



# PRODUCT/PROCESS CHANGE NOTIFICATION

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PCN MMS-MIC/07/2419  
Notification Date 04/05/2007

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**ST62E0X, ST62E1X, ST62E2X, ST62E5X, ST62E6X EPROM, OTP  
& FASTROM FAMILIES QUALIFICATION IN ST ANG MO KIO (SINGAPORE) FAB  
MIC - MICROCONTROLLERS**

**Table 1. Change Identification**

Product Identification (Product Family/Commercial Product)	ST62E0X, ST62E1X, ST62E2X, ST62E5X, ST62E6X
Type of change	Waferfab location change
Reason for change	Wafer fab rationalization and needs for improved production flexibility
Description of the change	Add ST Ang Mo Kio 6" (Singapore) as a qualified wafer fab. All datasheet parameters are identical to Agrate silicon.
Product Line(s) and/or Part Number(s)	See attached
Description of the Qualification Plan	See attached
Change Product Identification	Package marking change from "V1" to "V6"
Manufacturing Location(s)	

**Table 2. Change Implementation Schedule**

Forecasted implementation date for change	01-Aug-2007
Forecasted availability date of samples for customer	01-Jun-2007
Forecasted date for <b>STMicroelectronics</b> change Qualification Plan results availability	01-Aug-2007
Estimated date of changed product first shipment	15-Aug-2007



## DOCUMENT APPROVAL

Name	Function
Benmokhtar, Youssef B	Division Marketing Manager
Nicholas, Jimmy Edward	Division Product Manager
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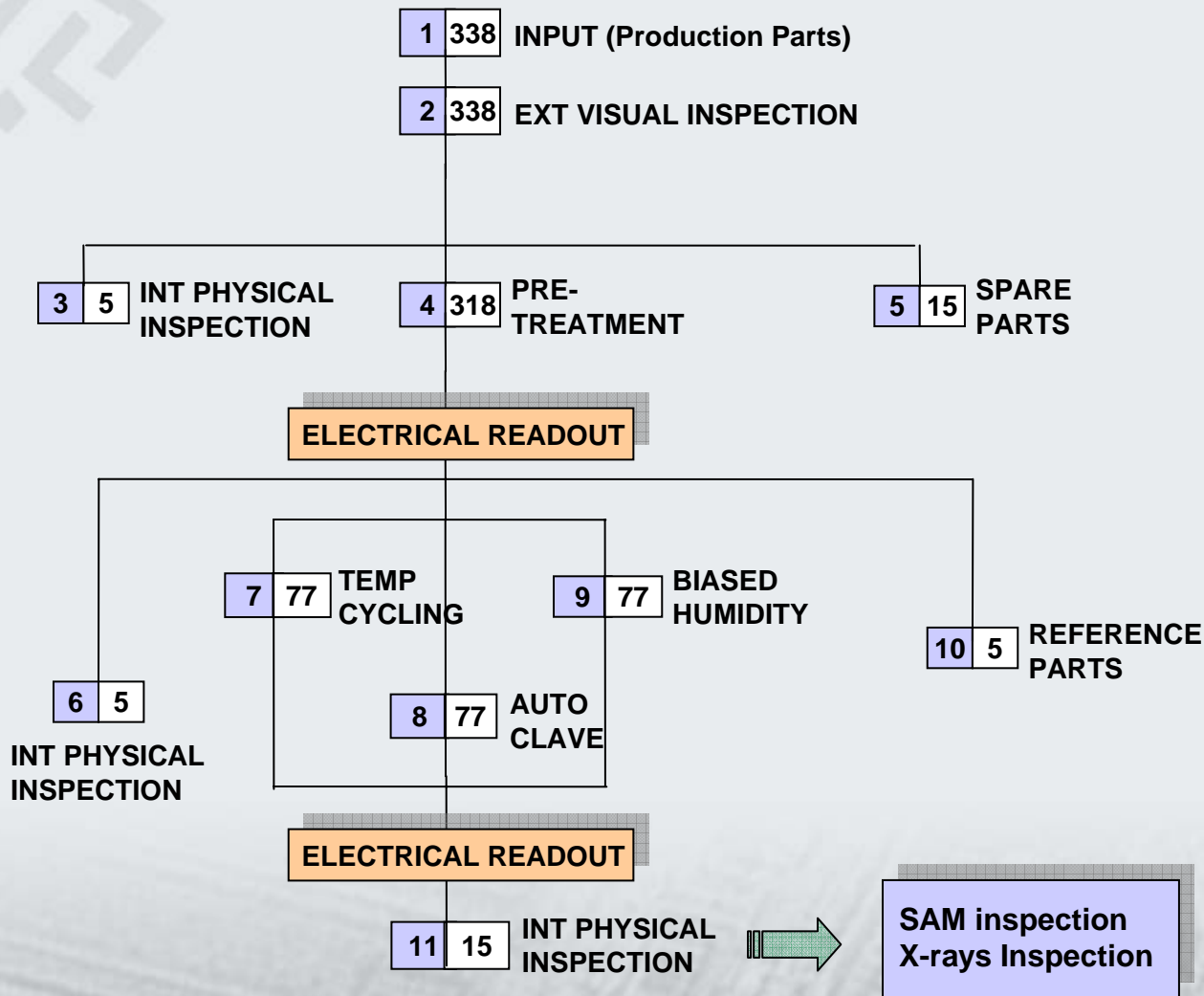
# M5E/EF Transfer Qualification Plan

<b>*ROUSSET 6'' =&gt; AMK6''</b>					
<b>VARIANT</b>	<b>QTY</b>	<b>PRODUCT</b>	<b>PACKAGE</b>	<b>Package Flow</b>	<b>Die Flow</b>
<b>M5E EPROM 0.8μ</b>	1 lot	ST62T25 (die201)	SO28	Yes	Yes
<b>M5EF EEPROM / EPROM 0.6μ</b>	3 lots	ST62T65 (die 205)	SO20	X	Yes

\* Production currently in Agrate 8'' although transfer is between R6 & AMK6



# PACKAGE FLOW

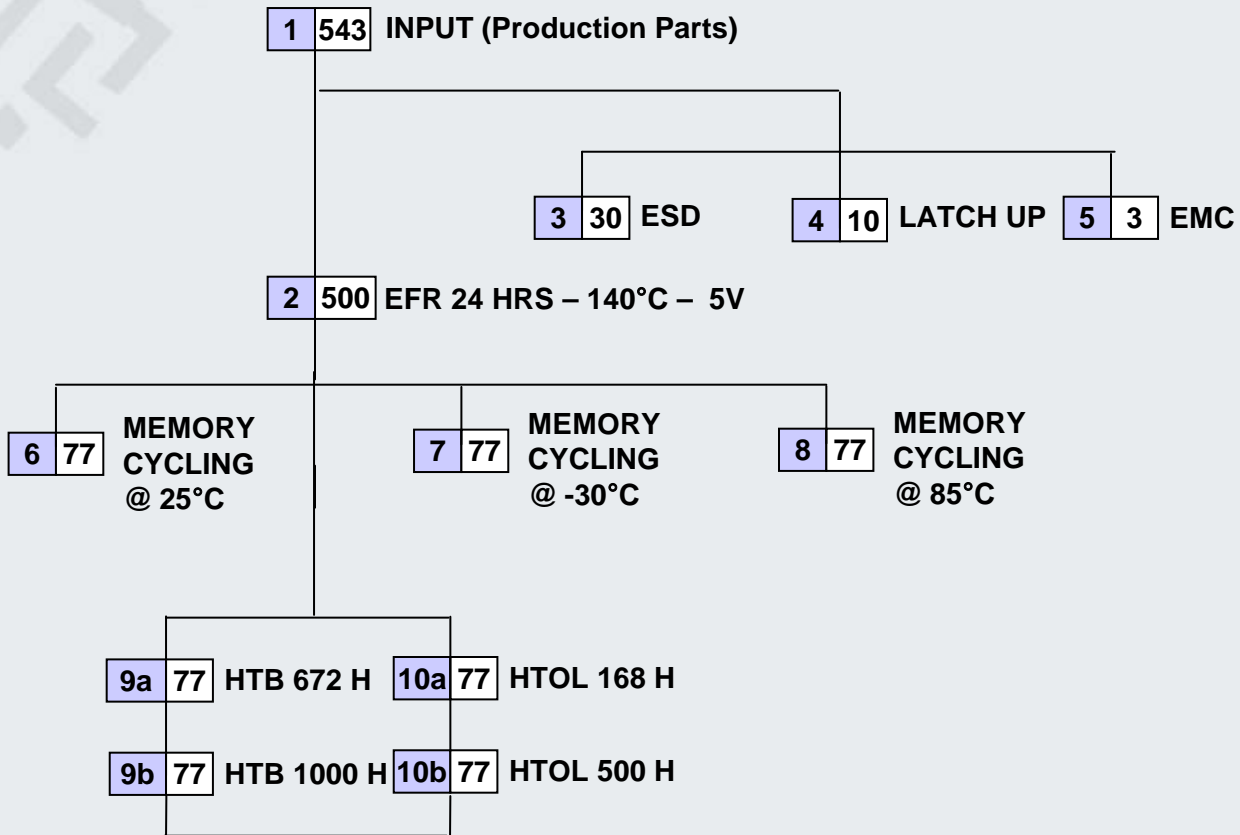


## TRIALS DURATION :

- pretreatment = JEDEC level 3
- Temp Cycling = 1000cycles
- Auto Clave = 240Hrs
- Biased Humidity = 1000Hrs

• All parts are readout at ambient with final production test program after each trial

# DIE FLOW



## TRIALS PARAMETERS :

- Data memory Cycling

- @ +25°C = 300Kcycles

- @ -30°C = 100Kcycles

- @ +85°C = 100Kcycles

- High Temp Bake = 175°C

- HTOL = 140°C

- All parts are readout at ambient with final production test program after each trial

# Qualification Trials

## Die oriented

TEST	METHOD	CONDITION	Duration	Samples
ESD Human Body Model CDM	Internal spec 0060102 JEDEC Std JESD22 A114/A115 AEC-Q100	1500 $\Omega$ , 100 pF, 2 kV 500 V	NA	30
Latch up	AECQ100-rev F	125°C-	NA	6
EMC sensitivity	Internal spec 7053449 IEC1000-4-2 SAE J1752/3	Dynamic LU (+/- 1000V), EMI, Functional ESD	NA	3
Early Failure rate 3 lots whatever the product	MIL Std 883 Method 1005	140°C, 6 V	24Hrs	500
High Temperature Operating Life Test 3 lots whatever the product	MIL Std 883 Method 1005	140°C, 6 V	500Hrs	77
Data Eeprom cycling & Retention Bake <b>ONLY DIE 205</b>	ADCS 0061692	-30°C/25°C/85°C 300K write/erase cycles Bake 175°C, 72 hrs	5 weeks	77





# Qualification Trials

## Package oriented

TEST	METHOD	CONDITION	SAMPLES
Preconditioning	JESD22-A113	JEDEC Level 3	318
Thermal Cycling	MIL Std 883 Method 1010	-40°C, +150°C, 1000 Cycles	77
Biased Temperature and Humidity	CECC 90000	85°C, 85% RH, 5.5 V, 1000 hrs	77
Pressure Pot	-	121°C, 100% RH, 2 Atm, 240 hrs	77



# Qualification Milestones

Milestone	Details
Prequal - Mat 20	168h HTOL on one qual lot ESD/LU, EMC, engi charac, WLR and stable yield on few lots start of risk production
Full Qual - Mat30	Full reliability results

Process		Qualifiable wafer out deadline	Parts available for reliability	Pre-Qual (mat 20)	Full Qual. (mat 30)
M5E	Plan	Wk11-2007	+ 4 weeks	Wk 23-2007	Wk 25-2007
	Actual				
M5EF	Plan	Wk12-WK13	+ 4 weeks	Wk 23-2007	Wk 29-2007
	Actual				



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