	129001.24		P	CN D	ate:	February 15, 2022			
itle: Qualifi	ication of	CDAT as a	an alternate	Assembly	& Test	site fo	or Sele	ect Dev	vices
ustomer Con	tact: P	CN Manager	Dept:	Qu	ality Se	rvices			
roposed 1 st S	hip Date	May 3				ed Sample Date provided at vailability: sample request			
hange Type:								I	•
Assembly S	lite		Design				Wafe	r Bum	p Site
Assembly P		Data S	heet			Wafe	r Bum	p Material	
Assembly M				umber chai	nge				p Process
Mechanical			🛛 Test Si			ĮЦ		r Fab S	
Packing/Sh	ipping/La	beling	Test Pr	ocess		┥╧┥			Materials
			DON	Datalla			Wafe	r Fab I	Process
a a suintian af	Change		PCN	Details					
escription of evision A is to			o doccrintio	n to includ	lo a tan	o and	rool/c	arrior	tano dimonsia
hange. Updates exas Instrumer ssembly, Final etween the 2 s	nts Incorp Test & Pi	oorated is a robe site fo	announcing	the qualif					
				UTL1		CDA	-		
				-		-			
		Lead Finis	h	Matte Sn		NiPd/	Au		
		Current			Additional				
			Curi	rent	4	dditio	onal		
	Prot	e Site	Curi TI Clark			dditio hengd)e	
est coverage, i	Final 7	Fest Site	TI Clark UT	< Probe	TI C	hengd CDA	u Prot T		d verified wit
est MQ	Final T	Fest Site , condition	TI Clark UT s will rema	< Probe L2 in consiste	TI C	hengd CDA	u Prot	ing an	
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est MQ	Final	rest Site , condition ing Differ	TI Clark UT os will rema	C	TI C	hengd CDA currer	u Prot	Chen	
est MQ	Final	rest Site , condition ing Differ	TI Clark UT us will rema	C C C C C C C C C C C C C C C C C C C	ent with	PH INCE	u Prot	Chen	

ack (Tapa 9 Deck)		QWKWII	RQ1 - can ship with	i dotn Ma	
Pack (Tape & Reel)					-
	What	Current	New		_
	Reel Width W1 Carrier Tape W	12.4mm 12 MM	8.4mm 8 MM		_
	Carrier Tape w		<u>8 IVIIVI</u>		
Reason for Chang	je:				
Supply continuity	_		-		
	ct on Form, Fit, F	unction,	Quality or Reliab	ility (po	sitive / negative
None	-				
Impact on Enviro	nmental Ratings				
		here are i	ental ratings followi no changes to the a Green Statu	associated	
No Change	No Chang		No Change		
Changes to produ					
Assembly Site	Assembly Site Origin NSE	(22L) Ass	Assembly Country Code (23L) THA		Assembly City
			CHN		Bangkok Chengdu
Sample product shi	pping label (not a	<u>акие</u> 16-е (1P) SN/4LSU/NSK		G3 = Matte Sn G4 = NiPdAu
INSTRUMENTS MADE IN: Malaysia 2DC: 20: MSL 2 /260C/1 YEAR MSL 1 /235C/UNLIM OPT: ITEM: LBL: 5A (L)TO	03/29/04 06 39		31T)LOT: 3959047 4W) TKY(1T) 7523 ?)	483SI2 033317 :CO:USA	
INSTRUMENTS MADE IN: Malaysia 20: 20: MSL 2 /260C/1 YEAR MSL 1 /235C/UNLIM OPT: ITEM: LBL: 5A (L)TO Product Affected:	³⁹ 1750		31T)LOT: 3959047 4W)TKY(1T)7523 2) 20) REV: (V) 0 20 <u>) CS0:SHE</u> (21L) 0 22L) AS0:MLA (23L) A	MLA 483512 033317 CO:USA CO:MYS	
INSTRUMENTS MADE IN: Malaysia 20: 20: MSL '2 /260C/1 YEAR MSL '2 /25C/UNLIM OPT: ITEM: LBL: 5A (L)TO Product Affected: TPS6281006QWRWYR	03/29/04 39 1750 01 TPS6281120QWF		31T)LOT: 3959047 4W) TKY(1T) 7523 2) 20) REV: (V) 0 20) CSO: SHE (21L) C 22L) ASO: MLA (23L) A 22L) ASO: MLA (23L) A	MLA 483SI2 033317 :c0:USA .c0: MYS	2812QWRWYRQ1
INSTRUMENTS MADE IN: Malaysia 20: 20: MSL 2 /260C/1 YEAR MSL 1 /235C/UNLIM OPT: ITEM: LBL: 5A (L)TO Product Affected:	03/29/04 39 1750 01 TPS6281120QWF	WYRQ1 T	31T)LOT: 3959047 4W) TKY (1T) 7523 20) REV: (V) 0 20L) CSO: SHE (21L) C 22L) ASO: MLA (23L) A 22L) ASO: MLA (23L) A 22L) ASO: MLA (23L) A 22L) ASO: MLA (23L) A	MLA 483S12 033317 :co:USA .co: MYS L TPS6: 1 TPS6:	281320QWRWYRQ1
INSTRUMENTS MADE IN: Malaysia 20: 20: MSL '2 /260C/1 YEAR MSL '2 /25C/UNLIM OPT: ITEM: LBL: 5A (L)TO Product Affected: TPS6281006QWRWYR	03/29/04 39 1750 21 TPS6281120QWF Q1 TPS6281126QWF Q1 TPS6281126QWF Q1 TPS6281126QWF	WYRQ1 T WYRQ1 T WYRQ1 T	31T)LOT: 3959047 4W) TKY(1T) 7523 2) 20) REV: (V) 0 20) CSO: SHE (21L) C 22L) ASO: MLA (23L) A 22L) ASO: MLA (23L) A	MLA 483S12 033317 :co:USA .co: MYS L TPS6: 1 TPS6:	
INSTRUMENTS MADE IN: Malaysia 20: 20: MSL 2 /260C/1 YEAR MSL 1 /235C/UNLIM OPT: ITEM: LBL: 5A (L)TO Product Affected: TPS6281006QWRWYR TPS6281008QWRWYR	03/29/04 39 1750 21 756281120QWF 21 756281126QWF Q1 75628112AQWF TPS628112AQWF 75628112AQWF 1	WYRQ1 T WYRQ1 T WYRQ1 T WYRQ1 T WYRQ T	31T)LOT: 3959047 4W) TKY (1T) 7523 20) REV: (V) 0 20L) CSO: SHE (21L) C 22L) ASO: MLA (23L) A 22L) ASO: MLA (23L) A 22L) ASO: MLA (23L) A 22L) ASO: MLA (23L) A	MLA 483S12 033317 :CO:USA .CO: MYS L TPS6: L TPS6:	281320QWRWYRQ1
INSTRUMENTS MADE IN: Malaysia 20: 20: MSL 2 /260C/1 YEAR MSL 1 /235C/UNLIM OPT: ITEM: LBL: 5A (L)TO Product Affected: TPS6281006QWRWYR TPS6281008QWRWYR TPS628100MQWRWYR	03/29/04 39 1750 21 756281120QWF 21 756281126QWF 21 75628112AQWF 75628112AQWF 75628112AQWF 75628112MQW 21 1 75628112MQWF 75777 757777777777777777777777777777	WYRQ1 T WYRQ1 T WYRQ1 T WYRQ1 T WYRQ T WYRQ T	31T)LOT: 3959047 4W) TKY (1T) 7523 20) REV: (V) 0 201) CSO: SHE (211) C 221) ASO: MLA (231) A PS6281208QWRWYRQ1 PS628120MQWRWYRQ1 PS6281220QWRWYRQ1	MLA 483S12 0333317 :CO:USA .CO: MYS L TPS6: L TPS6: L TPS6:	281320QWRWYRQ1 281326QWRWYRQ1
INSTRUMENTS MADE IN: Malaysia 20: 20: MSL 2 /260C/1 YEAR MSL 1 /235C/UNLIM OPT: ITEM: LBL: 5A (L)TO Product Affected: TPS6281006QWRWYR TPS6281008QWRWYR TPS6281000QWRWYR TPS6281000QWRWYR	03/29/04 39 1750 21 TPS6281120QWF 21 TPS6281126QWF 21 TPS628112AQWF 21 TPS628112AQWF 1 TPS628113HQWF 1	WYRQ1 T WYRQ1 T WYRQ1 T WYRQ T WYRQ T	31T)LOT: 3959047 4W) TKY (1T) 7523 P) REV: (V) 0 20L) CSO: SHE (21L) C 22L) ASO: MLA (23L) A PS6281208QWRWYRQ1 PS628120MQWRWYRQ1 PS6281220QWRWYRQ1 PS6281228QWRWYRQ1	MLA 483S12 033317 :co:USA :co:MYS 1 <t< td=""><td>281320QWRWYRQ1 281326QWRWYRQ1 28132DQWRWYRQ1</td></t<>	281320QWRWYRQ1 281326QWRWYRQ1 28132DQWRWYRQ1



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

TPS6281xxxQWRWYRQ1 family: Additional Assembly site qualification

Attributes	Originak Product Reference: TPS6281xxxQWRWYRQ1	Change qualification: <u>TPS6281xxxQWRWYRQ1</u>	QBS Package reference LMR33630CQRNXRQ1	
Automotive Grade Level	Grade 1	Grade 1	Grade 1	
Operating Temp Range	-40 to +125 C	-40 to +125 C	-40 to +125 C	
Product Function	Power Management	Power Management	Power Management	
Die Attributes	-	-	-	
Wafer Fab Supplier	RFAB	RFAB	DMOS6	
Package Attributes	-	-	-	
Assembly Site	UTL1	CDAT	CDAT	
Package Type	VQFN-HR	VQFN-HR	VQFN-HR	
Package Designator	RWY	RWY	RNX	
Ball/Lead Count	9	9	12	
Package Size mm	3 x 2 mm	3 x 2 mm	3 x 2 mm	
Leadframe Plating Composition	Matte SN	NiPdAu	NiPdAu	

Product Attributes

- QBS: Qual By Similarity

- Qual Device TPS6281xxxQWRWYRQ1 is qualified at LEVEL2-260C

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

Туре	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Original Product TPS628xxxQWRWYRQ1	Change Qualification TPS628xxxQWRWYRQ1	QBS assembly Qualification LMR33630CQRNXRQ1
T	est Gi		celera	ted Enviro	onment Stress Tes	sts	(UTL1 Assembly)	(CDAT Assembly)	(CDAT Assembly)
PC	A1	JEDEC J-STD- 020 JESD22- A113	3	77	MSL/260C	3 cycles	3/693/0	1/154/0	3/693/0
HAST	A2	JEDEC JESD22- A110	3	77	Biased HAST, 130C/85%RH	96 Hours	3/231/0		
			3	77	Biased HAST, 110C/85%RH	264 Hours	-	QBS	3/231/0
AC	A3	JEDEC JESD22- A102	3	77	Autoclave	96 hours	3/231/0		
			3	77	Biased HAST, 110C/85%RH	264 Hours	-	QBS	3/231/0
тс	A4	JEDEC JESD22- A104 and Appendix 3	3	77	-65C/150C	500 cycles	3/231/0	1/77/0 & QBS	3/231/0
PTC	A5	JEDEC JESD22- A105	1	45	Power Temperature Cycle	1000 Cycles	N/A	N/A	1/45/0
HTSL	A6	JEDEC JESD22- A103	1	45	High Temp. Storage Life 175C	500 hours	3/231/0	1/77/0 & QBS	3/231/0
Т	est G	roup B – Ac	celera	ted Lifetir	ne Simulation Tes	sts			
HTOL	B1	JEDEC JESD22- A108	3	77	High Temp operational Life 125C	1000 hours	3/231/0	QBS	
ELFR	B2	AEC Q100- 008	3	800	Early Life Failure Rate, 125C	48 Hours	3/2400/0	QBS	
EDR	В3	AEC Q100- 005	3	77	NVM Endurance, Data Retention, and Operational Life 150C	-	N/A	NA	

Туре	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Original Product TPS628xxxQWRWYRQ1	Change Qualification TPS628xxxQWRWYRQ1	QBS assembly Qualification <u>LMR33630CQRNXRQ1</u>
	Test	Group C –	Packa	ge Assemi	bly Integrity Tests		(UTL1 assembly)	(CDAT assembly)	
WBS	C1	AEC Q100- 001	1	30	Wire Bond Shear (Cpk>1.67)	-	N/A	N/A	
WBP	C2	MIL- STD883 Method 2011	1	30	Wire Bond Pull (Cpk>1.67)	-	N/A	N/A	
SD	C3	JEDEC JESD22- B102	1	15	Pb Free Surface Mount Solderability	4 hours bake 155 C	1/30/0	1/30/0	
PD	C4	JEDEC JESD22- B100 and B108	3	10	Automotive Physical Dimensions	Assy MQ	3/30/0	3/30/0	
	Tes	t Group D –	- Die Fa	abrication	Reliability Tests				
EM	D1	JESD61	-	-	Electromigration	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	
TDDB	D2	JESD35	-	-	Time Dependent Dielectric Breakdown	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	
HCI	D3	JESD60 & 28	-	-	Hot Injection Carrier	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	
NBTI	D4	-	-	-	Negative Bias Temperature Instability	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	
SM	D5	-	-	-	Stress Migration	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	
	T	est Group E	E – Ele	ctrical Ve	rification Tests				
HBM	E2	AEC Q100- 002	1	3	HBM-Q100	2000V,	1/3/0	QBS	
CDM	E3	AEC Q100- 011	1	3	ESD Q100	750V	1/3/0	QBS	

Туре	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Original Product TPS628xxxQWRWYRQ1	Change Qualification TPS628xxxQWRWYRQ1	QBS assembly Qualification <u>LMR33630CQRNXRQ1</u>
LU	E4	AEC Q100- 004	1	6	Latch up	150C	1/6/0	QBS	
ED	E5	AEC Q100- 009	3	30	Auto Electrical Distributions	Cpk>1.67 Room, hot, and cold test	3/90/0	QBS	

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

TI Qualification ID: 20210401-139416

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

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