PCN Number:	20140421001	**PCN Date:**	04/28/2014

Title:	Qualification of TSMC F10 as an additional Wafer Fab site for CC2541 devices

Customer Contact:	PCN Manager	**Phone:**	+1(214)480-6037	**Dept:**	Quality Services

***Proposed 1st Ship Date:**	07/28/2014	**Estimated Sample Availability:**	Date Provided at Sample request

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
		☐	Part number change		

PCN Details

Description of Change:

This change notification is to announce the addition of TSMC-F10 (Fab 10) as an additional Wafer Fab site option for the products listed in the product affected section of this document.

Current Wafer Fab Site	**Additional Wafer Fab Site**
Site/Process/Wafer Diameter	**Site/Process/Wafer Diameter**
TSMC-WFT/0.18UM TSMC Process/200mm	**TSMC-F10/0.18UM TSMC Process/200mm**

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:

Current

Chip Site	Chip site code (20L)	Chip country code (21L)
TSMC-WFT	T13	USA

Additional

Chip Site	**Chip site code (20L)**	**Chip country code (21L)**
TSMC-F10	**TSS**	**CHN**

Sample Product Shipping Label (not actual product label)

TEXAS INSTRUMENTS
MADE IN: Malaysia
2DC: 2Q:
MSL 2 /260C/1 YEAR SEAL DT
MSL 1 /235C/UNLIM 03/29/04
G4
OPT:
ITEM: 39
LBL: 5A (L)TO: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:			
CC2541CRHA	CC2541F128RHAT	CC2541F256RHAT	HPA01215RHAR
CC2541CRHAR	CC2541F256RHAR	CC2541F256YS	HPA01216RHAR
CC2541F128RHAR			

Qualification Data: Approved 4/2/2014

This qualification has been developed for the validation of this change. The qualification data will validate that the proposed change meets the applicable released technical specifications.

Qualification Device: CC1260RGZ (MSL LEVEL3-260C)

Wafer Fab Site:	TSMC Fab 10	Wafer Fab Process:	TSMC 0.18UM
Wafer Diameter:	200mm		

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size / Fail Lot#1	Lot#2	Lot#3
Latch-up	Per JESD78	6/0	6/0	6/0
Biased Temperature and Humidity	85C/85%RH (1000 hours)	26/0	26/0	26/0
**Unbiased HAST	110C/85%RH (264 hours)	77/0	77/0	77/0
**Temp Cycle	-55/125C (1000 cycles)	77/0	77/0	77/0
**High Temp Storage Bake	150C (1000 hours)	77/0	77/0	77/0
Electrical Characterization	Per datasheet	Pass	Pass	Pass
ESD HBM	+/-1000V	3/0	-	-
ESD CDM	+/-250V	3/0	-	-

**Preconditioning: Level 3-260C

Qualification Data: Approved 1/25/2013

This qualification has been developed for the validation of this change. The qualification data will validate that the proposed change meets the applicable released technical specifications.

Qualification Device: CC2544RHB (MSL LEVEL3-260C)

Wafer Fab Site:	TSMC Fab 10	Wafer Fab Process:	TSMC 0.18UM
Wafer Diameter:	200mm		

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size / Fail Lot#1	Lot#2	Lot#3
**Unbiased HAST	110C/85%RH (264 hours)	77/0	77/0	77/0
**High Temp Storage Bake	150C (600 hours)	77/0	76/0	76/0
Latch-up	Per JESD78	18/0	-	-
**Temp Cycle	-55/+125C (700 cycles)	77/0	77/0	76/0
**Biased Temperature & Humidity	85C/85%RH (600 hours)	26/0	26/0	25/0
ESD HBM	+/-1000V	3/0	-	-
ESD CDM	+/-250V	3/0	-	-
Electrical Characterization	Per datasheet	Pass	Pass	Pass

**Preconditioning: Level 3-260C

Qualification Data: Approved 10/08/2013				
This qualification has been developed for the validation of this change. The qualification data will validate that the proposed change meets the applicable released technical specifications.				
Qualification Device: CC1200RHB (MSL LEVEL3-260C)				
Wafer Fab Site:	TSMC Fab 10	Wafer Fab Process:	TSMC 0.18UM	
Wafer Diameter:	200mm			
Qualification: ☐ **Plan** ☒ **Test Results**				
Reliability Test	Conditions	Sample Size / Fail Lot#1	Lot#2	Lot#3
Operating Life Test	125C (1000 hours)	39/0	39/0	38/0
**Preconditioning: Level 3-260C				

Qualification Data: Approved 04/25/2014				
This qualification has been developed for the validation of this change. The qualification data will validate that the proposed change meets the applicable released technical specifications.				
Qualification Device: CC2541RHAQ (MSL LEVEL3-260C)				
Wafer Fab Site:	TSMC Fab 11	Wafer Fab Process:	TSMC 0.18UM	
Wafer Diameter:	200mm			
Qualification: ☐ **Plan** ☒ **Test Results**				
Reliability Test	Conditions	Sample Size / Fail Lot#1	Lot#2	Lot#3
Operating Life Test	125C (408 hours)	77/0	77/0	77/0
**Preconditioning: Level 3-260C				

Qualification Plan:				
This qualification has been developed for the validation of this change. The qualification data will validate that the proposed change meets the applicable released technical specifications.				
Qualification Schedule:	**Start:**	2/25/2014	**End:**	6/25/2014
Qualification Device: CC2541RHA (MSL LEVEL3-260C)				
Wafer Fab Site:	TSMC Fab 10	Wafer Fab Process:	TSMC 0.18UM	
Wafer Diameter:	200mm	Assembly Site:	TI Clark	
Qualification: ☒ **Plan** ☐ **Test Results**				
Reliability Test	Conditions	Sample Size / Fail Lot#1	Lot#2	Lot#3
Electrical Characterization	Per datasheet	-	-	-
ESD HBM	+/-1000V	3/0	-	-
ESD CDM	+/-250V	3/0	-	-
Latch-up	Per JESD78	6/0	-	-
Flash W/E endurance	105K (20,000 cycles)	12/0	12/0	12/0
**Preconditioning: 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	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com