ESCC

APPLICATION FOR EXTENSION OF ESCC TECHNOLOGY FLOW APPROVAL

Component Title: Integrated Circuits, Silicon, Monolithic, CMOS, Cell-Based Array,based on Type ATC18RHA

Appl. No.

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100		Executive Member:	(CNES			Date: 18/	07/2025	3570	С
Technology Flow su	bmitted for Extens	sion of Qualifi	cation Appr	oval:						1
SUMMARY DESCR	RIPTION		TEST	STRUC	TURES		CON	IPONENTS PROPOS QUALIFICATION	ED FOR	
ATC18RHA ASICs		See Ar	nnex 1				ATC18RHA A AT697F AT7991			
Component Ma	anufacturer	2 Lo	ocation of Ma	nufacturii	ng Plant(s)	3	Date of origina	al qualification approva	al·	4
MICROCHIP TECH (ex-ATMEL NANTE	S MCHP UMC T MMT T	Location of Manufacturing Plant(s) MCHP Nantes (design & test) UMC Taïwan (wafer fab) MMT Thailand (assembly) HCM La Rochelle (column mounting)				Date: 30/08/2021 Certificate Ref 357A No.			•	
ESCC Specification		5 Deviati Specifi	Deviations to LVT testing and Detail Specification used: 6					Qualification Extension Report reference and date:		
Generic: 9000 Detail(s): 9202/0 9512/0	Deviati	Box 15) Deviation from current Specifications:					SCC QML - qualifica request 2025-06 revi			
Summary of procure	ement or equivaler	nt test results	during curre	ent validity	period in suppor	t of th	is application (t	nose to ESCC listed fir	rst)	8
Customer	Compone	nt	LVT		Date code			Quantity Delivere	ed	
See Qualification Extension report								,		
			-							
PID changes since None □ Minor* ⊠ Major* □	*Provide details i	·	n 9	Current Ref No: Ref No:	MMT PI	НА Р	Name of E	ENES excutive Representativ G – 01/07/2025 ES – 1G-QM-0105 – 0		10
Current Manufactur	ing facilities survey	yed by:	ESA and (CNES			on -	16/10/2024		11
Satisfactory:	Yes ⊠	No		Explain				(Date)		
Report Reference:	DIN QE EC	2024.UU14 <i>1</i>	33 - UK-ES	JU WINIE S	survey MCHP-16	1020				

ESCC

APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component title: Integrated Circuits, Silicon, Monolithic, CMOS, Cell-Based

Array,based on Type ATC18RHA

Executive Member: CNES Date: 18/07/2025

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Failure A	Yes		No		12			
that the ap	rsigned hereby certifies on behalf of the ESCC ppropriate documentation has been evaluated s stated in box 15;) - that the reports and data s the responsible Executive Member for ESCC	; - that fu are avail:	ll compl able at	iance to the ESC	all ESC	C requirements is tive and therefor	s evidence e applies on behalf of	13
Date:	18/07/2025			_		Signature numérique de Fontaine Lya Date: 2025.0	E. I ONTAINE	

Continuation of Boxes above:

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Box 1:

An End-Of-Life of the ATC18RHA ASIC offer for new design has been announced by Microchip ADG in January 2021.

- ADG Microchip has stopped the wafer manufacturing launch in December 2021.
- ADG Microchip maintains Flight Models manufacturing from this wafer/die stock.

As stated in QCI-39010-002, when no production on a package family, no monitoring is required and shall restart when production will restart. Nevertheless, in case of prolonged stoppage of one package family production, the TRB shall assess the need for additional verifications before restart.

The AT697 and AT7991 products are not concerned by the discontinuation of wafer production, only ASICs are. For these 2 standard products, each batch of wafer is qualified by a life test.

Box 7:

ESCC QML qualification of UMC 8S wafer fab with MMT assembly based on: ATC18RHA ESCC QML - qualification maintenance request 2025-06 rev0 and associated reports:

- ATC18RHA Process Identification Document - PID0032 revG



APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

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			Array, based on Type ATC18KHA			
	A Part of the Part	Executive N	Member: CNES	Date:	18/07/2025	357C
Non comp	pliance to ESCC requirements:					15
No.:	Specification		Paragraph		Non compliance	
						1
noncompl	I tasks required to achieve full colliance:	mpliance for l	ESCC qualification or rationale for acceptability	/ of		16
None						<u> </u>
						1
Executive	Manager Disposition					17
Applicatio	on Approval: Yes 🗓	No 🗆				
Action / R	temarks:					
					Al. Zadih	
Date: 30	September 2025					
1				A. Za	deh: Head of the Avionics	and EEE Division



APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

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Date: 18/07/2025 Executive Member: CNES

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ANNEX 1: LIST OF TESTS DONE TO SUPPORT EXTENSION OF QUALIFICATION

Tests conducted in compliance with:

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

Tests vehicle identification/description:

CQFP multi-decks family

<u>DateCode</u>	<u>Package</u>	<u>Product</u>	<u>Lot</u>	Comment
DC2321 to DC2347	CQFP256	<u>AT697</u>	<u>0P208A2AKU</u>	
DC2348 to DC2422	CQFP256	<u>AT697</u>	0P208A2642	
DC2422 to DC2448	CQFP032	ATmegaS64M1	A8B8ZA28BC	MIL-PRF-38535 (6-month period)
DC2438 to DC2512	CQFP064	SAMD21RT	QW4LJA28CH	

Detail Specification reference:

9202/080

CQFP flat-substrate package family - ESCC periodicity of 2 years: Data from 2 lots presented over this 2 years period.

ADG Microchip periodicity of 26 weeks (environmental/mechanical sub-group) and each assembly lot (assembly capability sub-group).

Chart F4	Test	Tick when done	Conditions	Date Code Diffusion Lot	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
	Mechanical Shock	×	MIL-STD-883, Test Method 2002B		15	0	
	Vibration	\boxtimes	MIL-STD-883, Test Method 2007A		15	0	
	Constant Acceleration	×	MIL-STD-883, Test Method 2001D		15	0	
al Subgroup	Seal (Fine and Gross Leak)	×	MIL-STD-883, Test Method 1014 A&C	0P208A2AKU DC2321	15	0	
	Intermediate and End-Point Electrical Measurements	×	Intermediate and End-Point Electrical Measurements in the Detail Specification	(CQFP-256)	15	0	
chanic	External Visual Inspection	\boxtimes	ESCC Basic Specification No. 20500	QW4LJA28CH	15	0	MIL-STD-883, Test Method 2009
:al/Me	Thermal Shock ⊠ MIL-STD-883. Test Method 1011C		DC2438 (CQFP-64)	15	0		
Environmental/Mechanical Subgroup	Temperature Cycling	\boxtimes	MIL-STD-883. Test Method 1010C	Coverage → 2638 -	15	0	
	Moisture Resistance	×	MIL-STD-883, Test Method 1004		15	0	
	Seal (Fine and Gross Leak)	\boxtimes	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
			MIL-STD-883, Test Method				
dno	Terminal Strength (**)	\boxtimes	2004	0P208A2AKU	3	0	
Subgro	Internal Visual Inspection (*)	×	ESCC Basic Specification No. 20400	DC2321 (CQFP-256)	4	0	MIL-STD-883 Test Method 2010A
Assembly Capability Subgroup	Bond Strength (*)	\boxtimes	MIL-STD-883 Test Method 2011	QW4LJA28CH	4	0	
	Substrate Attach Strength (*)	\boxtimes	MIL-STD-883 Test Method 2027	DC2438	3	0	(*) Done on each assembly lot
	Permanence of Marking (*)	×	MIL-STD-883 Test Method 2015	(CQFP-64)	3	0	(**) SubGrD2
Solderability (*)		×	MIL-STD-883 Test Method 2003	Coverage → 2638	3	0	

Note:

CCGA multi-decks family: no manufacturing over the period

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



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NOTES ON THE COMPLETION OF THE APPLICATION FORM FOR ESCC QUALIFICATION EXTENSION APPROVAL

Component title:

ENTRIES	
Form heading	shall indicate: - the title of the component as given in its detail specification or the name of the series, family; - the Executive Member; - the entering date; - the certificate number and its sequential suffix.
Box 1	shall provide details given in the table; in particular there shall be listed: - the variants or range of variants; - the range of components (the ESCC code is recommended to indicate the values or values range, the tolerance, the voltage, etc); the designation given in the detail specification as 'base on'; - under Test Vehicle enter either an ESCC code or the specific characteristic capable of identifying the component tested (e.g., voltage of coil for a relay); - under component similar enter a cross if relevant.
Box 2; 3 and 4	As per QPL entry; otherwise, an explanation of the changes must be supplied.
Box 5	Will show the ESCC Generic and Detail specifications, including issue number and revision letter, current at the time the tests reported were performed. If the specifications are different from those current on the date of the application, see Box 6.
Box 6	Will show the deviations from the Generic and Detail Specifications listed in Box 5, in particular deviations from testing. In case of deviations this must be listed in Box 15. In case the referenced specification in Box 5 have currently a different issue and/or revision indicate also whether the test data deviates or not from such current documents.
Box 7	Must reference the report(s) supplied in support of the application.
Box 8	Should provide the details of procurement to the full ESCC System, documentation of all of which should already have been delivered to the ESCC Executive under the terms of the relevant Generic Specification. An appropriate table has been drawn in this box.
Box 9	If the PID evolved after the Original Qualification or after the last Extension of Qualification, adequate details of such evolution shall be provided together with the reasons for the changes. Major changes shall be clearly marked.
Box 10	Identify the current PID issue status, date and actual date of verification. The date of verification of the current PID should be arranged as close as possible to the required date of extension.
Box 11	This box can be completed only after a physical visit to the plant to confirm that no unexplained changes occurred and that the practices, procedures, material, etc. used in manufacturing the components are as described in the PID. This survey shall be carried out in accordance with the requirements of ESCC Basic Specification No. 20200 and its findings shall be recorded.
Box 12	Provide details of, or reference to, any Destructive Physical Analysis (DPA) and Failure Analysis reports as well as any Nonconformance(s) (NCCS) occurred during the qualification validity period, stating if established corrective action have produced satisfactory results.
Box 13	Enter only the name of the Executive Member (i.e., CNES, DLR, ESTEC, etc.) and the signature of the responsible Executive Coordinator.
Box 14	To be used when there is a need to expand any of the boxes from 1 through 12. Identify box affected and reference the Box 14 in the relevant Box. Box 14 can be broken into 14a, 14b, etc. if several boxes have to be expanded.
Box 15	Fill in Table as requested.
Box 16	Any additional action deemed necessary by the Executive Member to bring the submitted data to a standard likely to be accepted by the ESCC Executive should be listed herein or the reason(s) to accept the noncompliance.
Box 17	All Executive Manager recommendations on the application itself, special conditions or restrictions, modifications of the QPL or QML entry, letters to the manufacturer, etc. shall be entered clearly in Box 19, signed by the representative for ESA, and dated.
Box 18	Fill in Table as requested.
Box 19	Confidential Details of PID changes including those of a confidential nature, shall be provided.
Box 20	State noncompliance with reference to specification(s) and paragraph(s). To simplify reference in Box 16 each nonconformance shall be sequentially numbered. If relevant state 'None'.
Box 21	Any additional action deemed necessary by the Executive Member to bring the submitted data to a standard likely to be accepted by the ESCC Executive should be listed herein or the reason(s) to accept the noncompliance.
Box 22	Additional Comments.