



Automotive Qualification Report

MAX9209EUM+

	Lot # 1 (QFE0AQ003C)		Family Data			Family Data			Family Data			Family Data			Family Data - Process		
	Maxim Part Number	MAX9209EUM	Lot # 2 (QBUZAQ001B)	Lot # 3 (QFE2AQ001Q)	Lot # 4 (QWB2AQ001A)	Lot # 5 (QFB6AQ002C)	Lot # 6 (QR31BQ001A)	Lot # 7 (Q43ACQ002B)	MAX9254EUM+	MAX9213EUM+	MAX9234EUM	MAX9222EUM	MAX9244EUM	MAX9234EUM	MAX1499EHJ		
Programmable	Description (Note 1)	AEC-Q100	AEC-Q100	Maxim (Note 2)	AEC-Q100	AEC-Q100	AEC-Q100	AEC-Q100	AEC-Q100	AEC-Q100	AEC-Q100	AEC-Q100	AEC-Q100	AEC-Q100			
DC-Balanced	Operating Temperature	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C			
21-Bit Serializer	Temperature Grade	3	3	3	3	3	3	3	3	3	3	3	3				
	Fab Location	TSMC Fab 9	TSMC Fab 9	TSMC Fab 9	TSMC Fab 9	TSMC Fab 9	TSMC Fab 9	TSMC Fab 9	TSMC Fab 9	TSMC Fab 9	TSMC Fab 9	TSMC Fab 9	TSMC Fab 9				
	Fab Process	.35um 2P4M	.35um 1P4M	.35um 2P4M	.35um 1P4M	.35um 1P4M	.35um 1P4M	.35um 1P4M	.35um 1P4M	.35um 1P4M	.35um 1P4M	.35um 1P4M	.35um 2P4M				
Grade 3	Die	HS30Z	HS60Z	HS30Z-2Z	HS37Z-2Z	HS31Z-6Z	HS39Z-1Z	AC12Y									
	Assembly Location	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines	Carsem-S Malaysia				
	Die Size (mils)	88 x 117	108 x 159	88 x 117	97 x 139	92 x 108	108 x 159	85 x 87									
	Package	48-Lead TSSOP	48-Lead TSSOP	48-Lead TSSOP	48-Lead TSSOP	48-Lead TSSOP	48-Lead TSSOP	32-Lead TQFP									
48-Lead TSSOP	Wire Bond Material	Au .001"	Au .001"	Au .001"	Au .001"	Au .001"	Au .001"	Au .001"									
	Mold Compound	G700K	G700K	G700K	G700K	G700K	G700K	EME7320CR									
	Die Attach	8290	8290	8290	8290	8290	8290	84-1LMISR4									
	Lead Frame	Copper	Copper	Copper	Copper	Copper	Copper	Copper									
	Lead Finish	85/15 Sn/Pb	100% Matte Sn	100% Matte Sn	85/15 Sn/Pb	85/15 Sn/Pb	85/15 Sn/Pb	85/15 Sn/Pb									
	Reliability Lot Number	A050002, DC 0451	A060034, DC 0630	R040020, DC 0404	A050012, DC 0534	A050010, DC 0453	A050038, DC 0551	A050009, DC 0518									
		Fails/Sample Size	Failures/Sample Size	Fails/Sample Size	Fails/Sample Size	Fails/Sample Size	Fails/Sample Size	Fails/Sample Size									
AEC-Q100 Rev. F Tests	#	Conditions	+25C	+125C	-40C	+25C	+85C	-40C	+25C	+85C	-40C	+25C	+85C	-40C	+25C	+85C	-40C
MSL 3 - Preconditioning (PC)	A1	240C (Sn/Pb)	0/215			0/215			0/215			0/22			0/330		
		260C (100% Sn)				0/449											
=>CSAM - PC - CSAM			0/22						0/22			0/22					
Temperature Humidity-Bias (THB)	A2	85C/85%RH 1000 Hours															
Biased HAST (HAST)	A2	130C/85%RH 96 Hours	0/45	0/45		0/46	0/46	0/135	0/48	0/48			0/78	0/78			
Autoclave (AC)	A3	121C/85%RH 168 Hours				0/231											
Unbiased HAST (UHAST)	A3	130C/85%RH 96 Hours	0/45			0/80	0/80		0/50	0/50			0/85	0/85			
Temperature Cycle (TC)	A4	-65 to +150C 1000 Cycles	0/77	0/77		0/80	0/80	0/231	0/80	0/80							
=>Post TC Wirebond Pull (WBP)		>3 grams	0/240			0/240			0/200								
High Temperature Storage (HTSL)	A6	+150C 1000 Hours	0/77	0/77		0/77	0/77	0/231	0/79	0/79			0/80	0/80			
High Temperature Op Life (HTOL)	B1	+135C 1000 Hours	0/45	0/45	0/45	500 Hrs.	500 Hrs.	500 Hrs.	+115C	+115C	+115C	+115C	+115C	+115C	0/80	0/80	0/80
Early Life Failure (Note 4) (ELFR)	B2	+135C 48 Hours				0/77	0/77	0/77	0/134	0/47	0/47	0/47	0/47	0/47	0/800	0/800	0/800
Wire Bond Shear (WBS)	C1		(Note 3)			(Note 3)			(Note 3)								
Wire Bond Pull (WBP)	C2		(Note 3)			(Note 3)		0/678	(Note 3)								
Solderability (SD)	C3					0/15		0/45									
Physical Dimensions (PD)	C4		0/15			0/10		0/45	0/15								
Lead Integrity (LI)	C6		0/15			0/5		0/15	0/10								
(EM, TDDb, HCl)	D1-3		TSMC			TSMC		TSMC	TSMC			TSMC		TSMC			TSMC
Pre- and Post-Stress Electrical (TEST)	E1		All	All	All	All	All	All	All	All	All	All	All	All	All	All	All
Human Body Model ESD (HBM)	E2		2000V	2000V													
Machine Model ESD (MM)	E2																
Charged Device Model ESD (CDM)	E3		750V	750V													
Latch-Up (LU)	E4		0/6	0/6													
Preconditioned																	

(Note 1) AEC-Q100 test performed per Rev. F guidelines. Maxim tests performed to internal specification 10-3006.

(Note 2) Tests performed on three assembly lots.

(Note 3) Monitor data from assembly subcontractor.