



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20121123000
Qualification of CLARK-AT as new assembly site for affected device(s)
moving from SCSAT, corresponding package change from
punched RTC to sawn RGZ and change of orderable part number(s)
Change Notification / Sample Request

Date: 11/26/2012
To: Newark PCN

Dear Customer:

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

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.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. If you require samples to conduct an evaluation, please make any request within the 30 days—samples are not built ahead of the change. Please see the schedule on the following pages for availability dates. You may contact the PCN Manager or your local Field Sales Representative to acknowledge this PCN and request samples.

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. Any negotiated alternative change requirements will be provided via the customer's defined process. Customers with previously negotiated, special requirements will be handled separately. Any inquiries should be directed to your local Field Sales Representative.

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

20121123000
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
CC2420RTC	null

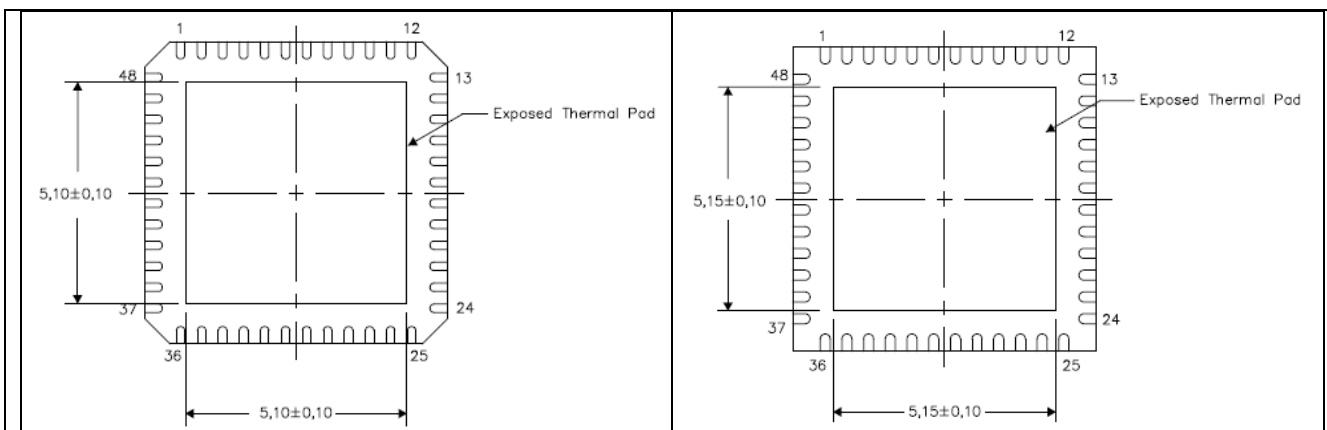
Technical details of this Product Change follow on the next page(s).

PCN Number:	20121123000		PCN Date:	11/26/2012																						
Title:	Qualification of CLARK-AT as new assembly site for affected device(s) moving from SCSAT, corresponding package change from punched RTC to sawn RGZ and change of orderable part number(s)																									
Customer Contact:	PCN_ww_admin_team@list.ti.com		Phone:	+1(214)480-6037																						
Dept:	Quality Services																									
Proposed 1st Ship Date:	02/26/2013		Estimated Sample Availability:	01/26/2013																						
Change Type:																										
<input checked="" type="checkbox"/>	Assembly Site	<input checked="" type="checkbox"/>	Assembly Process	<input checked="" type="checkbox"/>	Assembly Materials																					
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification	<input checked="" type="checkbox"/>	Mechanical Specification																					
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process																					
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material	<input type="checkbox"/>	Wafer Bump Process																					
<input type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials	<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 7x7 mm, 48-pin RTC VQFN packaged device(s) currently being assembled at its SCSAT subcon facility. A package change (see package mechanical drawings) and an orderable part number change will accompany this change. The sawn RGZ package is considered backwards compatible with the punched RTC 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, trays, etc.) at the additional site will be consistent with materials currently in use at that added site.</p>																										
<table border="1"> <thead> <tr> <th></th> <th>Current (RTC)</th> <th>Qualification (RGZ)</th> </tr> </thead> <tbody> <tr> <td>Assembly Site</td> <td>SCSAT</td> <td>CLARK-AT</td> </tr> <tr> <td>Package Designator</td> <td>RTC</td> <td>RGZ</td> </tr> <tr> <td>Leadframe</td> <td>SID#R002-2072X (NiPdAu)</td> <td>4211075-0001 (NiPdAu)</td> </tr> <tr> <td>Mount Compound</td> <td>SID#R008-0097X</td> <td>4207123-0002</td> </tr> <tr> <td>Mold Compound</td> <td>SID#R003-0301X</td> <td>4208625-0005</td> </tr> <tr> <td>Bond Wire</td> <td>SID#R005-0077X 25.4 µm (1 mil Au)</td> <td>4072459-5000 (0.96 mil Au)</td> </tr> </tbody> </table>							Current (RTC)	Qualification (RGZ)	Assembly Site	SCSAT	CLARK-AT	Package Designator	RTC	RGZ	Leadframe	SID#R002-2072X (NiPdAu)	4211075-0001 (NiPdAu)	Mount Compound	SID#R008-0097X	4207123-0002	Mold Compound	SID#R003-0301X	4208625-0005	Bond Wire	SID#R005-0077X 25.4 µm (1 mil Au)	4072459-5000 (0.96 mil Au)
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Device Names / Orderables																										
<p>The orderable part number will change to reflect the RGZ package designator. 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:																										
Current (RTC)			Qualification ongoing (RGZ)																							

<p>Symbol Topside Symbol : QFN7X7-SCSAT</p> <pre> +-----+ ! O ! TI = TI LETTERS ! CC2545 ! YM = YEAR MONTH DATE CODE ! ! G = PRIMARY CODE FOR SCSAT ! TI YMG ! M = SECONDARY CODE FOR SCSAT ! MLL G4 ! LLL = ASSY LOT CODE +-----+ O - PIN 1 (MARKED) 10 CHARACTERS MAX LINES 1 & 2 NOTE: G4 MUST BE SYMBOLIZED WITH AN UNDERSCORE </pre>	<p>Symbol Topside Symbol : QFN7X7</p> <pre> +-----+ ! O ! TI = TI LETTERS ! CC2545 ! YM = YEAR MONTH DATE CODE ! ! LLLL = ASSY LOT CODE ! TI YMS ! S = ASSEMBLY SITE CODE PER QSS 005-120 ! LLLL G4 ! +-----+ O = PIN 1 (MARKED) 10 CHARACTERS MAX LINES 1 & 2 NOTE: G4 MUST BE SYMBOLIZED WITH AN UNDERSCORE, IF PRESENT #SYMBOL ECAT : G4 MUST BE SYMBOLIZED WITH AN UNDERSCORE #SYMBOL DEVICE NAME1: CC2545 #SYMBOL LOGO : TI #SYMBOL PIN 1 QUADRANT : 1 </pre>
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Package Drawings (please see datasheets for complete package Mechanical Data):

Current (RTC)	Qualification ongoing (RGZ)



Tube related changes:

	Current (RTC / -RTB1)	Qualification (RGZ)
Standard Pack Quantity (SPQ)	43	52
Minimum Pack Quantity (MOQ)	258	2080
Ship tube	SID#R020-0395X	4204830-0005
End Plug 1	SID#R020-0395X (gray)	4203950-0020 (green)
End plug 2	SID#R020-0395X (gray)	4203950-0021 (white)
Ship bag	SID#B050-0138X	4200734-0023
Ship box	SID#B002-0427X L/W/H: 556mm / 162mm / 98mm	4204976-0001 L/W/H: 407mm/104mm/97mm

Reason for Change:

Continuity of Supply

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

Improved reliability by changing to sawn RGZ 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

 **TEXAS
INSTRUMENTS**

MADE IN: Malaysia
2DC: 2Q:



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) CS0: SHE (21L) CC0: USA
(22L) AS0: MLA (23L) ACO: MYS

Product Affected:

Current Part number	New Part Number
CC2420-RTB1	CC2420RGZ
CC2420-RTR1	CC2420RGZR
CC2420RTC	CC2420RGZ
CC2420RTCR	CC2420RGZR
CC2420RTCT	CC2420RGZT
CC2420Z-RTB1	CC2420RGZ
CC2420ZRTC	CC2420RGZ
CC2420ZRTCR	CC2420RGZR
CC2545RTCR	CC2545RGZR
CC2545RTCT	CC2545RGZT
EM2420-RTR1	EM2420RGZR
EM2420RTCR	EM2420RGZR
FRE005RTCR	FRE005RGZR
FRE005RTCT	FRE005RGZT

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:	2013-02-05
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Qualification Device Construction Details:

Device:	See the Product Affected section of this document for a list of qualified devices	Qual device 1 for QBS
Wafer Fab:	TSMC Fab11	TSMC Fab11
Wafer Technology:	0.18um CMOS	0.18um CMOS
Assembly Site:	CLARK-AT	SCS-AT
Package Type/Code:	48VQFN / RGZ	48VQFN / RTC
Package Pins:	48	48
Mold Compound:	4208625-0005	SID#R003-0301X
Lead Frame:	4211075-0001	SID#R002-2072X
Composition:	NiPdAu, Cu base	NiPdAu, Cu base
Die Attach:	4207123-0002	SID#R008-0097X
Wire Diameter:	24.3 um (0.96 mils)	25.4 um (1.00 mils)
Moisture Level:	MSL3 / 260°C	MSL3 / 260°C

Qualification: <input checked="" type="checkbox"/> Plan <input type="checkbox"/> Test Results		
Reliability Test	Conditions	Sample Size (PASS/FAIL)
ESD HBM	Human Body Model JEDEC STD 22 A114	9 / 0 9 / 0 PASS (QBS)
ESD CDM	Charged Device Model JEDEC STD 22 C101	3 / - 3 / - 3 / -
Latch-up	100mA / 1.5xVddmax JEDEC STD 78	6 / 0 PASS (QBS)
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 JEDEC STD 22 A113	693 / -
Temperature Cycles air/air*	-55°C / +125°C JEDEC STD 22 A104	231 / - 231 / - 231 / -
Storage*	150°C / No bias JEDEC STD 22 A103	231 / - 231 / - 231 / -
Bias Temperature & Humidity*	130°C / 85%RH, Vmax JEDEC STD 22 A101/A110	77 / 0 PASS (QBS)
Unbiased HAST*	110°C / 85%RH, 3.3psia JEDEC STD 22 A118	231 / - 231 / -
Operating Life Test	Dynamic 140°C (480 Hrs), Vcc Max = 3.6V JEDEC STD 22 A108	116 / 0 116 / 0 PASS (QBS)
Thermal Integrity Sequence	level 3 @ 260C +5/-0C	12 / - 12 / -
Electrical characterization	Low (minimum) and high (maximum) extremes for device bias voltage and temperature.	30 units minimum
Notes:		
<ul style="list-style-type: none"> • Tests marked with * require 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 to 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