

PCN Number:	20191118001.1A			PCN Date:	Feb. 3, 2020																					
Title:	Qualification of CDAT as an additional assembly site for select QFN devices																									
Customer Contact:	PCN Manager	Dept:	Quality Services																							
Proposed 1st Ship Date:	Feb 20, 2020	Estimated Sample Availability:	Date provided at sample request																							
Change Type:																										
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Site																					
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Material																					
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Bump Process																					
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Site																					
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Materials																					
		<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process																					
PCN Details																										
Description of Change:																										
<p>Revision A is to announce the <u>addition</u> of new devices that were not included on the original PCN notification. These new devices are under Group 2 in the product affected section below. The expected first shipment date for these new devices will be 90 days from this notice (May 3, 2020 for Rev A) for these newly added devices only. The proposed 1st ship date of Feb 20, 2020 still applies for the original set of devices.</p> <p>Texas Instruments is pleased to announce the qualification of CDAT as an additional assembly site for the list of QFN devices shown below. Current assembly sites and Material differences are as follows:</p> <p>Group 1 device:</p> <table border="1"> <thead> <tr> <th></th> <th>UTAC</th> <th>Clark</th> <th>CDAT</th> </tr> </thead> <tbody> <tr> <td>Mold Compound</td> <td>SID#CZ0289</td> <td>4208625</td> <td>4222198</td> </tr> <tr> <td>Mount Compound</td> <td>SID#PZ0035</td> <td>4207123</td> <td>4207123</td> </tr> </tbody> </table> <p>Group 2 device:</p> <table border="1"> <thead> <tr> <th></th> <th>Clark</th> <th>CDAT</th> </tr> </thead> <tbody> <tr> <td>Mold Compound</td> <td>4208625</td> <td>4222198</td> </tr> <tr> <td>Mount Compound</td> <td>4207768</td> <td>4207123</td> </tr> </tbody> </table>							UTAC	Clark	CDAT	Mold Compound	SID#CZ0289	4208625	4222198	Mount Compound	SID#PZ0035	4207123	4207123		Clark	CDAT	Mold Compound	4208625	4222198	Mount Compound	4207768	4207123
	UTAC	Clark	CDAT																							
Mold Compound	SID#CZ0289	4208625	4222198																							
Mount Compound	SID#PZ0035	4207123	4207123																							
	Clark	CDAT																								
Mold Compound	4208625	4222198																								
Mount Compound	4207768	4207123																								
Reason for Change:																										
Continuity of Supply																										
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):																										
None																										
Anticipated impact on Material Declaration																										
<input type="checkbox"/>	No Impact to the Material Declaration	<input checked="" type="checkbox"/>	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained at the site link below http://www.ti.com/quality/docs/materialcontentsearch.tsp																							
Changes to product identification resulting from this PCN:																										
Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City																							
UTAC	NSE	THA	Bangkok																							

CLARK	QAB	PHL	Angeles City, Pampanga
CDAT	CDA	CHN	Chengdu

Sample product shipping label (not actual product 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)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: Group 1

CC1312R1F3RGZR	CC1352P1F3RGZT	CC2642R1FRGZR	CC2652R1FRGZT
CC1312R1F3RGZT	CC1352R1F3RGZR	CC2642R1FRGZT	
CC1352P1F3RGZR	CC1352R1F3RGZT	CC2652R1FRGZR	

Product Affected: Group 2

BQ24780SRUYR	SN2850RUYR	SN2867RUYR
BQ24780SRUYT	SN2850RUYT	SN2867RUYT

Group 1: Qualification Report



TI Information
Selective Disclosure

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: CC1352P1F3RGZR	QBS Package Reference: CC2640R2FRGZR	QBS Package Reference: CC2640R2FRSMR
AC	Autoclave 121C	96 Hours	-	3/231/0	3/231/0
HTSL	High Temp Storage Bake 150C	1000 Hours	-	3/231/0	-
TC	Temperature Cycle, -55/125C	700 Cycles	1/77/0	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0	3/231/0
THB	Biased Temperature and Humidity, 85C/85%RH	1000 Hours	-	3/78/0	-

- QBS: Qual By Similarity
 - Qual Device CC1352P1F3RGZR is qualified at LEVEL3-260C
 - Preconditioning was performed for Autoclave, THB, Temperature Cycle, and HTSL.
 - 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

Group 2: Qualification Report

Approve Date 16-Jan-2020

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: <u>BQ24780SRU</u> Y	QBS Product Reference: <u>BQ24780SRUY</u>	QBS Product Reference: <u>TLS2602DCA</u> (CARDINAL)	QBS Package Reference: <u>TPS51220ARSN</u> R	QBS Package Reference: <u>TPS53641RSB</u> R
AC	Autoclave 121C	192 Hours	-	-	-	-	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	Pass	-	-	-
HBM	ESD - HBM	2000 V	-	1/3/0	3/81/0	-	-
CDM	ESD - CDM	1000 V	1/3/0	1/3/0	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	3/231/0	-	-
LU	Latch-up	(per JESD78)	-	1/6/0	3/18/0	-	-
PD	Physical Dimensions	--	1/5/0	-	-	3/15/0	3/15/0
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	-	1/77/0	-	3/231/0

- QBS: Qual By Similarity

- Qual Device BQ24780SRUY is qualified at LEVEL2-260CG

- 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

Qualification Report

Approve Date 16-Jan-2020

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: <u>SN2850RUY</u>	QBS Product Reference: <u>BQ24780SRUY</u>	QBS Product Reference: <u>BQ24780SRUY</u>	QBS Process Reference: <u>TLS2602DCA</u> (CARDINAL)
AC	Autoclave 121C	96 Hours	-	-	1/77/0	1/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	Pass	-	-
HBM	ESD - HBM	2000 V	-	1/3/0	-	3/81/0
CDM	ESD - CDM	1000 V	-	1/3/0	1/3/0	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	3/231/0
HTOL	Life Test, 150C	300 Hours	-	-	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	-	-
LU	Latch-up	(per JESD78)	-	1/6/0	-	3/18/0
PD	Physical Dimensions	(per mechanical drawing)	-	-	1/5/0	-
TC	Temperature Cycle, -55/125C	700 Cycles	-	-	-	-

TC	Temperature Cycle, -65/150C	500 Cycles	-	-	1/77/0	1/77/0
TS	Thermal Shock, -65/150C	500 Cycles	-	-	-	-
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	-	-	-
WBP	Bond Pull	Wires	-	-	-	-
WBS	Ball Bond Shear	Wires	-	-	-	-

Type	Test Name / Condition	Duration	QBS Package Reference: <u>430F2132IRHBR</u>	QBS Package Reference: <u>BQ24196RGER</u>	QBS Package Reference: <u>TPS51285BRUKR</u>	QBS Package Reference: <u>TPS53641RSBR</u>	QBS Package Reference: <u>TPS62140RGTR</u>
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	-	-	-	Pass
HBM	ESD - HBM	2000 V	-	-	-	-	-
CDM	ESD - CDM	1000 V	-	-	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	-	-
HTOL	Life Test, 150C	300 Hours	-	-	-	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	-	3/231/0	-
LU	Latch-up	(per JESD78)	-	-	-	-	-
PD	Physical Dimensions	(per mechanical drawing)	-	-	-	-	-
TC	Temperature Cycle, -55/125C	700 Cycles	-	-	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
TS	Thermal Shock, -65/150C	500 Cycles	-	-	-	-	-
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	-	-	-	-
WBP	Bond Pull	Wires	3/228/0	3/228/0	3/228/0	3/228/0	3/228/0
WBS	Ball Bond Shear	Wires	3/228/0	3/228/0	3/228/0	3/228/0	3/228/0

- QBS: Qual By Similarity

- Qual Device SN2850RUY is qualified at LEVEL2-260CG

- 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

Qualification Report

Approve Date 21-Jan-2020

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: SN2867RUY	QBS Product Reference: BQ24780SRUY	QBS Product Reference: BQ24780SRUY	QBS Process Reference: TL S2602DCA (CARDINAL)	QBS Process Reference: TPA6140AYFF	QBS Process Reference: TPIC2020RTO
AC	Autoclave 121C	96 Hours	-	-	1/77/0	1/77/0	-	1/77/0
ED	Electrical Characterization	Per Datasheet Parameters	-	Pass	-	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	-	1/77/0
HBM	ESD - HBM	2000 V	-	1/3/0	-	3/81/0	4/12/0	4/111/0
CDM	ESD - CDM	1000 V	-	1/3/0	1/3/0	-	-	-
HTOL	Life Test, 140C	480 Hours	-	-	-	-	6/235/0	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	3/231/0	-	5/320/0
HTOL	Life Test, 150C	300 Hours	-	-	-	-	-	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	-	-	-	1/80/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	-	-	-	-
LU	Latch-up (per JESD78)	-	-	1/6/0	-	3/18/0	4/48/0	4/48/0
PD	Physical Dimensions	-	-	-	1/5/0	-	-	-
TC	Temperature Cycle, -55/125C	700 Cycles	-	-	-	-	7/273/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	-	1/77/0	1/7/0	-	3/231/0
TS	Thermal Shock, -65/150C	500 Cycles	-	-	-	-	-	-
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	-	-	-	6/233/0	-
WBP	Bond Pull	Wires	-	-	-	-	-	-
WBS	Ball Bond Shear	Wires	-	-	-	-	-	-

Type	Test Name / Condition	Duration	QBS Process Reference: TPS62620YFF	QBS Process Reference: TPS5170RHD (DANGEROUS E)	QBS Package Reference: 430F2132IRHBR	QBS Package Reference: BQ24196RGER	QBS Package Reference: TPS51285BRUK R	QBS Package Reference: TPS53641RSBR	QBS Package Reference: TPS62140RGTR
AC	Autoclave 121C	96 Hours	-	7/261/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	-	-	-	-	-	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	-	-	-
HBM	ESD - HBM	2000 V	3/9/0	3/9/0	-	-	-	-	-
CDM	ESD - CDM	1000 V	-	-	-	-	-	-	-
HTOL	Life Test, 140C	480 Hours	-	-	-	-	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	-	-	-	-
HTOL	Life Test, 150C	300 Hours	-	-	-	-	-	-	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	-	-	-	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	-	-	-	3/231/0	-
LU	Latch-up (per JESD78)	-	3/18/0	-	-	-	-	-	-
PD	Physical Dimensions	-	-	-	-	-	-	-	-
TC	Temperature Cycle, -55/125C	700 Cycles	3/231/0	-	-	-	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	7/261/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
TS	Thermal Shock, -65/150C	500 Cycles	-	7/260/0	-	-	-	-	-
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	3/231/0	-	-	-	-	-	-
WBP	Bond Pull	Wires	-	-	3/228/0	3/228/0	3/228/0	3/228/0	3/228/0
WBS	Ball Bond Shear	Wires	-	-	3/228/0	3/228/0	3/228/0	3/228/0	3/228/0

- QBS: Qual By Similarity
 - Qual Device SN2867RUY is qualified at LEVEL2-260CG
 - 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
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 - 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

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