Title: Qualification of FFAB as an additional Fab site option for select BICMOS13 devices Customer Contact: PCN Manager Dept: Quality Services Proposed 1st Ship Date: Oct 28, 2022 Sample requests accepted until: August 28, 2022*  *Sample requests received after August 28, 2022 will not be supported.  Change Type:    Assembly Site								1			•	
Customer Contact:   PCN Manager   Dept:   Sample requests   Sample requests   August 28, 2022   Sample requests   August 28, 2022   Aug	PCN Num	<b>CN Number:</b> 20220728000.1 <b>PCN Date:</b> July 28, 2022					July 28, 2022					
Proposed 1st Ship Date: Oct 28, 2022 Sample requests accepted until:  *Sample requests received after August 28, 2022 will not be supported.  Change Type:    Assembly Site   Assembly Process   Assembly Materials	Title: Qualification of FFAB as an additional Fab site option for select BICMOS13 devices											
*Sample requests received after August 28, 2022 will not be supported.  Change Type:    Assembly Site	<b>Customer Contact:</b>			PCN Manager <b>Dept:</b>					Quality Services			
Assembly Site							Sample requests			,		
Assembly Site	*Sample i	equests re	ceived af	ter Augu	st 28,	2022	will not	be sup	e supported.			
Design    Test Site   Packing/Shipping/Labeling   Test Process   Wafer Bump Site   Wafer Bump Material   Wafer Bump Process   Wafer Fab Site   Wafer Fab Materials   Wafer Bump Process   Wafer Fab Site   Wafer Fab Materials   Wafer Bump Process   Part number change	Change Ty	/pe:										
Test Site	Assem	bly Site		Assemb	ly Prod	cess			Ass	emb	ly Materials	
Wafer Bump Site				☐ Electrical Specification					Med	-		
Wafer Fab Site				_								
Part number change  PCN Details  Description of Change:  Texas Instruments is pleased to announce the qualification of its FFAB fabrication facility as an additional Wafer Fab source for the selected devices listed in the "Product Affected" section.  Current Sites  Current Process Pab Site Process Pab Site Pliameter Pliameter Pab Site Pliameter Pliameter Pab Site Pliameter Pab Site Pliameter Pab Site Pliameter Pliameter Pab Site Pliameter Pab Sit				_						•		
PCN Details  Description of Change:  Texas Instruments is pleased to announce the qualification of its FFAB fabrication facility as an additional Wafer Fab source for the selected devices listed in the "Product Affected" section.  Current Sites  Current Process Pab Site  Process Pab Site  Mainefab  BICMOS13  200 mm  Process Pab Site  Mainefab  BICMOS13  200 mm  Prab  BICMOS13  200 mm  Qual details are provided in the Qual Data Section.  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  C		Fab Site							Wat	Wafer Fab Process		
Texas Instruments is pleased to announce the qualification of its FFAB fabrication facility as an additional Wafer Fab source for the selected devices listed in the "Product Affected" section.    Current Sites				•			_					
Texas Instruments is pleased to announce the qualification of its FFAB fabrication facility as an additional Wafer Fab source for the selected devices listed in the "Product Affected" section.    Current Sites					PCN [	Detai	ls					
additional Wafer Fab source for the selected devices listed in the "Product Affected" section.    Current Sites												
Current Fab Site  MAINEFAB BICMOS13 200 mm FFAB BICMOS13 200 mm  Qual details are provided in the Qual Data Section.  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 Origin (20L) Chip Site Country Code (21L) Chip Site City  MAINEFAB CUA USA South Portland  New Fab Site  Chip Site Chip Site Origin (20L) Chip Site Country Code (21L) Chip Site City  FR-BIP-1 TID DEU Freising  Sample product shipping label (not actual product label)  INSTRUMENTS  MADE IN: Malaysia 200: 1881 2 (2600C/1 YEAR SEAL DT MSL 1 / 2355C/UNLIM 03/29/04)  POT: 11EM: 39												
Pab Site		Curre	nt Sites				_	Additional Sites				
Qual details are provided in the Qual Data Section.  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 Origin (20L)   Chip Site Country Code (21L)   Chip Site City MAINEFAB   CUA   USA   South Portland  New Fab Site  Chip Site   Chip Site Origin (20L)   Chip Site Country Code (21L)   Chip Site City FR-BIP-1   TID   DEU   Freising  Sample product shipping label (not actual product label)  TEXAS   NSTRUMENTS   G4   G4   G4   G4   G4   G4   G4   G			ocess					Proces		3		
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 Origin (20L)   Chip Site Country Code (21L)   Chip Site City  MAINEFAB   CUA   USA   South Portland  New Fab Site   Chip Site Origin (20L)   Chip Site Country Code (21L)   Chip Site City  FR-BIP-1   TID   DEU   Freising  Sample product shipping label (not actual product label)  TEXAS   NSTRUMENTS   G4   (A) 2000   (B) 0336   (C) 2000   (C) (C) 2	MAINEFA	AB BIC	MOS13	200 m	nm	F	FAB	BICMOS1		3	200mm	
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 Origin (20L)   Chip Site Country Code (21L)   Chip Site City    MAINEFAB   CUA   USA   South Portland  New Fab Site  Chip Site   Chip Site Origin (20L)   Chip Site Country Code (21L)   Chip Site City    FR-BIP-1   TID   DEU   Freising  Sample product shipping label (not actual product label)  Texas   MADE IN: Malaysia   G4   G3TT) LOT: 3959047MLA    MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MOPT:   MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MSL 1 / 235C/UNLIM   03/29/04   G4W) TKY (1T) 7523483S12    MSL 1 / 235C/UNLIM   03/29/04   G4W   TKY (1T) 7523483S12    MSL 1 / 235C/UNLIM   03/29/04   G4W   TKY (1T) 7523483S12    MSL 1 / 235C/UNLIM   03/29/04   G4W   TKY (1T) 75234B3 S12	-	·	ed in the (	Qual Data	Sectio	on.						
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 Origin (20L)   Chip Site Country Code (21L)   Chip Site City  MAINEFAB   CUA   USA   South Portland  New Fab Site  Chip Site   Chip Site Origin (20L)   Chip Site Country Code (21L)   Chip Site City  FR-BIP-1   TID   DEU   Freising  Sample product shipping label (not actual product label)  TEXAS INSTRUMENTS   G4   20C:												
None  Changes to product identification resulting from this PCN:  Current  Chip Site   Chip Site Origin (20L)   Chip Site Country Code (21L)   Chip Site City MAINEFAB   CUA   USA   South Portland  New Fab Site  Chip Site   Chip Site Origin (20L)   Chip Site Country Code (21L)   Chip Site City FR-BIP-1   TID   DEU   Freising  Sample product shipping label (not actual product label)  TEXAS   MADE IN: Malaysia   20C: 20: 20: 20: 20: 20: 20: 20: 20: 20: 20	Continuity	or Supply										
Current  Chip Site   Chip Site Origin (20L)   Chip Site Country Code (21L)   Chip Site City MAINEFAB   CUA   USA   South Portland  New Fab Site   Chip Site Origin (20L)   Chip Site Country Code (21L)   Chip Site City FR-BIP-1   TID   DEU   Freising  Sample product shipping label (not actual product label)  TEXAS   INSTRUMENTS   G4   Chip Site Country Code (21L)   Chip Site City FR-BIP-1   TID   DEU   Freising  (1P) \$N74L\$07N\$R   (2D) 0336   (2D)	Anticipate	ed impact o	n Form, F	it, Funct	ion, Q	Quality	or Relia	bility (	(posi	tive	/ negative):	
Current  Chip Site Chip Site Origin (20L) Chip Site Country Code (21L) Chip Site City  MAINEFAB CUA USA South Portland  New Fab Site  Chip Site Chip Site Origin (20L) Chip Site Country Code (21L) Chip Site City  FR-BIP-1 TID DEU Freising  Sample product shipping label (not actual product label)  TEXAS INSTRUMENTS MADE IN: Malaysia 20C: 20: MSL '2 /260C/1 YEAR SEAL DT MSL 1 /235C/UNLIM 03/29/04  OPT: ITEM: 39	None											
Chip Site   Chip Site Origin (20L)   Chip Site Country Code (21L)   Chip Site City    MAINEFAB   CUA   USA   South Portland    New Fab Site   Chip Site Origin (20L)   Chip Site Country Code (21L)   Chip Site City    FR-BIP-1   TID   DEU   Freising    Sample product shipping label (not actual product label)    TEXAS   INSTRUMENTS   G4   MADE IN: Malaysia   20C: 20: 20: 20: 20: 20: 20: 20: 20: 20: 20	Changes t	o product	identifica	tion resu	lting 1	from t	his PCN:					
MAINEFAB  CUA  USA  South Portland  New Fab Site  Chip Site  Chip Site Chip Site Origin (20L)  FR-BIP-1  TID  DEU  Freising  Sample product shipping label (not actual product label)  TEXAS INSTRUMENTS MADE IN: Malaysia 2DC: 20: MSL 2 /260C/1 YEAR SEAL DT MSL 1 /235C/UNLIM 03/29/04  OPT: ITEM: 39  South Portland  Chip Site Country Code (21L)  Chip Site Country Code (21L)  Freising  (1P) \$N74L\$07N\$R  (Q) 2000 (D) 0336 (31T) LOT: 3959047MLA (4W) TKY (1T) 7523483S12 (P)	Current											
New Fab Site  Chip Site   Chip Site Origin (20L)   Chip Site Country Code (21L)   Chip Site City  FR-BIP-1   TID   DEU   Freising  Sample product shipping label (not actual product label)  TEXAS   INSTRUMENTS   G4   G4   G4   G4   G4   G4   G4   G	Chip Site Chip Site		p Site Orig	in (20L)	Chip	Site C	ountry Co	de (21	L)	C	Chip Site City	
Chip Site   Chip Site Origin (20L)   Chip Site Country Code (21L)   Chip Site City    FR-BIP-1   TID   DEU   Freising    Sample product shipping label (not actual product label)  Texas   Instruments   G4   Chip Site Country Code (21L)   Chip Site City    Freising   Texas   Chip Site Origin (20L)   Freising    (1P) \$N74L\$07N\$R   (Q) 2000   (D) 0336    (2DC:	MAINER	AB	CUA			USA				South Portland		
Sample product shipping label (not actual product label)  TEXAS INSTRUMENTS MADE IN: Malaysia 2DC: 20: MSL '2 /260C/1 YEAR SEAL DT MSL 1 /235C/UNLIM 03/29/04  OPT: ITEM: 39  DEU Freising  (1P) \$N74L\$07N\$R  (Q) 2000 (D) 0336  (31T) LOT: 3959047MLA  (4W) TKY(1T) 7523483\$I2	New Fab Site											
Sample product shipping label (not actual product label)  TEXAS INSTRUMENTS MADE IN: Malaysia 2DC: MSL '2 /260C/1 YEAR SEAL DT MSL 1 /235C/UNLIM 03/29/04  OPT: ITEM:  39  (1P) \$N74L\$07N\$R  (Q) 2000 (D) 0336  (31T) LOT: 3959047MLA (4W) TKY(1T) 7523483S12				Chip	, , ,			L)	• •			
TEXAS INSTRUMENTS  MADE IN: Malaysia 2DC: 20: (Q) 2000 (D) 0336  MSL '2 /260C/1 YEAR SEAL DT MSL 1 /235C/UNLIM 03/29/04  OPT: (P) \$N74L\$07N\$R  (Q) 2000 (D) 0336  (31T) LOT: 3959047MLA (4W) TKY(1T) 7523483S12	FR-BII	R-BIP-1 TID		DEU				Freising				
	TEXAINSTRUM MADE IN: 2DC: MSL '2 /20 MSL 1 /2: OPT: ITEM:	AS MENTS Malaysia 20: 50C/1 YEAR 35C/UNLIM	G4 SEAL DT 03/29/04	ot actual	produc		1P) \$N7( (a) 200( 31T) LOT 4W) TKY (c) REV: 2P) REV: 20L) CSO:	0 : 395 (1T) she	(D) 5904 7523	7ML 8483 0033 0003	A 3SI2 317 USA	

Product Affected:					
DS160PR410RNQR	SN75LVPE3410RNQR	SN75LVPE4410RNQR			
DS160PR410RNQT	SN75LVPE3410RNQT	SN75LVPE4410RNQT			

## Qualification Report Approve Date 25-July-2022

## Qualification Results Data Displayed as: Number of lots / Total sample size / Total failed

Туре	Test Name / Condition	Duration	Qual Device: DS160PR410RNQT	QBS Process Device: DS280DF810ABWT	QBS Process Reference LMX2581 SQENOPB	QBS Package Reference: BQ294504DRVR	QBS Package Reference: TUSB1002IRMQ
ELFR	Early Life Failure Rate, Ta=115C, Tj~160C	48 Hrs	-	-	3/2400/0	-	-
HTOL	Life Test, Ta=115C, Tj~160C	500 Hrs	-	-	3/231/0	-	-
HTOL	Life Test, Ta=125C	1000 Hrs	-	1/77/0	-	-	-
AC	Autoclave 121C	96 Hrs	-	-	3/231/0	3/231/0	3/231/0
HAST	Biased HAST, 130C/85%RH	96 Hrs	-	-	3/231/0	3/231/0	-
TC	Temperature Cycle, -55/250C	700 Cycles	-	-	3/231/0	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	-	-	3/231/0	3/231/0
HTSL	High Temp Storage Bake 150C	1000 Hrs	-	-	-	-	3/231/0
HBM	ESD - HBM	2000V	1/3/0	1/3/0	3/9/0	-	-
CDM	ESD - CDM	1000V	-	1/3/0	-	-	-
CDM	ESD - CDM	500V	1/3/0	-	-	-	-
LU	Latch-up	25C	1/6/0	1/6/0	3/18/0	-	-
LU	Latch-up	85C	1/6/0	1/6/0	3/18/0	-	-

QBS: Qual By Similarity

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
- The following are equivalent HTOL options based on an activation energy of 0.7eV: 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1k Hours, and 170C/420 Hours

- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

Green/Pb-free Status:

Qualified Pb-Free (SMT) and Green

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

Location	E-Mail					
WW Change Management Team	PCN www admin_team@list.ti.com					

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Qual Device DS160PR410RNQT is qualified at LEVEL2-260CG

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