

# Tin Whisker Monitor Report

SUBCON	ISPL	
COVERAGE	2008 QTR1	
SAMPLING DATE	2 FEB 2008	
DEVICE / PACKAGE TYPE	MAX1726EUK18+T	SOT23-5L
	MAX6946ATE+	TQFN 16L
BASE METAL / UNDER LAYER PLATING	COPPER	NONE
PLATING CHEMISTRY	NFEP TECHNIC	
FINISH	PURE TIN, MATTE	
PLATING THICKNESS	550 micro inch	
MITIGATION TYPE	POST BAKE (150°C, 1 HR)	
ACCEPTANCE CRITERIA	TECHNOLOGY, CLASS 2 (40um)	
INSPECTION	OPTICAL 250X, ALL LEADS	
SAMPLE SIZE	3 UNITS PER STRESS TYPE PER PRECONDITION (TOTAL OF 9 PER PACKAGE)	

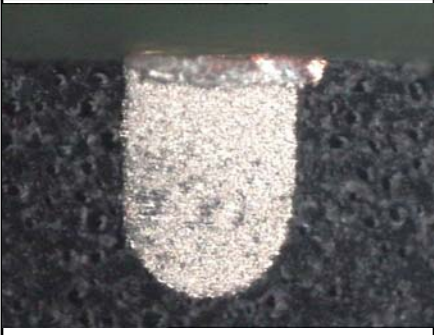
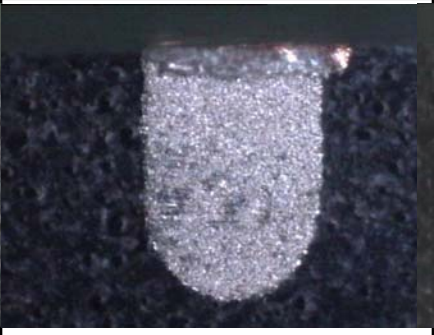
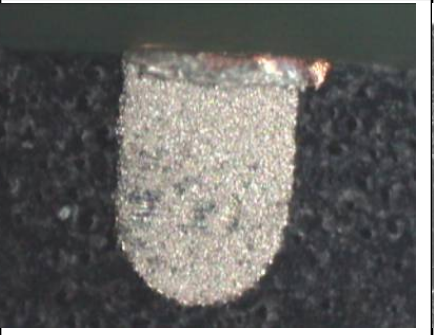
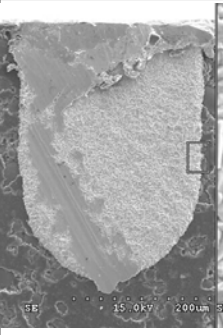
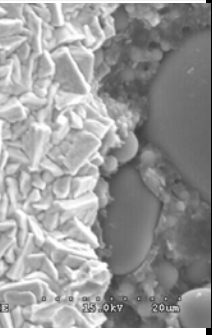
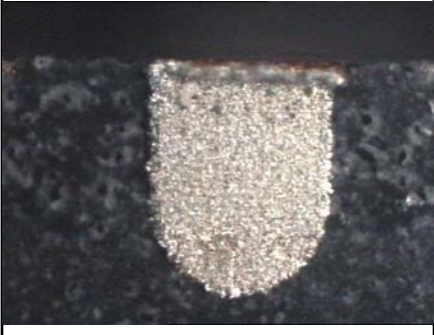

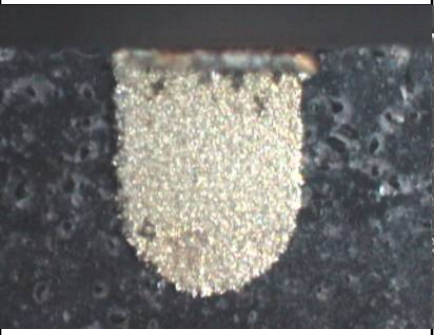
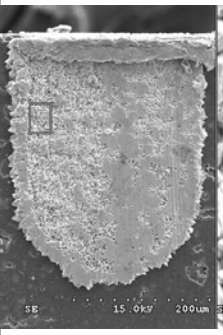
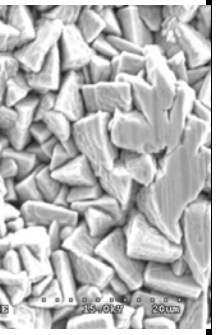


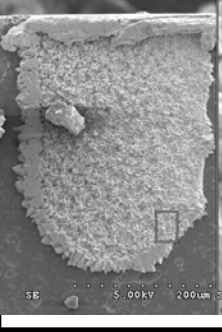
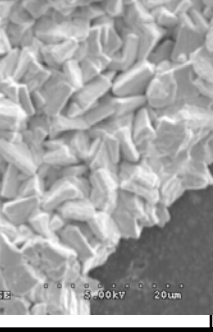
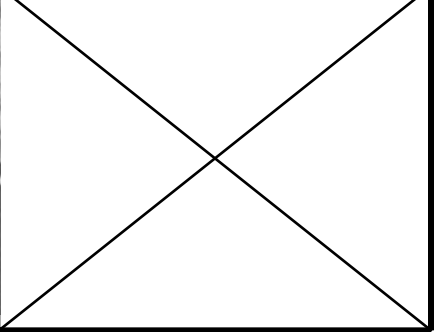
## NO PRECONDITIONING

### STRESS CONDITIONS

TEST	READOUT1		READOUT2		READOUT3		READOUT4	
<b>RTS 30°C / 60%RH</b>	1000 HOURS		2000 HOURS		3000 HOURS		4000 HOURS	
MAX1726EUK18+T	0/15	0 growth	0/15	< 5 um	0/15	< 5 um	0/15	< 5 um
MAX6946ATE+	0/48	0 growth	0/48	< 5 um	0/48	< 5 um	0/48	< 5 um
<b>T/HS 60°C / 85%RH</b>	1000 HOURS		2000 HOURS		3000 HOURS		4000 HOURS	
MAX1726EUK18+T	0/15	0 growth	0/15	< 5 um	0/15	< 5 um	0/15	< 5 um
MAX6946ATE+	0/48	0 growth	0/48	< 5 um	0/48	< 5 um	0/48	< 5 um
<b>TC 85°C / -55°C</b>	500 CYCLES		1000 CYCLES		1500 CYCLES			
MAX1726EUK18+T	0/15	0 growth	0/15	< 5 um	0/15	< 5 um		
MAX6946ATE+	0/48	0 growth	0/48	< 5 um	0/48	< 5 um		

NOTE: READOUT CORRESPONDS TO THE NUMBER OF FAILING LEADS OVER TOTAL LEADS INSPECTED PER DEVICE

MAX6946ATE+

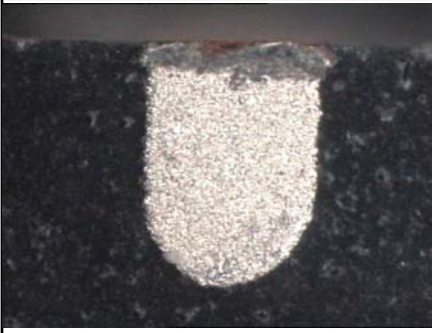
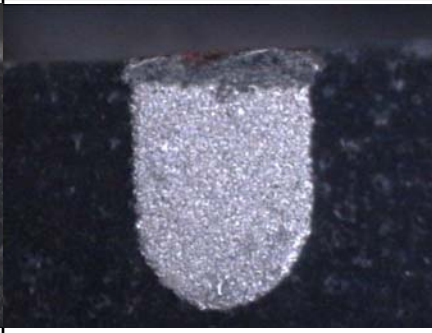
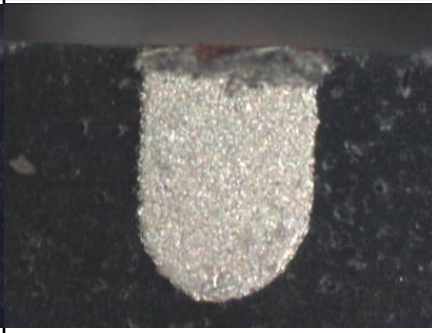
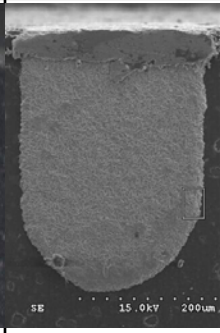
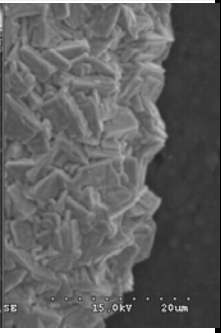
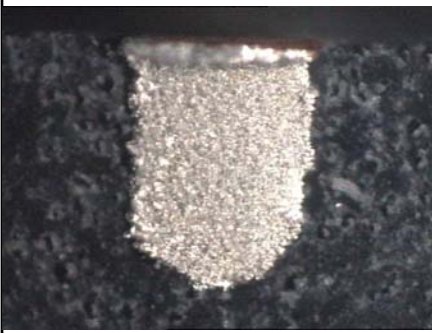
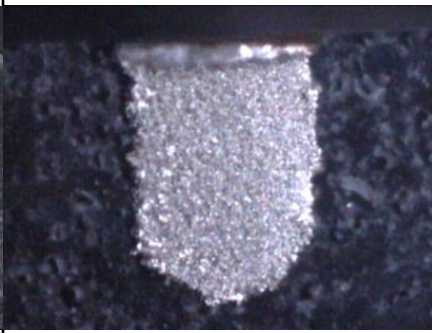
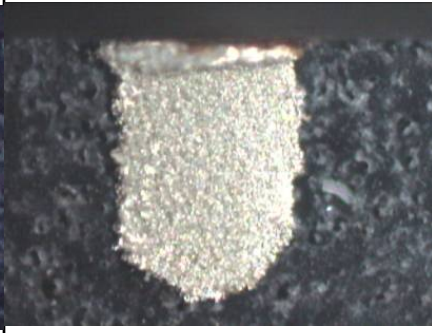
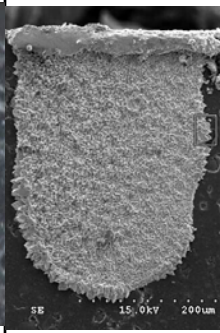
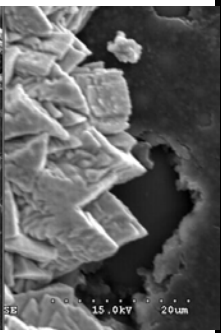
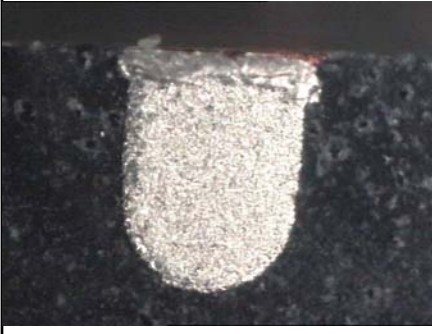
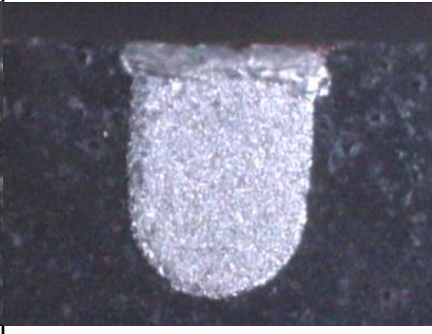
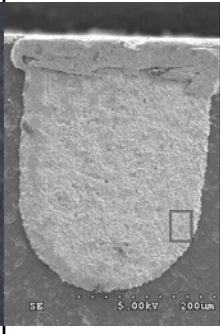
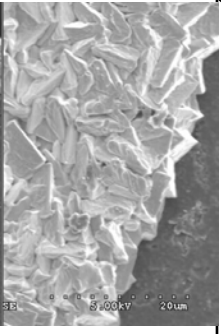
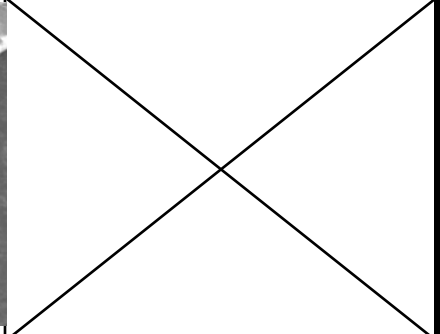
	READOUT1	READOUT2	READOUT3	READOUT4
RTS				 
T/H/S				 
TC			 	

## SN-PB PRECONDITIONED

### STRESS CONDITIONS

TEST	READOUT1		READOUT2		READOUT3		READOUT4	
<b>RTS 30°C / 60%RH</b>	1000 HOURS		2000 HOURS		3000 HOURS		4000 HOURS	
MAX1726EUK18+T	0/15	0 growth	0/15	< 5 um	0/15	< 5 um	0/15	< 5 um
MAX6946ATE+	0/48	0 growth	0/48	< 5 um	0/48	< 5 um	0/48	< 5 um
<b>T/HS 60°C / 85%RH</b>	1000 HOURS		2000 HOURS		3000 HOURS		4000 HOURS	
MAX1726EUK18+T	0/15	0 growth	0/15	< 5 um	0/15	< 5 um	0/15	< 5 um
MAX6946ATE+	0/48	0 growth	0/48	< 5 um	0/48	< 5 um	0/48	< 5 um
<b>TC 85°C / -55°C</b>	500 CYCLES		1000 CYCLES		1500 CYCLES			
MAX1726EUK18+T	0/15	0 growth	0/15	< 5 um	0/15	< 5 um		
MAX6946ATE+	0/48	0 growth	0/48	< 5 um	0/48	< 5 um		

MAX6946ATE+

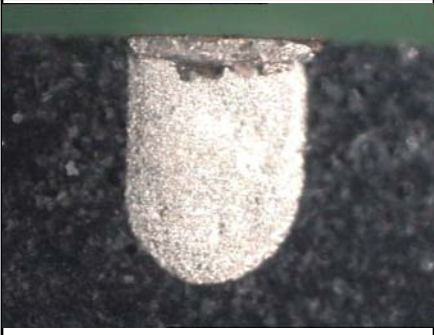
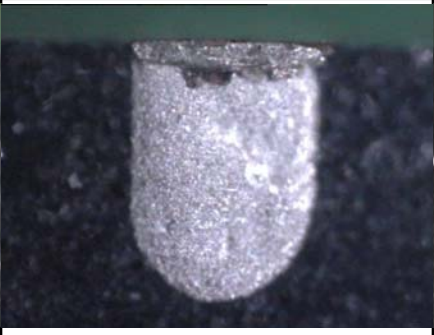
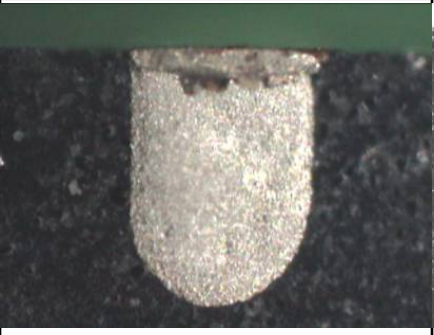
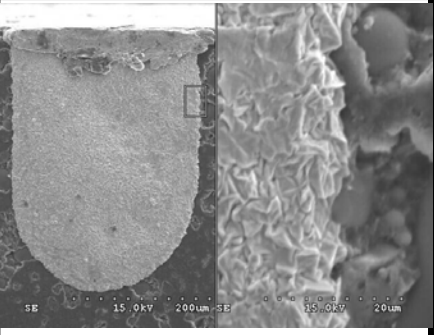
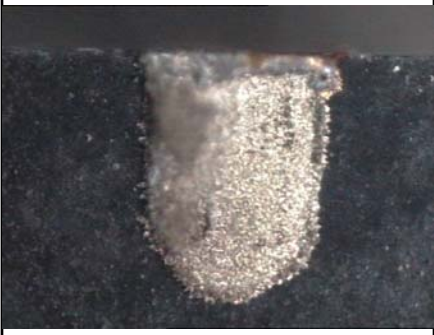
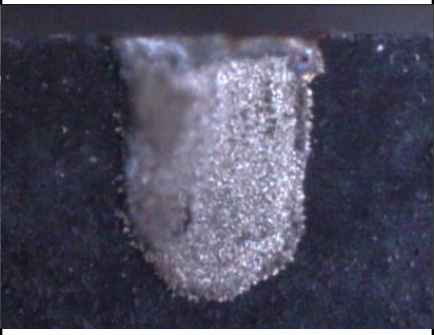
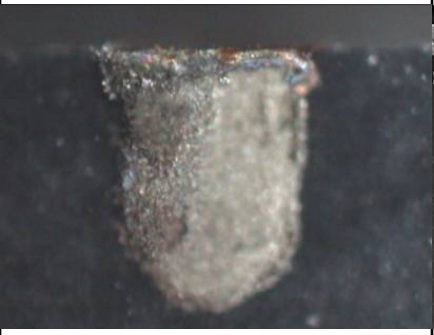
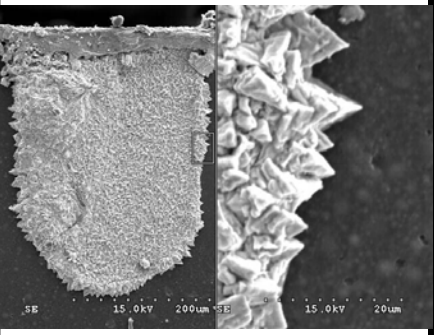


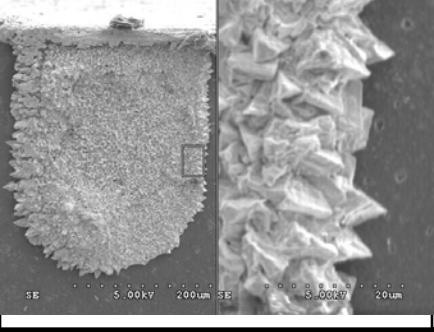
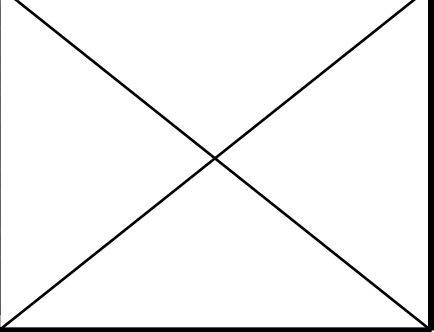
	READOUT1	READOUT2	READOUT3	READOUT4
RTS				 
T/H/S				 
TC			 	

## PB-FREE PRECONDITIONED

### STRESS CONDITIONS

TEST	READOUT1		READOUT2		READOUT3		READOUT4	
<b>RTS 30°C / 60%RH</b>	1000 HOURS		2000 HOURS		3000 HOURS		4000 HOURS	
MAX1726EUK18+T	0/15	0 growth	0/15	< 5 um	0/15	< 5 um	0/15	< 5 um
MAX6946ATE+	0/48	0 growth	0/48	< 5 um	0/48	< 5 um	0/48	< 5 um
<b>T/HS 60°C / 85%RH</b>	1000 HOURS		2000 HOURS		3000 HOURS		4000 HOURS	
MAX1726EUK18+T	0/15	0 growth	0/15	< 5 um	0/15	< 5 um	0/15	< 10 um
MAX6946ATE+	0/48	0 growth	0/48	< 5 um	0/48	< 5 um	0/48	< 5 um
<b>TC 85°C / -55°C</b>	500 CYCLES		1000 CYCLES		1500 CYCLES			
MAX1726EUK18+T	0/15	0 growth	0/15	< 5 um	0/15	< 5 um		
MAX6946ATE+	0/48	0 growth	0/48	< 5 um	0/48	< 5 um		

MAX6946ATE+

	READOUT1	READOUT2	READOUT3	READOUT4
RTS				
T/H/S				
TC				

## TIN WHISKER INSPECTION AND MEASUREMENT

### SCREENING INSPECTION

INSPECTION AT 50X MAGNIFICATION (MIN) USING OPTICAL MICROSCOPE

IF WHISKER GROWTH IS DETECTED, IDENTIFY AT LEAST 18 AREAS (3 LEADS/UNIT) FOR DETAILED INSPECTION.

### DETAILED INSPECTION

INSPECTION AT 250X MAGNIFICATION (MIN) USING SEM OR OPTICAL MICROSCOPE

### WHISKER MEASUREMENT

WHISKER MUST BE APPROXIMATELY PERPENDICULAR TO THE VIEWING DIRECTION.

## TIN WHISKER CRITERIA

### CLASS 2 DEVICE MAXIMUM ALLOWABLE WHISKER LENGTH

	RTS	T/HS	TC
TECHNOLOGY	40	40	45