assembly Material   | S  |             | Part r      | umbe     | er change      |         |             | Wafe      | er Bump Process  |
|              | Mechanical Specifi  | cation   |             | Test 9      | Site     |                |         |             | Wafe      | er Fab Site  |
|              | Packing/Shipping/   | Labeling   |             | Test F      | roces    | SS             |         |             | Wafe      | er Fab Materials                                       |
|              |   |  |             |             |          |                |         |             | Wafe      | er Fab Process   |
|              |   |  | N           | otific      | atior    | n Detail       | S       |             |           |  |
| De           | scription of Chang  | je:  |             |             |          |                |         |             |           |  |
| Tex          | as Instruments Inco   | orporated  | is anr      | ouncin      | g an i   | informatio     | n onl   | ly n        | otificat  | tion.  |
| The          | e product datasheet   | (s) is being   | g upda      | ated as     | sumi     | marized b      | elow.   |             |           |  |
| The          | following change h  | istory pro   | vides       | further     | detai    | ils.           |         |             |           |  |
| <b>II</b> .: |   |  |             |             |          |                |         |             |           |  |
| 7            | TEXAS   |  | N           | ISP430      | R235     | 5, MSP430      | FR23    | 53,         | MSP430    | 0FR2155, MSP430FR215                                   |
|              | Instruments   |  |             |             |          |                | 5       | SLAS        | EC4D-MA   | Y 2018-REVISED DECEMBER 20                             |
| Ch           | anges from March 6, 201   | 19 to Decem  | ber 10,     | 2019        |          |                |         |             |           | Page   |
| 0            | Corrected the DOM o   | izo in Ciguro  | 1 1 1/0     | D420ED      | 25v E    | mational Pla   | ak Diac | vron        | and Fig   | uro 1.0  |
|              | <ul> <li>Corrected the ROM s</li> <li>MSP430EP215y Fun</li> </ul>                                       |  |             |             |          |                |         |             |           | ure 1-2  |
|              | Added a note on all \   | OFN pinouts  | to indic    | cate that   | the the  | rmal pad sho   | uld be  | con         | nected to | VSS 11   |
|              |   |  |             |             |          |                |         |             |           | 13   |
|              | <ul> <li>Changed the note that</li> </ul>   |  |             |             |          |                |         |             |           |  |
|              | Section 5.3, Recomm   | ended Opera  | ating Co    | nditions    |          |                |         |             |           | 27   |
|              |   | Added the note that begins "TI recommends that power to the DVCC pin must not exceed the limits" in                          |             |             |          |                |         |             |           |  |
|              |   |  |             |             |          |                |         |             |           |  |
|              | Changed the note that     Changed the note that   | orianged the note that begins 71 superior telestation of 22070 or better to require the control of                           |             |             |          |                |         |             |           |  |
|              | Combined former sec.  | Recommended Operating Conditions   |             |             |          |                |         |             |           |  |
|              | Corrected the "SVS d  | Combined former sections 5.8 and 5.10 into Section 5.9, Production Distribution of LPM Supply Currents                       |             |             |          |                |         |             |           |  |
|              | Added the note "See   | Added the note "See MSP430 32-kHz Crystal Oscillators for details on crystal section, layout, and testing" to                |             |             |          |                |         |             |           |  |
|              | Table 5-3, XT1 Crystal Oscillator (Low Frequency)   |  |             |             |          |                |         |             |           |  |
|              | <ul> <li>Changed the note that</li> </ul>   | nt begins "Re  | quires e    | external o  | apacito  | ors at both te | rminals | " i         | n Table ( | 5-3, XT1 Crystal                                       |
|              | Oscillator (Low Frequ   | ency)  |             |             |          |                |         |             |           | <u>35</u>  |
|              | <ul> <li>Added the t<sub>TB,cap</sub> para</li> </ul>   | Added the t <sub>TB,cap</sub> parameter in Table 5-13, <i>Timer_B</i>  |             |             |          |                |         |             |           |  |
|              |   |  |             |             |          |                |         |             |           | Input Range Conditions. 51<br>ter division in Table 5- |
|              |   |  |             |             |          |                |         |             |           |  |
|              | <ul> <li>Added the note that b</li> </ul>   | 21, ADC, Timing Parameters   |             |             |          |                |         |             |           |  |
|              | Changed the unit from "nV" to "µV" for the "Input noise voltage" in the Table 5-25, SAC, OA             |  |             |             |          |                |         |             |           |  |
|              |   | Changed the unit from "nv/Hz" to "nV/\\(\overline{Hz}\)" for the "Input noise voltage density" in the Table 5-25, SAC, OA 55 |             |             |          |                |         |             |           |  |
|              |   | Removed the I <sub>ref</sub> trim parameter from Table 5-27, FRAM  |             |             |          |                |         |             |           |  |
|              | Changed the bitfield name from RTCCLK to RTCCKSEL in the table note on Table 6-9, Clock Distribution 68 |  |             |             |          |                |         |             |           |  |
|              |   | Added Section 6.10.17, Cross-Chip Interconnection (SACx are MSP430FR235x Devices Only)                                       |             |             |          |                |         |             |           |  |
|              |   | Added P1SELC information in Table 6-41, Port P1, P2 Registers (Base Address: 0200h)  |             |             |          |                |         |             |           |  |
|              |   | Added P3SELC information in Table 6-41, Port P1, P2 Registers (Base Address: 0200n)  |             |             |          |                |         |             |           |  |
|              |   | Added P4SELC information in Table 6-42, Port P3, P4 Registers (Base Address: 0220ff) 87                                      |             |             |          |                |         |             |           |  |
|              |   | Added P5SELC information in Table 6-43, Port P5, P6 Registers (Base Address: 0240h)  |             |             |          |                |         |             |           |  |
|              | Added P6SELC information in Table 6-43, Port P5, P6 Registers (Base Address: 0240h)                     |  |             |             |          |                |         |             |           |  |
|              | <ul> <li>Changed CRC covered</li> </ul>   | ed end addre   | ss to 0x    | (1AF7 in    | table no | ote (1) in Tal | ole 6-7 | 0, <i>D</i> | evice De  | scriptors <u>107</u>                                   |
| The          | datasheet number  | will be ch   | angin       | g.          |          |                |         |             |           |  |
| De           | evice Family  | ·  |             |             | Chan     | ige From:      |         |             | Chan      | ge To:   |
| M:           | SP430FR2355, MSP  | 430FR235   | 3,          |             | SLAS     | SEC4C          |         |             | SLAS      | EC4D   |
|              | SP430FR2155, MSP  |  |             |             |          |                |         |             |           |  |
|              | These changes may be reviewed at the datasheet links provided.  |  |             |             |          |                |         |             |           |  |
| <u>htt</u>   | o://www.ti.com/pro  | duct/MSP4  | 130FR       | <u>2355</u> |          |                |         |             |           |  |
|              | ason for Change:  |  |             |             |          |                |         |             |           |  |
| То           | accurately reflect de   | evice chara  | acteris     | stics.      |          |                |         |             |           |  |

## 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:**

| М | SP430FR2153TDBT  | MSP430FR2155TDBTR | MSP430FR2353TDBTR | MSP430FR2355TDBTR |
|---|------------------|-------------------|-------------------|-------------------|
| М | SP430FR2153TDBTR | MSP430FR2155TPT   | MSP430FR2353TPT   | MSP430FR2355TPT   |
| М | SP430FR2153TPT   | MSP430FR2155TPTR  | MSP430FR2353TPTR  | MSP430FR2355TPTR  |
| М | SP430FR2153TPTR  | MSP430FR2155TRHAR | MSP430FR2353TRHAR | MSP430FR2355TRHAR |
| М | SP430FR2153TRHAR | MSP430FR2155TRHAT | MSP430FR2353TRHAT | MSP430FR2355TRHAT |
| М | SP430FR2153TRHAT | MSP430FR2155TRSMR | MSP430FR2353TRSMR | MSP430FR2355TRSMR |
| М | SP430FR2153TRSMR | MSP430FR2155TRSMT | MSP430FR2353TRSMT | MSP430FR2355TRSMT |
| М | SP430FR2153TRSMT | MSP430FR2353TDBT  | MSP430FR2355TDBT  |                   |

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