



MICROCHIP

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: KSRA-07MECO827

Date
May 01, 2014

**Qualification of U08S8 as a new fabrication site for
ATMEGAXXRFR2 Atmel device family. The ATMEGA128RFA1
Atmel device family will qualify by similarity.**

Purpose **Qualification of U08S8 as a new fabrication site for ATMEGAXXRFR2 Atmel device family. The ATMEGA128RFA1 Atmel device family will qualify by similarity.**

CRS No **13-1149**

Product Qualification

Product Life Testing

Lot	Device Type	Test Description	Step	Result	Comment
PFRP7.1J	ATmega256RFR2	ELFR 150°C / 3.7V Micro part	24h	0/32 0	Pass
		ELFR 150°C / 3.7V RF part	24h	0/30 7	Pass
		Endurance 25°C (pre-cycling)	10kc EEPROM 1kc Flash	0/80	Pass
		HTOL 150°C / 3.7V Micro part	504h	0/80	Pass
		HTOL 150°C / 3.7V RF part	504h	0/81	Pass
		Endurance 25°C Flash	10k	0/80	Pass
		Endurance 25°C Eeprom	100kc	0/80	Pass
		Endurance 85°C Flash	25kc	0/80	Pass
		Endurance 85°C EEprom	50kc	0/80	Pass
		Endurance 125°C Flash	10k	0/80	Pass
		Endurance 125°C Eeprom	20k	0/80	Pass
		Data Retention 250°C (wafer level)	168h	0/39 85	Pass

ESD / Latch-up

Lot	Device Type	Test Description	Step	Result	Comment
PFRP7.1J	ATmega256RFR2	LATCH-UP, 125°C	+100mA Positive Power injection min logic low	0/6	Pass
			-100 mA Negative Power injection min logic low	0/6	
			1.5Vccmax Overvoltage	0/6	

Lot	Device Type	Test Description	Step	Result	Comment
PFRP7.1J PFRP6.1J	ATmega256RFR2	ESD HBM	5000V	0/3	Pass
		ESD CDM	400V	0/3	Pass
		ESD MM	200V	0/3	Pass

Package Qualification

Lots	Device Type	Test Description	Step	Result	Comment
PFRP7.1J	ATmega256RFR2	High Temperature Storage 175°C	500h	0/77	Pass
		Moisture sensitivity JESD20 – level 3 Pb-Free 192 Hours, 30C, 60% RH	Elect	0/22 0/154	Pass
		Biased HAST 130°C/85%RH after MSL3	96h	0/77	Pass
		Thermal Cycles -65°C/150°C after MSL3	500c	0/77	Pass
PFRP6.1J	ATmega256RFR2	High Temperature Storage 175°C	500h	0/77	Pass
		Moisture sensitivity JESD20 – level 3 Pb-Free 192 Hours, 30C, 60% RH	Elect	0/22 0/154	Pass
		Biased HAST 130°C/85%RH after MSL3	96h	0/77	Pass
		Thermal Cycles -65°C/150°C after MSL3	500c	0/77	Pass
PFRP6.1JA	ATmega256RFR2	High Temperature Storage 175°C	500h	0/77	Pass
		Moisture sensitivity JESD20 – level 3 Pb-Free 192 Hours, 30C, 60% RH	Elect	0/22 0/154	Pass
		Biased HAST 130°C/85%RH after MSL3	96h	0/77	Pass
		Thermal Cycles -65°C/150°C after MSL3	500c	0/77	Pass