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Reliability Test Report

Part No.	RAK473-A
Model Name	WLAN (802.11) Module
Report No.	CZLLS006106-2016

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Reliability Prediction Summary

File Name: RAK473-A
System: RAK473-A

Failure Rate: 75.3402 FITs
MTBF (hrs): 13273120.7942
Temperature (C): 25°C

[illegible]

Reliability Prediction
Summary

File Name: RAK473-A

System: RAK473-A

Failure Rate: 75.3402 FITs

MTBF (hrs): 13273120.7942

Temperature (C):25°C

Part Number	Description	Category	Unit Failure Rate	Quantity	Total Failure Rate
chicapacitor	50V 0.5pF±0.1pF COG (0201)	Capacitor	0.364375	1	0.364375
chicapacitor	50V 0.8pF±0.1pF COG (0201)	Capacitor	0.364375	1	0.364375
chicapacitor	50V 1.5pF±0.1pF COG (0201)	Capacitor	0.364375	1	0.364375
chicapacitor	50V 12pF ±5% COG (0201)	Capacitor	0.364375	2	0.72875
chicapacitor	10V 100nF±10% X5R (0201)	Capacitor	0.364375	15	5.465625
chicapacitor	6.3V 1.0uF±20% X5R (0201)	Capacitor	0.364375	6	2.18625
chicapacitor	6.3V 4.7uF±20% X5R (1005)	Capacitor	0.364375	1	0.364375
chicapacitor	6.3V 10uF±20% X5R (1608)	Capacitor	0.364375	2	0.72875
chicapacitor	6.3V 22uF±20% X5R (1608)	Capacitor	0.364375	1	0.364375
pellet resistance	0.05W 0Ω ±50mΩ (0201)	Resistor	0.374759	6	2.248554
pellet resistance	0.05W 4.7kΩ ±5% (0201)	Resistor	0.374759	1	0.374759
pellet resistance	0.05W 10kΩ ±5% (0201)	Resistor	0.241889	3	0.725667
pellet resistance	0.05W 100kΩ ±5% (0201)	Resistor	0.374759	2	0.749518
Power inductor	2.2UH±20%, 2016	Inductor	0.332597	1	0.332597
multilayer chip inductor	2.2nH±0.1 nH , 0201	Inductor	0.332597	1	0.332597
multilayer chip inductor	2.7nH±0.1 nH , 0201	Inductor	0.332597	1	0.332597
IC	WIFI SOC	Integrated Circuit	11.557328	1	11.557328
FLASH	FLASH, 16Mbit, 150mil	Integrated Circuit	2.636328	1	2.636328
ESD	PS0402V014AT	Miscellaneous	29.187865	1	29.187865
SMD Crystal	40MHz, 3225, CL:15PF/±10PPM	Miscellaneous	6.069018	1	6.069018
PCB (4-Layer)	119.1x62.5mm/12 1.0mm	Connection	9.862154	1	9.862154

Reliability Prediction

Summary

File Name: RAK473-A
System: RAK473-A

Failure Rate: 464.572 FITs
MTBF (hrs): 2152520.4390
Temperature (C): 80°C

[illegible]

Reliability Prediction
Summary

File Name: RAK473-A

System: RAK473-A

Failure Rate: 464.572 FITs

MTBF (hrs): 2152520.439

Temperature (C):80℃

Part Number	Description	Category	Unit Failure Rate	Quantity	Total Failure Rate
chicapacitor	50V 0.5pF±0.1pF COG (0201)	Capacitor	0.493467	1	0.493467
chicapacitor	50V 0.8pF±0.1pF COG (0201)	Capacitor	0.493467	1	0.493467
chicapacitor	50V 1.5pF±0.1pF COG (0201)	Capacitor	0.493467	1	0.493467
chicapacitor	50V 12pF ±5% COG (0201)	Capacitor	0.493467	2	0.986934
chicapacitor	10V 100nF±10% X5R (0201)	Capacitor	0.493467	15	7.402005
chicapacitor	6.3V 1.0uF±20% X5R (0201)	Capacitor	0.493467	6	2.960802
chicapacitor	6.3V 4.7uF±20% X5R (1005)	Capacitor	0.493467	1	0.493467
chicapacitor	6.3V 10uF±20% X5R (1608)	Capacitor	0.493467	2	0.986934
chicapacitor	6.3V 22uF±20% X5R (1608)	Capacitor	0.493467	1	0.493467
pellet resistance	0.05W 0Ω ±50mΩ (0201)	Resistor	3.131284	6	18.787704
pellet resistance	0.05W 4.7kΩ ±5% (0201)	Resistor	3.131284	1	3.131284
pellet resistance	0.05W 10kΩ ±5% (0201)	Resistor	3.131284	3	9.393852
pellet resistance	0.05W 100kΩ ±5% (0201)	Resistor	3.131284	2	6.262568
Power inductor	2.2UH±20%, 2016	Inductor	0.82613	1	0.82613
multilayer chip inductor	2.2nH±0.1 nH , 0201	Inductor	0.82613	1	0.82613
multilayer chip inductor	2.7nH±0.1 nH , 0201	Integrated Circuit	0.82613	1	0.82613
IC	WIFI SOC	Integrated Circuit	96.566723	1	96.566723
FLASH	FLASH, 16Mbit, 150mil	Miscellaneous	22.02772	1	22.02772
ESD	PS0402V014AT	Optical Device	110.847616	1	110.847616
SMD Crystal	40MHz, 3225, CL: 15PF/±10PPM	Inductor	68.67497	1	68.67497
PCB (4-Layer)	119.1x62.5mm/12 1.0mm	Connection	111.596826	1	111.596826