



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20130520005
Qualification of CLARK-AT as new assembly site
for affected device(s) moving from SCSAT, corresponding package change from
punched RTK to sawn RGP and change of orderable part number(s)
Change Notification / Sample Request

Date: 6/18/2013
To: MOUSER PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

Sincerely,

PCN Team
SC Business Services
Phone: +1(214) 480-6037
Fax: +1(214) 480-6659

20130520005
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

| DEVICE | CUSTOMER PART NUMBER |
|---------------|-----------------------------|
| CC2500RTK | null |
| CC2500RTKR | null |
| CC2500-RTY1 | null |

Technical details of this Product Change follow on the next page(s).

| | | | |
|---|---|---------------------------------------|---|
| PCN Number: | 20130520005 | PCN Date: | 06/19/2013 |
| Title: | Qualification of CLARK-AT as new assembly site for affected device(s) moving from SCSAT, corresponding package change from punched RTK to sawn RGP and change of orderable part number(s) | | |
| Customer Contact: | PCN Manager | Phone: | +1(214)480-6037 |
| | | Dept: | Quality Services |
| Proposed 1st Ship Date: | 09/19/2013 | Estimated Sample Availability: | 07/15/2013 |
| Change Type: | | | |
| <input checked="" type="checkbox"/> | Assembly Site | <input checked="" type="checkbox"/> | Assembly Process |
| <input type="checkbox"/> | Design | <input type="checkbox"/> | Electrical Specification |
| <input type="checkbox"/> | Test Site | <input checked="" type="checkbox"/> | Packing/Shipping/Labeling |
| <input type="checkbox"/> | Wafer Bump Site | <input type="checkbox"/> | Wafer Bump Material |
| <input type="checkbox"/> | Wafer Fab Site | <input type="checkbox"/> | Wafer Fab Materials |
| <input type="checkbox"/> | | <input type="checkbox"/> | Assembly Materials |
| | | <input type="checkbox"/> | Mechanical Specification |
| | | <input type="checkbox"/> | Test Process |
| | | <input type="checkbox"/> | Wafer Bump Process |
| | | <input type="checkbox"/> | Wafer Fab Process |
| PCN Details | | | |
| Description of Change: | | | |
| <p>Texas Instruments is pleased to announce the ongoing qualification of its CLARK-AT facility as a new assembly site for 4x4 mm, 20-pin RTK VQFN packaged device(s) currently being assembled at its SCSAT subcon facility. A package change (see package mechanical drawings) and an order number change will accompany this change. The sawn RGP package is considered backwards compatible with the punched RTK package, i.e. no PCB footprint change is necessary. Please see the tables below for further details on site and associated RoHS compliant and REACH compliant bill of material changes. Packing materials (shipping boxes, tape & reels, tubes, etc.) at the additional site will be consistent with materials currently in use at that added site.</p> | | | |
| | Current | Qualification | |
| Assembly Site | SCSAT | CLARK-AT | |
| Package Designator | RTK | RGP | |
| Leadframe | SID#R002-2077X (NiPdAu) | 4211288-0003 (NiPdAu) | |
| Mount Compound | SID#R008-0103X | 4207123-0002 | |
| Mold Compound | SID#R003-0302X | 4208625-0005 | |
| Bond Wire | SID#R005-0077X 25.4 µm (1 mil Au) | 4072459-0500 (0.96 mil Au) | |
| Device Names / Orderables | | | |
| <p>The orderable part number will change to reflect the RGP package. Customers must convert their systems over to the new part numbers when this PCN goes into effect. The "Package Option Addendum" section in the updated datasheet as well as product information page on web will reflect these orderable device changes when they go into effect.</p> | | | |

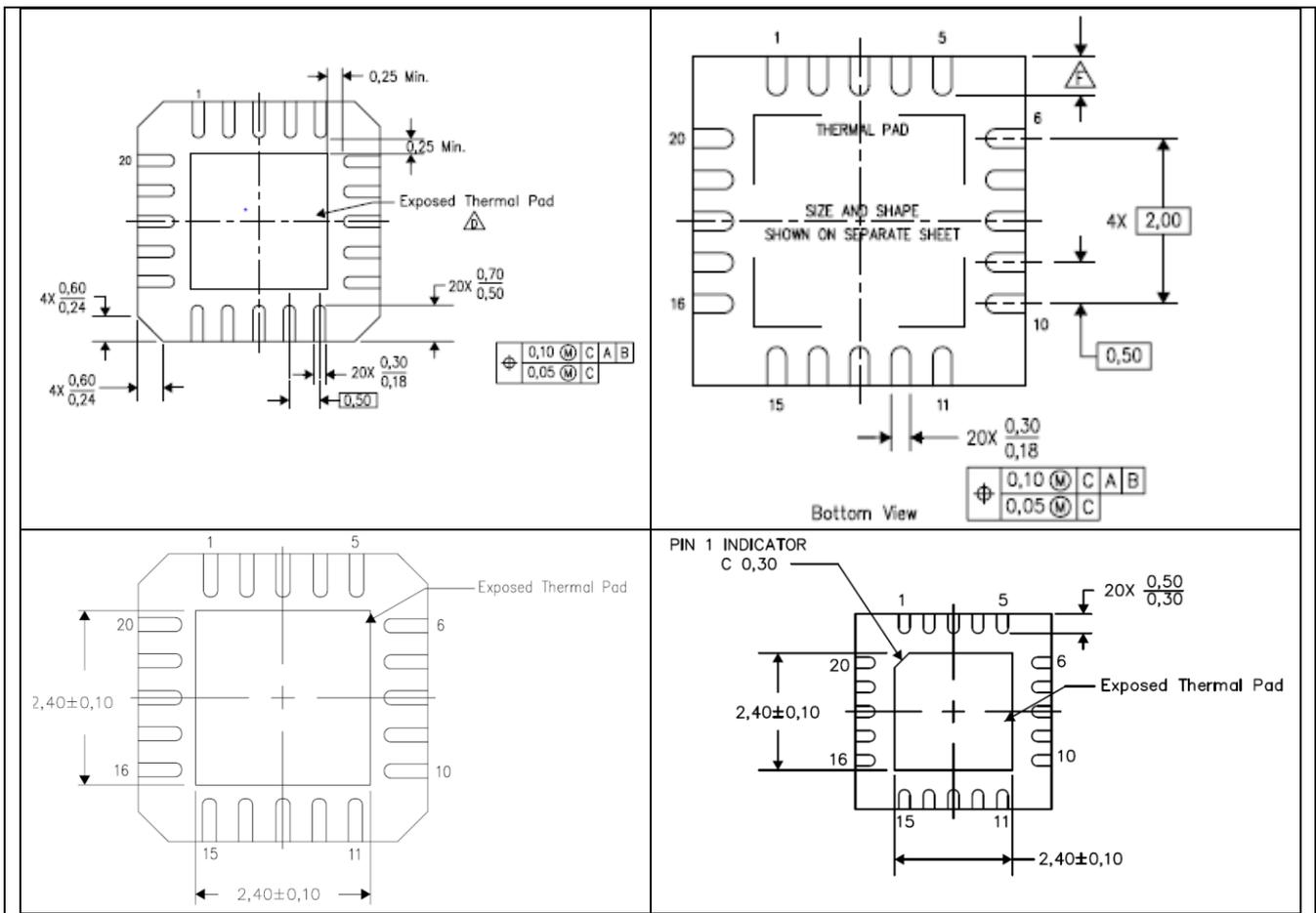
Package marking:

CC1101 is used as an example below. The same marking change applies to all affected product.

| Current (RTK) | Qualification ongoing (RGP) |
|--|--|
| <p>Topside Symbol : QFN4X4-CC</p> <pre> +-----+ ! O ! Y = YEAR ! CC2500 ! M = MONTH ! YMMLLLG ! M = SECONDARY SITE CODE FOR STATS ! YYWW ! LLL = ASSY LOT CODE ! ! G = PRIMARY SITE CODE FOR STATS +-----+ YY = YEAR (LAST TWO DIGITS OF YEAR) O - PIN 1 (MARKED) WW = WEEK NUMBER 7 CHARACTERS MAX LINE 1 </pre> | <p>Topside Symbol : QFN4X4-ECAT</p> <pre> +-----+ TI = TI LETTERS ! O ! YM = YEAR MONTH CODE ! CC2500 ! S = ASSEMBLY SITE CODE PER QSS 005-120 ! ! LLLL = ASSY LOT CODE ! TI YMS ! ! LLLL G4 ! 7 CHARACTERS MAX LINES 1 & 2 +-----+ O - PIN 1 (MARKED) G4 MUST BE SYMBOLIZED WITH A SOLID LINE UNDERSCORE, IF PRESENT #SYMBOL ECAT : G4 MUST BE SYMBOLIZED WITH AN UNDERSCORE #SYMBOL PIN 1 QUADRANT : 1 #SYMBOL DEVICE NAME1: CC2500 #SYMBOL DEVICE NAME2: #SYMBOL LOGO : TI </pre> |

Package Drawings (please see datasheets for complete package Mechanical Data):

| Current (RTK) | Qualification ongoing (RGP) |
|---------------|-----------------------------|
| | |
| | |



Reason for Change:

Continuity of Supply

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

Improved reliability by changing to sawn RGP package with higher package integrity.

Changes to product identification resulting from this PCN:

Shipment Labels:

Current

| | | |
|---------------|----------------------------|-------------------------------|
| Assembly Site | Assembly site Origin (22L) | Assembly country Origin (23L) |
| SCSAT | STS | SGP |

New

| | | |
|---------------|----------------------------|-------------------------------|
| Assembly Site | Assembly site Origin (22L) | Assembly country Origin (23L) |
| CLARK-AT | QAB | PHL |

Sample product shipping label



MADE IN: Malaysia
2DC: 20:



| | |
|-----------------------|----------|
| MSL 2 / 260C / 1 YEAR | SEAL DT |
| MSL 1 / 235C / UNLIM | 03/29/04 |

OPT:
ITEM: 39
LBL: 5A (L)T0:1750

(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T) LOT: 3959047MLA
(4W) TKY (1T) 7523483SI2
(P)
(2P) REV: (V) 0033317
(20L) CSO: SHE (21L) CCO: USA
(22L) ASO: MLA (23L) ACO: MYS

Product Affected:

| Current Part Number | New Part Number |
|---------------------|-----------------|
| CC2500-RTR1 | CC2500RGPR |
| CC2500-RTY1 | CC2500RGP |
| CC2500RTK | CC2500RGP |
| CC2500RTKG3 | CC2500RGP |
| CC2500RTKR | CC2500RGPR |
| CC2500RTKRG3 | CC2500RGPR |
| HPA00325RTKR | HPA00325RGPR |
| HPA00367RTKR | HPA00367RGPR |
| HPA00711KBM | HPA00711KBM |

Qualification Data:

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.

| | | | | |
|--------------------------------|---------------|------------|-------------|------------|
| Qualification Schedule: | Start: | 2012-10-15 | End: | 2013-02-01 |
|--------------------------------|---------------|------------|-------------|------------|

Qualification Device Construction Details:

| Device: | See the Product Affected section of this document for a list of qualified devices | Qual Device1 for QBS CC1101RTK | Qual Devic2 for QBS CC1101RGP |
|-------------------------|---|-----------------------------------|----------------------------------|
| Wafer Fab: | TSMC Fab4 | TSMC Fab4 | TSMC Fab4 |
| Wafer Technology: | 0.18um CMOS | 0.18um CMOS | 0.18um CMOS |
| Assembly Site: | CLARK-AT | SCSAT | CLAR-AT |
| Package Type/Code: | 20VQFN / RGP | 20VQFN / RTK | 20VQFN / RGP |
| Package Pins: | 20 | 20 | 20 |
| Mold Compound: | 4208625-0005 | SID#R003-0302X | 4208625-0005 |
| Mold Compound Supplier: | Sumitomo | Sumitomo | Sumitomo |
| Lead Frame: | 4211288-0003 | SID#R002-2077X | 4211288-0003 |
| Composition: | NiPdAu, Cu base | NiPdAu, Cu base | NiPdAu, Cu base |
| Die Attach: | 4207123-0002 | SID#R008-0103X | 4207123-0002 |
| Die Attach Supplier: | Sumitomo | Ablestik | Sumitomo |
| Wire Diameter: | 24.3 um (0.96 mils) | 25.4 um (1.0 mils) | 24.3 um (0.96 mils) |
| Moisture Level: | MSL3 | MSL3 | MSL3 |

| Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results | | |
|---|---|---|
| Reliability Test | Conditions | Sample Size (PASS/FAIL) |
| ESD HBM | Human Body Model JEDEC STD 22 A114 | 3 / 0 3 / 0 3 / 0 3 / 0 PASS (QBS with QD1) |
| ESD CDM | Charged Device Model JEDEC STD 22 C101 | 3 / 0 3 / 0 3 / 0 3 / 0 PASS (QBS with QD2) |
| Latch-up | 100mA / 1.5xVddmax JEDEC STD 78 | 18 / 0 PASS (QBS with QD1) |
| Manufacturability | Per assembly site specification | - |
| Pre-conditioning Level 3 | 24h bake @ 125°C, 192h soak @ 30°C/60%RH, 3 IR cycles 260°C + 5/-0°C SAM required JEDEC STD 22 A113 | 693 / 0 PASS (QBS with QD2) |
| Temperature Cycles air/air* | -55°C / +125°C JEDEC STD 22 A104 | 231 / 0 231 / 0 PASS (QBS with QD2) |
| Storage* | 150°C / 600h JEDEC STD 22 A103 | 231 / 0 231 / 0 PASS (QBS with QD2) |
| Bias Temperature & Humidity* | 130°C / 85%RH, Vmax JEDEC STD 22 A101/A110 | 77 / 0 PASS (QBS with QD1) |
| Unbiased HAST* | 110°C / 85%RH, Vmax JEDEC STD 22 A118 | 231 / 0 231 / 0 PASS (QBS with QD2) |
| Operating Life Test | Dynamic 140°C (480 Hrs), Vcc Max JEDEC STD 22 A108 | 77 / 0 PASS (QBS with QD1) |
| Thermal Integrity Sequence | (level 3 @ 260C +5/-0C) | 12 / 0 12 / 0 PASS (QBS with QD2) |
| Electrical characterization | Low (minimum) and high (maximum) extremes for device bias voltage and temperature. | Pass |
| Notes: * Test requires Moisture Preconditioning Qualification tests "pass" on zero fails for each test "QBS" stands for Qualification by Similarity | | |

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 | PCNAmericasContact@list.ti.com |
| Europe | PCNEuropeContact@list.ti.com |
| Asia Pacific | PCNAsiaContact@list.ti.com |
| Japan | PCNJapanContact@list.ti.com |