

		APPLICATION FOR EXTENSION OF ESCC TECHNOLOGY FLOW APPROVAL			Page 1
		Component Title: Integrated Circuits, Silicon, Monolithic, CMOS, Cell-Based Array, based on Type ATC18RHA	Executive Member: CNES	Date: 15/11/2023	Appl. No. 357B
Technology Flow submitted for Extension of Qualification Approval:					1
SUMMARY DESCRIPTION		TEST STRUCTURES		COMPONENTS PROPOSED FOR QUALIFICATION	
ATC18RHA ASICs		See Annex 1		ATC18RHA ASICs AT697F AT7991	
Component Manufacturer 2 MICROCHIP TECHNOLOGY NANTES (ex-ATMEL NANTES)		Location of Manufacturing Plant(s) 3 MCHP Nantes (design & test) UMC Taiwan (wafer fab) MMT Thailand (assembly) HCM La Rochelle (column mounting)		Date of original qualification approval: 4 Date: 30/08/2021 Certificate Ref 357A No.	
ESCC Specifications used for Maintenance testing: 5 Generic: 9000 Issue: 11 Detail(s): 9202/080 Issue: 5 9512/005 Issue: 1		Deviations to LVT testing and Detail Specification used: 6 No ☒ Yes ☐ (supply details in Box 15) Deviation from current Specifications: No ☒ Yes ☐ (Supply details)		Qualification Extension Report reference and date: 7 ATC18RHA ESCC QML - qualification maintenance request 2023-06 rev0	
Summary of procurement or equivalent test results during current validity period in support of this application (those to ESCC listed first)					8
Customer	Component	LVT	Date code	Quantity Delivered	
See Qualification Extension report					
PID changes since last maintenance of qualification 9 None ☒ Minor* ☐ Major* ☐ *Provide details in box: 19		Current PID Verified by: D. Dangla, CNES 10 Name of Executive Representative Ref No: ATC18RHA PID 0032 – Rev F – 14/11/2023 Ref No: MMT PID FOR MCHP NANTES – 1G-QM-0105 – 04/02/2019 Ref No:			
Current Manufacturing facilities surveyed by: S. Hernandez, ESA and D. Dangla, CNES on 14/09/2022 11 (Name of Executive Representative) (Date)					
Satisfactory: Yes ☒ No ☐ Explain					
Report Reference: DTN QE EC 2022-13648 CR-ESCC QML survey MCHP-14.15092022					



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Non compliance to ESCC requirements:

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No.:	Specification	Paragraph	Non compliance

Additional tasks required to achieve full compliance for ESCC qualification or rationale for acceptability of noncompliance:

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None

Executive Manager Disposition

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Application Approval: Yes ☒ No ☐

Action / Remarks:

Date:

B. Schade: Head of the Product Assurance and Safety Department

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357B**ANNEX 1: LIST OF TESTS DONE TO SUPPORT EXTENSION OF QUALIFICATION****18**

Tests conducted in compliance with:

- ESCC 9000 generic specification; Chart F4 (for ESCC/QPL parts);
- or PID-TFD **ATC18RHA PID 0032 – Rev F** (for ESCC/QML parts)

Tests vehicle identification/description:

CQFP multi-decks family

DateCode	Package	Lot	
DC2120 to DC2146	CQFP132	Z5801A2AFS	ink, wire 32μ, attach JM7000
DC2146 to DC2220	CQFP256	1S7985-5	ink, wire 32μ, attach JM7000
DC2220 to DC2246	CQFP256	Z58442	ink, wire 32μ, attach JM7000
DC2247 to DC2321	CQFP032	A8B8ZA2AGG	ink, wire 25μ, attach JM7000

Detail Specification reference: **9202/080**

CQFP multi-decks packages family

Chart F4	Test	Tick when done	Conditions	Date Code Diffusion Lot	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Environmental/Mechanical Subgroup	Mechanical Shock	☒	MIL-STD-883, Test Method 2002B	1S7985-5 DC2146 (CQFP-256) A8B8ZA2AGG DC2247 (CQFP-032) Coverage → 2447	15	0	
	Vibration	☒	MIL-STD-883, Test Method 2007A		15	0	
	Constant Acceleration	☒	MIL-STD-883, Test Method 2001D		15	0	
	Seal (Fine and Gross Leak)	☒	MIL-STD-883, Test Method 1014 A&C		15	0	
	Intermediate and End-Point Electrical Measurements	☒	Intermediate and End-Point Electrical Measurements in the Detail Specification		15	0	
	External Visual Inspection	☒	ESCC Basic Specification No. 20500		15	0	MIL-STD-883, Test Method 2009
	Thermal Shock	☒	MIL-STD-883, Test Method 1011C		15	0	
	Temperature Cycling	☒	MIL-STD-883, Test Method 1010C		15	0	
	Moisture Resistance	☒	MIL-STD-883, Test Method 1004		15	0	
	Seal (Fine and Gross Leak)	☒	MIL-STD-883, Test Method 1014 A&C		15	0	
	Intermediate and End-Point Electrical Measurements	☒	Intermediate and End-Point Electrical Measurements in the Detail Specification		15	0	
	External Visual Inspection	☒	ESCC Basic Specification No. 20500		15	0	MIL-STD-883, Test Method 2009
Assembly Capability Subgroup	Terminal Strength (**)	☒	MIL-STD-883, Test Method 2004	1S7985-5 DC2146 (CQFP-256) A8B8ZA2AGG DC2247 (CQFP-032) Coverage → 2447	3	0	
	Internal Visual Inspection (*)	☒	ESCC Basic Specification No. 20400		4	0	MIL-STD-883 Test Method 2010A
	Bond Strength (*)	☒	MIL-STD-883 Test Method 2011		4	0	(*) Done on each assembly lot (**) SubGrD2
	Substrate Attach Strength (*)	☒	MIL-STD-883 Test Method 2027		3	0	
	Permanence of Marking (*)	☒	MIL-STD-883 Test Method 2015		3	0	
	Solderability (*)	☒	MIL-STD-883 Test Method 2003		3	0	

Note:

CCGA multi-decks family: no manufacturing over the period

Endurance subgroup (Sub-Gr 2): no wafer manufacturing anymore

