PCN Number:	20121210005	PCN Date:	07/29/2014
Title:	X035 Automotive Cu Wire Conversion for nfBGA		
Customer Contact:	PCN_ww_admin_team@list.ti.com	Phone:	+1(214)480-6037
Dept:	Quality Services		
Proposed 1st Ship Date:	01/29/2015	Estimated Sample Availability:	Date provided at sample request

Change Type:

☐	Assembly Site	☐	Design	☐	Wafer Bump Site
☐	Assembly Process	☐	Data Sheet	☐	Wafer Bump Material
☒	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☐	Test Site	☐	Wafer Fab Site
☐	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments Incorporated is announcing the qualification for Cu Wire conversion of ANTARES F035

	From	To
Bond Wire	Au	Cu

Reason for Change:

Continuity of supply.

1) To align with world technology trends and use wiring with enhanced mechanical and electrical properties.
2) Maximize flexibility within our Assembly/Test production sites
3) Copper wire is easier to obtain and stock.

Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):

No anticipated impact.

Changes to product identification resulting from this PCN:

None

Product Affected:

S5LS10106ASZWTQQ1	S5LS10206ASZWTQQ1	S5LS20206ASZWTQQ1
S5LS10116ASZWTQQ1	S5LS10216ASZWTQQ1	S5LS20216ASZWTQQ1

TEXAS INSTRUMENTS

TI Information
Selective Disclosure

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

Antares nfBGA Auto Package Qualification For Cu Wire
Approved 02/03/2014

Product Attributes

	Qual Device: Antares	QBS Device: Mira+
Die Attributes		
Wafer Fab Site	DMOS5	DMOS5
Die Revision	-	-
Package Attributes		
Assembly Site	PHI (TIPI)	PHI (TIPI)
Package Type	nfBGA	nfBGA
Package Designator	ZWT	ZWT
Ball/Lead Count	337	337

- QBS: Qual By Similarity
- Qual Device TMS320DM6437ZWTQ6 is qualified at LEVEL3-260C
- Qual Device TMS320DM6437ZWTQ6 (CONTROL) is qualified at LEVEL3-260C

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

Type	#	Test Name / Condition	Duration	Qual Device: S5LS10106ASZWTQQ1	QBS Device: S5PC61ACZFEQRB
Test Group A - Accelerated Environment Stress Test					
PC	A1	PreCon Level 3	Preconditioning: SMD only; Moisture Preconditioning for THB/HAST, AC/UHST, TC, HTSL, and HTOL	Performed on ALL SMD devices prior to THB/HAST, AC/UHST, TC and PTC	
HAST	A2	THB, 85C/85%RH	1000 Hours	-	3/231/0
UHAST	A3	Unbiased HAST 130C/85%RH	96 Hours	3/240/0	-
TC	A4	Temperature Cycle, -55/125C	1600 Cycles	3/231/0	-
HTSL	A6	High Temp Storage Bake 150C	1000 Hours	3/150/0	-
Test Group C - Package Assembly Integrity Tests					
WBS	C1	Wire Bond Shear (Ppk > 1.67 and Cpk > 1.33)	30 Bonds / 5 Parts Minimum	Pass	-
WBP	C2	Wire Bond Pull (Ppk > 1.67 and Cpk > 1.33)	30 Bonds / 5 Parts Mimum	Pass	-
SD	C3	Surface Mount Solderability >95% Lead Coverage	1/15/0 Minimum	Pass	-
PD	C4	Physical Dimensions (Cpk>1.33 Ppk>1.67)	1/10/0 Minimum	Pass	-

SBS	C5	Solder Ball Shear (Ppk > 1.67 and Cpk > 1.33)	5 Balls / 10 Parts Minimum	Pass	-
LI	C6	Lead Integrity	10 Leads / 5 Parts Minimum	Pass	-
Test Group E - Electrical Verification					
HBM	E2	ESD – HBM	EEP2000V/25C/130C/-40C	1/22/0	-
CDM	E3	ESD – CDM	+/- 500V Minimum on all pins 750V Minimum for corner pins	1/5/0 1/5/0	-
LU	E4	Latchup	+/- 100mA	1/6/0	-
ED	E5	Electrical Distribustion (Cpk > 1.67, Ppk > 1.67)	(Test across recommended operating temperature range)	QBS To Current BOM	-

A1 (PC): Preconditioning:
Performed for THB, Biased HAST, AC, uHAST & TC samples, as applicable.

Ambient Operating Temperature by Automotive Grade Level:
Grade 0 (or A): -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
Grade 4 (or C): -40°C to +70°C

E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):
Room/Hot/Cold : HTOL
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: 20130220-78404
TI Qualification ID: 20130221-78462

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