

Automotive Qualification Report
MAX1471ATJ

			□	✓	✓	✓	✓	✓	✓											
			Lot # 1 (QIO0BQ002E)	Lot # 2 (Q43ACQ001B)	Lot # 2 (Q4ABAQ001A)	Lot # 4 (QFE0AQ003C)	Lot # 5 (QFB6AQ002C)	Lot # 6 (QFE2AQ001Q)												
315MHz/434MHz Low-Power, 3V/5V ASK/FSK Superheterodyne Receiver	Maxim Part Number	MAX1471ATJ		MAX1499EHJ	MAX1421ECM	MAX9209EUM	MAX9222EUM	MAX9213EUM+ (Note 2)												
	Description (Note 1)	AEC-Q100		Maxim	Maxim	AEC-Q100	AEC-Q100	Maxim												
	Operating Temperature	-40 to +125C		-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C											
	Temperature Grade	1		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											
	Fab Process	.35um 2P3M		.35um 2P4M	.35um 2P4M	.35um 2P4M	.35um 1P4M	.35um 2P4M												
	Die	SC71Z		AC12Y	AC07X-1Z	HS30Z	HS31Z-6Z	HS30Z-2Z												
	Assembly Location	NSEB Thailand		Carsem-S Malaysia	Carsem-S Malaysia	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines												
	Die Size (mils)	90 x 78		85 x 87	117 x 106	88 x 117	92 x 108	88 x 117												
	Package	32-Lead TQFN (5x5)		32-Lead TQFP	48-Lead TQFP	48-Lead TSSOP	48-Lead TSSOP	48-Lead TSSOP												
	Wire Bond Material	Au .001" (w/down bonds)		Au .001"	Au .001"	Au .001"	Au .001"	Au .001"												
	Mold Compound	G770HC		EME7320CR	EME7320AR	G700K	G700K	G700K												
	Die Attach	AB8200T		84-1LMISR4	84-1LMISR4	8290	8290	8290												
	Lead Frame	Copper		Copper	Copper	Copper	Copper	Copper												
	Lead Finish	85/15 Sn/Pb		85/15 Sn/Pb	85/15 Sn/Pb	85/15 Sn/Pb	85/15 Sn/Pb	100% Matte Sn												
Reliability Lot Number	A050005A		R020068FQ	R020068FQ	A050002A	A050010A	R040020FQ													
			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				
MSL 1 - Preconditioning (PC)			A1	240C (Sn/Pb)	0/215			0/150			0/215									
			A1	260C (100% Sn)													0/449			
=>CSAM					0/22						0/22									
Temperature Humidity-Bias (THB)			A2	85C/85%RH 1000 Hours				0/44												
Biased HAST (HAST)			A2	130C/85%RH 96 Hours	0/47	0/47					0/45	0/45					0/135			
Autoclave (AC)			A3	121C/85%RH 168 Hours				0/77									0/231			
Unbiased HAST (UHAST)			A3	130C/85%RH 96 Hours	0/80	0/80					0/45									
Temperature Cycle (TC)			A4	-65 to +150C 1000 Cycles	0/80	0/80					0/77	0/77					0/231			
=>Wirebond Pull (WBP)				>3 grams	0/160						0/240									
High Temperature Storage (HTSL)			A6	+150C 1000 Hours	0/78	0/78		0/71			0/77	0/77					0/231			
High Temperature Op Life (HTOL)			B1	+135C 1000 Hours	0/48	0/48	0/48	0/78			0/79			0/45	0/45	0/45	0/47	0/47	0/47	0/134
Early Life Failure (Note 5) (ELFR)			B2	+135C 48 Hours				0/845	0/845											
Maxim Infant Mortality (IME)				+135C 12 Hours				0/2637			0/2393									
Wire Bond Shear (WBS)			C1		(Note 3)															
Wire Bond Pull (WBP)			C2		(Note 3)															
Solderability (SD)			C3		0/15															
Physical Dimensions (PD)			C4		0/10															
Lead Integrity (LI)			C6		N/A															
(EM, TDDb, HCl)			D1-3		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			
Human Body Model ESD (HBM)			E2	MIL-STD, SS=5	1000V	1000V														
Machine Model ESD (MM)			E2																	
Charge Device Model ESD (CDM)			E3	AEC-Q100-11	250V	250V														
Latch-Up (LU)			E4		0/6	0/6														
Electrothermal Gate Leakage (GL)			E8		0/6	0/6														

(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.

(Note 5) Data from Lot Q43ACQ002B, per AEC-Q100 ELFR requirements.

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		Lot # 7 (QOL0CQ003C)	Lot # 8 (R040158B)	Lot # 9 (SQH1CQ003Q)							
315MHz/434MHz Low-Power, 3V/5V ASK/FSK Superheterodyne Receiver Grade 1 32-Lead TQFN 5 x 5 mm	Maxim Part Number	MAX1479ATE	MAX1526ETM+ (Note 2)	MAX1500YETN+ (Note 2)							
	Description (Note 1)	AEC-Q100	Maxim	Maxim							
	Operating Temperature	-40 to +125C	-40C to +85C	-40C to +85C							
	Temperature Grade	1	3	3							
	Fab Location	TSMC Fab 9	Maxim, San Antonio	Maxim, San Jose							
	Fab Process	.35um 2P3M	B8, .8 um CMOS	B8, .8 um CMOS							
	Die	SC79Z	PW79Y	PN35Z-1Z							
	Assembly Location	NSEB Thailand	NSEB Thailand	NSEB Thailand							
	Die Size (mils)	55 x 53	152 x 155	190 x 190							
	Package	16-Lead TQFN (3x3)	48-Lead TQFN (6x6)	56-Lead TQFN (7x7)							
	Wire Bond Material	Au .001" (w/down bond)	Au .001"	Au .001"							
	Mold Compound	G770HC	G770HC	G770HC							
	Die Attach	AB8200T	AB8200T	AB8200T							
	Lead Frame	Copper	Copper	Copper							
	Lead Finish	85/15 Sn/Pb	100% Matte Sn	100% Matte Sn							
Reliability Lot Number	A050007A	R050191	R050117C								
		Fails/Sample Size			Fails/Sample Size			Fails/Sample Size			
AEC-Q100 Rev. F Tests	#	Conditions	+25C	+125C	-40C	+25C	+85C	-40C	+25C	+85C	-40C
MSL 1 - Preconditioning (PC)	A1	240C (Sn/Pb)	0/212								
	A1	260C (100% Sn)				0/465					
=>CSAM			0/22								
Temperature Humidity-Bias (THB)	A2	85C/85%RH 1000 Hours									
Biased HAST (HAST)	A2	130C/85%RH 96 Hours	0/43	0/43					0/135		
Autoclave (AC)	A3	121C/85%RH 168 Hours				0/231					
Unbiased HAST (UHAST)	A3	130C/85%RH 96 Hours	0/80	0/80							
Temperature Cycle (TC)	A4	-65 to +150C 1000 Cycles	0/80	0/80		0/231					
=>Wirebond Pull (WBP)		>3 grams	0/85								
High Temperature Storage (HTSL)	A6	+150C 1000 Hours	0/80	0/80		0/231					
High Temperature Op Life (HTOL)	B1	+135C 1000 Hours	0/48	0/48	0/48						
Early Life Failure (Note 5) (ELFR)	B2	+135C 48 Hours									
Maxim Infant Mortality (IME)		+135C 12 Hours									
Wire Bond Shear (WBS)	C1										
Wire Bond Pull (WBP)	C2					0/749					
Solderability (SD)	C3					0/45					
Physical Dimensions (PD)	C4		0/10								
Lead Integrity (LI)	C6										
(EM, TDDB, HCI)	D1-3		TSMC								
Pre- and Post-Stress Electrical (TEST)	E1		All	All	All						
Human Body Model ESD (HBM)	E2	MIL-STD, SS=5									
Machine Model ESD (MM)	E2										
Charge Device Model ESD (CDM)	E3	AEC-Q100-11									
Latch-Up (LU)	E4										
Electrothermal Gate Leakage (GL)	E8										

(Note 1) AEC-Q100 test performed per Rev. F guidelines. Maxim tes

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