

|  |   |              |                          |                                       |                    |                                     |                    |
|--|---|--------------|--------------------------|---------------------------------------|--------------------|-------------------------------------|--------------------|
| <b>PCN Number:</b>   |   | 20130218001  |                          | <b>PCN Date:</b>                      |                    | 03/25/2013                          |                    |
| <b>Title:</b>  | DM6 U*BGA Cu Wire Bond conversion for 90nm and 120nm products |              |                          |                                       |                    |                                     |                    |
| <b>Customer Contact:</b>   | PCN_ww_admin_team@list.ti.com                                 |              | <b>Phone:</b>            | +1(214)480-6037                       |                    | <b>Dept:</b>                        | Quality Services   |
| <b>Proposed 1<sup>st</sup> Ship Date:</b>  |   | 06/25/2013   |                          | <b>Estimated Sample Availability:</b> |                    | Date provided at sample request.    |                    |
| <b>Change Type:</b>  |   |              |                          |                                       |                    |                                     |                    |
| <input type="checkbox"/>   | Assembly Site   |              | <input type="checkbox"/> | Assembly Process                      |                    | <input checked="" type="checkbox"/> | Assembly Materials |
| <b>PCN Details</b>   |   |              |                          |                                       |                    |                                     |                    |
| <b>Description of Change:</b>  |   |              |                          |                                       |                    |                                     |                    |
| Texas Instruments is pleased to announce the qualification of Cu as an additional bond wire option for devices listed in "Product affected" section below. See table below:  |   |              |                          |                                       |                    |                                     |                    |
|  |   |              |                          |                                       |                    |                                     |                    |
| Material Set   | Current Assembly Au wire                                      |              | Cu Bond wire option      |                                       |                    |                                     |                    |
| Wire diam (Mils)   | 0.96  |              | 0.80                     |                                       |                    |                                     |                    |
| <b>Reason for Change:</b>  |   |              |                          |                                       |                    |                                     |                    |
| Continuity of supply.<br>1) To align with world technology trends and use wiring with enhanced mechanical and electrical properties<br>2) Maximize flexibility within our Assembly/Test production sites.<br>3) Cu is easier to obtain and stock |   |              |                          |                                       |                    |                                     |                    |
| <b>Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):</b>  |   |              |                          |                                       |                    |                                     |                    |
| None.  |   |              |                          |                                       |                    |                                     |                    |
| <b>Changes to product identification resulting from this PCN:</b>  |   |              |                          |                                       |                    |                                     |                    |
| None.  |   |              |                          |                                       |                    |                                     |                    |
| <b>Product Affected:</b>   |   |              |                          |                                       |                    |                                     |                    |
| D35004AZGW160  | TMS320DM100ZJJR   |              | TMS320VC5506GHH          |                                       | TMS320VC5510AZGW1  |                                     |                    |
| D35004AZGWA200   | TMS320DM270ZHK-K  |              | TMS320VC5506ZHHR         |                                       | TMS320VC5510AZGWD2 |                                     |                    |
| D751685AM3ZZAR   | TMS320DM299DZJJ   |              | TMS320VC5507ZHH          |                                       | TNETV2510ENGGWR    |                                     |                    |
| D751685AZZAR   | TMS320DM299ZJJR   |              | TMS320VC5507ZHHR         |                                       | TNETV2510GGWR      |                                     |                    |
| D761924ZGUR  | TMS320SP109AZHH   |              | TMS320VC5509AGHHR        |                                       |                    |                                     |                    |
| OMAP5910JGZG2  | TMS320VC5503GHH   |              | TMS320VC5510AGPHA2       |                                       |                    |                                     |                    |
| <b>Qualification Data: Approved 11/29/2010</b>   |   |              |                          |                                       |                    |                                     |                    |
| This qualification has been specifically developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.  |   |              |                          |                                       |                    |                                     |                    |
| <b>Qual Vehicle 1: D6567GN0ZWKR (MSL 3-260C)</b>   |   |              |                          |                                       |                    |                                     |                    |
| <b>Package Construction Details</b>  |   |              |                          |                                       |                    |                                     |                    |
| Assembly Site:   |   | PHI (TIPI)   |                          | Mold Compound:                        |                    | 4206745                             |                    |
| # Pins-Designator, Family:   |   | 385-ZWK, BGA |                          | Mount Compound:                       |                    | 4073505                             |                    |
| Solder Ball composition  |   | SnAgCu       |                          | Bond Wire:                            |                    | 0.80Mil Cu                          |                    |

| Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results |                               |                  |            |       |
|---|-------------------------------|------------------|------------|-------|
| Reliability Test  | Conditions                    | Sample Size/Fail |            |       |
|   |                               | Lot#1            | Lot#2      | Lot#3 |
| **Biased Temp Humidity  | 85C/85%RH (600hrs)            | 78/0             | -          | -     |
| **Unbiased HAST   | 110C/85%RH (264hrs)           | 78/0             | 78/0       | 78/0  |
| **High Temp. Storage Bake   | 150C (600 hrs)                | 78/0             | 78/0       | 78/0  |
| **T/C -65C/150C   | -55C/+125C (1000 Cyc)         | 78/0             | 78/0       | 78/0  |
| Manufacturability   | (per mfg. Site specification) | Pass             | Pass       | Pass  |
| Notes ** - Preconditioning sequence: Level 3-260C.  |                               |                  |            |       |
| Qual Vehicle 2: F761536ZZD (MSL 3-260C)   |                               |                  |            |       |
| Package Construction Details  |                               |                  |            |       |
| Assembly Site:  | PHI (TIPI)                    | Mold Compound:   | 4203565    |       |
| # Pins-Designator, Family:  | 179-ZZD, BGA                  | Mount Compound:  | 4111062    |       |
| Solder Ball composition   | SnAgCu                        | Bond Wire:       | 0.80Mil Au |       |
| Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results |                               |                  |            |       |
| Reliability Test  | Conditions                    | Sample Size/Fail |            |       |
|   |                               | Lot#1            | Lot#2      | Lot#3 |
| ** Biased HAST  | 110C/85%RH, 264 hrs           | 70/0             | 70/0       | 70/0  |
| ** Unbiased HAST  | 130C/85%RH (192hrs)           | 98/0             | 99/0       | 99/0  |
| ** Unbiased HAST  | 110C/85%RH (192hrs)           | 97/0             | 97/0       | 96/0  |
| **High Temp. Storage Bake   | 150C (1008 hrs)               | 96/0             | 97/0       | 97/0  |
| **T/C -65C/150C   | -55C/+125C (1000 Cyc)         | 101/0            | 103/0      | 101/0 |
| Notes ** - Preconditioning sequence: Level 3-260C.  |                               |                  |            |       |
| Qual Vehicle 3: TSB43DA42AGHC (MSL 3-260C)  |                               |                  |            |       |
| Package Construction Details  |                               |                  |            |       |
| Assembly Site:  | PHI (TIPI)                    | Mold Compound:   | 4203565    |       |
| # Pins-Designator, Family:  | 196-GHC, BGA                  | Mount Compound:  | 4111062    |       |
| Solder Ball composition   | SnAgCu                        | Bond Wire:       | 0.80Mil Cu |       |
| Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results |                               |                  |            |       |
| Reliability Test  | Conditions                    | Sample Size/Fail |            |       |
|   |                               | Lot#1            | Lot#2      | Lot#3 |
| **High Temp. Storage Bake   | 150C (1008 hrs)               | 90/0             | 90/0       | 90/0  |
| **Biased Temp and Humidity  | 85C/85%RH (600hrs)            | 77/0             | 77/0       | 77/0  |
| ** Unbiased HAST  | 130C/85%RH (192hrs)           | 90/0             | 90/0       | 90/0  |
| **T/C -65C/150C   | -55C/+125C (1000 Cyc)         | 110/0            | 110/0      | 110/0 |
| Notes ** - Preconditioning sequence: Level 3-260C.  |                               |                  |            |       |

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

| Location     | E-Mail   |
|--------------|--|
| USA          | <a href="mailto:PCNAmericasContact@list.ti.com">PCNAmericasContact@list.ti.com</a> |
| Europe       | <a href="mailto:PCNEuropeContact@list.ti.com">PCNEuropeContact@list.ti.com</a>     |
| Asia Pacific | <a href="mailto:PCNAsiaContact@list.ti.com">PCNAsiaContact@list.ti.com</a>         |
| Japan        | <a href="mailto:PCNJapanContact@list.ti.com">PCNJapanContact@list.ti.com</a>       |