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| DATE : July 2005 | QUALIFICATION REPORT | PAGE : 1/2 |
| | In accordance with PGQ 15 : GENERAL PRINCIPLES OF QUALIFICATION | |

Product : AT84AS003 - 10 Bit 1.5 Gsps ADC + 10 Bit 2.2 Gsps Demux

Qualification status : **Accepted** **Pending** **Rejected**

This product has met all ATMEL Grenoble qualification requirements.

| Qualified products : | Package | Temperature range | Screening level |
|----------------------|----------|-----------------------------------|-----------------|
| AT84AS003CGL | EBGA 317 | “C” Grade 0°C < Tc ; Tj < 90°C | Standard |
| AT84AS003VGL | EBGA 317 | “V” Grade -20°C < Tc ; Tj < 110°C | Standard |
| AT84AS004CGL | EBGA 317 | “C” Grade 0°C < Tc ; Tj < 90°C | Standard |
| AT84AS004VGL | EBGA 317 | “V” Grade -20°C < Tc ; Tj < 110°C | Standard |

Directive 2002/95/EC compliance status : **Pb free compliant** **RoHS compliant** **Fully Green compliant**
 Not compliant

Die information :

| | | |
|---|----------------------------------|---|
| Die size : 3.84 x 3.75 mm (14.40 mm ²) 7.17 x 7.04 mm (50.5 mm ²) | P. dissipated in Watt : 6.5 W | Mask : VL32D + VL24A |
| Wafer fab. : INFINEON (Ger) + ATMEL (Rousset) | Process : B7HF + AT43K | Technology : Bipolar HS + BiCMOS 0.4 μm |

Package information :

| | | |
|--------------------------------|---------------------------------------|---|
| Outline : 35 x 25 x 1.60 mm | Pitch : 1.27 mm | Solder ball composition : Sn/Pb/Ag 62/36/2 |
| Assy plant : ASAT (HK) | Moisture sensitivity level : MSL 3 | Max. peak reflow : 225°C |

Approbation list :

| | | | |
|--------------|--------------|-------------|---------------|
| Project Eng. | Product Eng. | BDC Quality | BDC Marketing |
| BELLEFET J. | BELLEFET J. | VUILLOD G. | TERRIEN JC. |

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|--------------------|---|---------------|
| DATE : May 2005 | QUALIFICATION REPORT | PAGE : 2/2 |
| | In accordance with PGQ 15 : GENERAL PRINCIPLES OF QUALIFICATION | |

Product: **AT84AS003 - 10 Bit 1.5 Gsps ADC + 10 Bit 2.2 Gsps Demux**

Qualification batch information :

| | | | |
|--------------------------------|---|---------------------------------|----------------------------|
| Mask : VL32D + VL24A | Diffusion lot : PF420851 + 4S6287 | Assy lot ID : 4048851 | Date Code : 0502 |
|--------------------------------|---|---------------------------------|----------------------------|

Qualification tests results :

| SUB-GROUP | TEST <i>Acceptable criteria</i> | METHOD <i>Condition</i> | LTPD or Qty (Acc. Nb) | Sample | Acc. Numb. | Fail |
|-----------|--|---|---|-----------------------------|-----------------------|-----------------------|
| - | Pre-acousting microscopy THERMAL PRE-COND. L3 Post-acousting microscopy Electrical measurements Visual inspection | J-STD-020-C (peak 225°C) J-STD-035 Ambient T° MIL STD-883 TM 2009 | 30 (0) | 30 | 0 | 0 |
| - | PRESSURE COOKER * Electrical measurements Visual inspection | JESD22-A102-B 121°C/100% RH/2atm/168H Ambient T° MIL STD-883 TM 2009 | 15 (0) | 15 | 0 | 0 |
| - | TEMPERATURE CYCLING * Electrical measurements Visual inspection | MIL STD-883 TM 1010 -55°C to 125°C / 1000 cy. Ambient T° MIL STD-883 TM 2009 | 15 (0) | 15 | 0 | 0 |
| - | HIGH TEMP. STORAGE Electrical measurements Visual inspection | JESD22-A103-A 150°C / 1000H Ambient T° MIL STD-883 TM 2009 | 15 (0) | 15 | 0 | 0 |
| - | ASSY. PROCESS CAPABILITY Physical dimension Die shear test Bond pull test Ball shear test Ball diameter | MIL-STD 883 / 2016 EBGA 317 specification | 50 (0) 10 (0) 200 wires (0) 50 (0) 50 (0) | 50 10 200 50 50 | 0 0 0 0 0 | 0 0 0 0 0 |
| | | | | | | |

Observations : * Devices issued from thermal pre-conditioning level 3
The two dice are qualified by association with AT84AS008 (VL32D) & AT84CS001 (VL24A) products