



PCN Number:	PCN#20240604001.2		PCN Date:	June 04, 2024
Title:	Qualify SCSAT as an additional Assembly site for select devices			
Customer Contact:	Change Management Team	Dept:	Quality Services	
Proposed 1st Ship Date:	December 01, 2024	Sample Requests accepted until:	July 04, 2024*	
*Sample requests received after July 04, 2024 will not be supported.				
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>
<input type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>
PCN Details				
Description of Change:				
Texas Instruments is pleased to announce the qualification of SCSAT as an additional Assembly site for the list of devices shown below. No Material differences between sites.				
Assembly Site		Assembly Site Origin	Assembly Country Code	Assembly City
ASEK		ASF	TWN	Kaohsiung
SCSAT		STS	SGP	Singapore
Reason for Change:				
Continuity of supply.				
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):				
None				
Impact on Environmental Ratings				
Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings.				
RoHS		REACH	Green Status	IEC 62474
<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change
Changes to product identification resulting from this PCN:				
Assembly Site				
ASEK	Assembly Site Origin (22L)	ASO: ASF		
SCSAT	Assembly Site Origin (22L)	ASO: STS		
Sample product shipping label (not actual product label)				
  <div style="margin-left: 20px;"> (1P) SN74LS07NSR (Q) 2000 (D) 0336 (31T) LOT: 3959047MLA (4W) TKY (1T) 7523483S12 (P) (2P) REV: (V) 0033317 (20L) CSO: SHE (21L) CCO: USA (22L) ASO: MLA (23L) ACO: MYS </div>				
Product Affected:				
TPS65940400RWERQ1	TPS6594133ARWERQ1	TPS6594141BRWERQ1		

Qualification Report

Automotive New Product Qualification Summary (As per AEC-Q100 and JEDEC Guidelines)

Approval Date: 13-April-2023

Product Attributes

Attributes	Qual device: TPS65941120RWERQ 1 TPS65941319RWERQ 1 TPS6594141BRWERQ 1 TPS65941421RWERQ 1 TPS65941515RWERQ 1 TPS6594741ERWERQ 1 TPS6594C420RWERQ 1	QBS Product Reference: <u>PO94QRWERQ1</u> <u>-B0</u>	QBS Product Reference: <u>PO94QRWERQ1</u> <u>-A0</u>	QBS Product Reference: <u>TPS65941212RWERQ</u> <u>1-B0</u>	QBS Process Reference: <u>TPS61378QWRTERQ</u> <u>1 (A0)</u>
Automotive Grade Level	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1
Operating Temp Range	-40 to +125 C	-40 to +125 C	-40 to +125 C	-40 to +125 C	-40 to +125 C
Product Function	Power Management	Power Management	Power Management	Power Management	Power Management
Wafer Fab Supplier	RFAB	RFAB	RFAB	RFAB	RFAB
Assembly Site	SCSAT	ASEK	SCSAT	SCSAT	CDAT
Package Type	QFN	QFN	QFN	QFN	QFN
Package Designator	RWE	RWE	RWE	RWE	RTE
Ball/Lead Count	56	56	56	56	16

- QBS: Qual By Similarity
- Qual Devices are qualified at LEVEL3-260C.
- Qual Devices are memory spins of QBS product references and fully qualified by similarity to the QBS product references.

Qualification Results

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

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	QBS Product Reference: <u>PO94QRWERQ1-B0</u>	QBS Product Reference: <u>PO94QRWERQ1-A0</u>	QBS Product Reference: <u>TPS65941212RWERQ1-B0</u>	QBS Process Reference: <u>TPS61378QWRTERQ1 (A0)</u>
Test Group A – Accelerated Environment Stress Tests										
-			-	-	Precon Level 3	L3 / 260C	No Fails	No Fails	No Fails	-
HAST	A2	JEDEC JESD 22-	3	77	Biased HAST, 130C/85% RH	96 Hours	3/231/0	3/231/0	-	-

	Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	QBS Product Reference: PO94QRW ERQ1-B0	QBS Product Reference: PO94QRW ERQ1-A0	QBS Product Reference: TPS65941212R WERQ1-B0	QBS Process Reference: TPS61378QWR TERQ1 (A0)
			A110								
	AC	A 3	JEDEC JESD 22-A102	3	77	Autoclave 121C	96 hours	3/231/0	3/231/0	1/77/0	-
	TC	A 4	JEDEC JESD 22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 cycles	3/231/0	3/231/0	1/77/0	-
	PTC	A 5	JEDEC JESD 22-A105	1	45	Power Temperature Cycle, -40/125C	1000 cycles	1/45/0	1/45/0	-	-
	HTSL	A 6	JEDEC JESD 22-A103	1	45	High Temp Storage Bake 175C	500 hours	3/135/0	3/135/0	-	-
Test Group B – Accelerated Lifetime Simulation Tests											
	HTOL	B 1	JEDEC JESD 22-A108	3	77	Life Test, 125C	1000 hours	-	2/154/0	1/77/0	-
	ELFR	B 2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	48 Hours	1/800/0	-	-	3/2400/0
	EDR	B 3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A	N/A	N/A	-
Test Group C – Package Assembly Integrity Tests											
	WBS	C 1	AEC Q100-001	1	30	Wire Bond Shear (Cpk>1.67)	-	3/90/0	-	3/90/0	-
	WBP	C 2	MIL-STD883 Method 2011	1	30	Wire Bond Pull (Cpk>1.67)	-	3/90/0	-	3/90/0	-
	SD	C 3	JEDEC JESD 22-B102	1	15	Pb Free Surface Mount Solderability	Pb Free Solder	1/15/0	1/15/0	-	-

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	QBS Product Reference: PO94QRW ERQ1-B0	QBS Product Reference: PO94QRW ERQ1-A0	QBS Product Reference: TPS65941212R WERQ1-B0	QBS Process Reference: TPS61378QWR TERQ1 (A0)
SD	C 3	JEDEC JESD 22-B102	1	15	Pb Surface Mount Solderability	Pb Solder	1/15/0	1/15/0	-	-
PD	C 4	JEDEC JESD 22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	3/30/0	-	3/30/0	-
Test Group D – Die Fabrication Reliability Tests										
EM	D 1	JESD 61	-	-	Electromigration	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	-
TD DB	D 2	JESD 35	-	-	Time Dependant Dielectric Breakdown	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	-
HCI	D 3	JESD 60 & 28	-	-	Hot Injection Carrier	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	-
NBTI	D 4	-	-	-	Negative Bias Temperature Instability	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	-
SM	D 5	-	-	-	Stress Migration	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	-
Test Group E – Electrical Verification Tests										
HBM	E 2	AEC Q100-002	1	3	ESD - HBM	4000 V	1/3/0	-	1/3/0	-
CDM	E 3	AEC Q100-011	1	3	ESD - CDM	1000 V	1/3/0	-	1/3/0	-
LU	E 4	AEC Q100-004	1	6	Latch-up	(Per AEC-Q100-004)	1/6/0	1/6/0	1/6/0	-
ED	E 5	AEC Q100-009	3	30	Auto Electrical Distributions	Cpk>1.67 Room, hot, and cold test	-	-	3/Pass	-

A1 (PC): Preconditioning:

Performed for THB, Biased HAST, AC, uHAST, TC & PTC samples, as applicable.

Ambient Operating Temperature by Automotive Grade Level:

Grade 0 (or E): -40°C to +150°C

Grade 1 (or Q): -40°C to +125°C

Grade 2 (or T): -40°C to +105°C

Grade 3 (or I): -40°C to +85°C

E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):

Room/Hot/Cold : HTOL, ED

Room/Hot : THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU

Room : AC/uHAST

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

ZVEI ID reference: SEM-PA-18, SEM-PS-01

For questions regarding this notice, e-mails can be sent to Change Management team or your local Field Sales Representative.

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