PCN Number:	20121105000A	PCN Date:	08/29/2013
Title:	Qualification of CLARK-AT as an additional assembly site for affected device(s)		
Customer Contact:	PCN Manager	Phone: +1(214)480-6037	Dept: Quality Services

Change Type:

☒	Assembly Site	☒	Assembly Process	☒	Assembly Materials
☐	Design	☐	Electrical Specification	☐	Mechanical Specification
☐	Test Site	☐	Packing/Shipping/Labeling	☐	Test Process
☐	Wafer Bump Site	☐	Wafer Bump Material	☐	Wafer Bump Process
☐	Wafer Fab Site	☐	Wafer Fab Materials	☐	Wafer Fab Process

PCN Details

Description of Change:

Revision A is to remove select devices in the Product Affected Section (with ~~strikethrough~~) and highlighted in yellow. These devices were inadvertently added and not affected by this change.

Texas Instruments is pleased to announce the ongoing qualification of its CLARK-AT facility as an additional assembly site for 6x6 mm, 40 pin RHA VQFN packaged device(s) currently being assembled at its NSE (UTAC1) subcon facility. See 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 additional site will be consistent with materials currently in use at that added site.

	Current	Qualification
Assembly Site	NSE	CLARK-AT
Package Designator	RHA	RHA
Leadframe	SID#FO220 (NiPdAu)	4211913-0002 (NiPdAuAg)
Mount Compound	SID#PZ0031	4207768-0001, 4207768-0002
Mold Compound	SID#CZ0134	4208625-0005
Bond Wire	SID#GZ0017 25.4 µm (1 mil Au)	4072459-5000 (0.96 mil Au)

Reason for Change:

Continuity of Supply

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

None

Changes to product identification resulting from this PCN:

Shipment Labels:

Current

Assembly Site	Assembly site Origin (22L)	Assembly country Origin (23L)
NSE	NSE	THA

New

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

Sample product shipping label

Product Affected:

CC2525FRHAR	CC2531F256RHAR	~~CC8520RHAR~~
CC2525FRHAT	CC2531F256RHAT	~~CC8520RHAT~~
CC2530F128RHAR	CC2540F128RHAR	~~CC8521RHAR~~
CC2530F128RHAT	CC2540F128RHAT	~~CC8521RHAT~~
CC2530F12CRHAR	CC2540F256RHAR	~~CC8521SRHAR~~
CC2530F256RHAR	CC2540F256RHAT	~~CC8530RHAR~~
CC2530F256RHAT	CC2541F128RHAR	~~CC8530RHAT~~
CC2530F25CRHAR	CC2541F128RHAT	~~CC8531RHAR~~
CC2530F32RHAR	CC2541F256RHAR	~~CC8531RHAT~~
CC2530F32RHAT	CC2541F256RHAT	FRE008RHAR
CC2530F64RHAR	CC2570RHAR	FRE009RHAR
CC2530F64RHAT	CC2570RHAT	HPA00700F256RHAR
CC2531F128RHAR	CC2571RHAR	HPA00702F128RHAR
CC2531F128RHAT	CC2571RHAT	HPA01064RHAR

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:**	10/15/2012	**End:**	01/31/2013

Qualification Device Construction Details:

Device:	See page two of this document for a list of qualified devices	*Qual Device2 for QBS* CC2533F32RHA CC2533F64RHA CC2533F96RHA
Wafer Fab:	TSMC Fab11	TSMC Fab11
Wafer Technology:	0.18um CMOS embedded flash	0.18um CMOS embedded flash
Assembly Site:	CLARK-AT	CLARK-AT
Package Type/Code:	40VQFN / RHA	40VQFN / RHA
Package Pins:	40	40
Mold Compound:	4208625-0005	4208625-0005
Mold Compound Supplier:	Sumitomo	Sumitomo
Lead Frame:	4211913-0002	4211913-0002
Composition:	NiPdAuAg, Cu base	NiPdAuAg, Cu base
Die Attach:	4207768-0001, 4207768-0002	4207768-0001, 4207768-0002
Die Attach Supplier:	Ablestik	Ablestik
Wire diameter:	24.3 um (0.96 mils)	24.3 um (0.96 mils)
Moisture Level:	MSL3	MSL3

	Qual Device1 for QBS CC2540F128RHA CC2540F256RHA	
Wafer Fab:	TSMC Fab11	
Wafer Technology:	0.18um CMOS embedded flash	
Assembly Site:	NSE (UTAC1)	
Package Type/Code:	40VQFN / RHA	
Package Pins:	40	
Mold Compound:	SID#CZ0134	
Mold Compound Supplier:	Sumitomo	
Lead Frame:	SID#FL0220	
Composition:	NiPdAu, Cu base	
Die Attach:	25.4 um Au (1.0 mils)	
Die Attach Supplier:	Ablestik	
Wire diameter:	25.4 um (1.0 mils)	
Moisture Level:	MSL3	

Qualification: ☒ **Plan** ☐ **Test Results**		
Reliability Test	Conditions	Sample Size (PASS/FAIL)
ESD HBM	Human Body Model TI QSS 009-105	3 / 0 **3 / 0** *3 / -* *3 / -* **PASS (QBS)**
ESD CDM	Charged Device Model TI QSS 009-147	3 / 0 **3 / 0** *3 / -* *3 / -*
Latch-up	100mA / 1.5xVddmax TI QSS 009-004	**18 / 0** **PASS (QBS)**
Manufacturability	Per assembly site spec	-
Pre-conditioning Level 3	24h bake @ 125°C, 192h soak @ 30°C/60%RH, 3 IR cycles 260°C + 5/-0°C SAM required	**231 / 0**
Temperature Cycles air/air*	-55°C / +125°C	77 / 0 **77 / 0**
Bias Temperature & Humidity*	130°C / 85%RH, Vmax	**77 / 0** **PASS (QBS)**
Unbiased HAST*	110°C / 85%RH, Vmax	77 / 0 **77 / 0**

Storage*	150°C / 600h	77 / 0 **77 / 0**
Operating Life Test	Dynamic 140°C (480 Hrs), Vcc Max	**77 / 0** **PASS (QBS)**
Thermal Integrity Sequence	(level 3 @ 260C +5/-0C)	12 / 0 12 / 0 12 / 0
Flash Memory Retention	150°C / 1000h	**77 / 0** **PASS (QBS)**
Electrical characterization	Low (minimum) and high (maximum) extremes for device bias voltage and temperature	30 units minimum RF: Min 20units/split Digi/Analog: Min 5units/split
Notes: * Test requires Moisture Preconditioning Qualification tests "pass" on zero fails for each test <optional> "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.

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