



Temperature Cycling Summary

Cage Code	SIZE	Version			
0UC32	A	#	Description	Date	Approved
Document No.		1.2	Add to Docuware	09/14/22	JCG
051-06912		1.1	Added more part numbers	9/14/22	MZ
Test Summary		1.0	Changed format and to Docuware versioning	3/16/21	MG

1. Purpose and Scope

This test is conducted to determine the resistance of a part to extremes of high and low temperatures, and to the effect of alternate exposures to these extremes.

2. Reference

MIL-STD-883, Method 1010
JESD22-A104

ENVIRONMENTAL TEST METHODS FOR MICROCIRCUITS
Temperature Cycling

3. Test Results

Part No.	Description	Condition	Sample Size	Date	Results
ADM-8007PC	MMIC GaAs AMP 1.5 GHz to 38 GHz	-55°C to 125°C, 10 Cycles, 10-minute soak	13	7/19/22	Pass
T3-07LCQG-1	T3 MIXER RF 1-7000MHz +15dBm	-65°C to 100°C. 500 Cycles, 10-minute soak	7	4/25/22	Pass
MT3L-0113LCQG	MMIC T3 COTS Mixer RF 1.5 – 13GHz	-65°C to 100°C. 500 Cycles, 10-minute soak	6	11/11/21	Pass
ATN10-0067	GaAs MMIC Attenuator	-65°C to 125°C. 250 Cycles, 10-minute soak	2	1/11/21	Pass
ATN06-0067	GaAs MMIC Attenuator	65°C to 125°C. 250 Cycles, 10-minute soak	2	1/11/21	Pass
BAL-0020SLG	Broadband Balun 10MHz – 20GHz	-65°C to 125°C. 250 Cycles, 10-minute soak	3	1/5/21	Pass
MT3A-0113LPA	MMIC Two Tone Terminator Mixer	-40°C to 125°C. 250 Cycles, 10-minute soak	4	8/21/20	Pass
BAL-0003SMG		-65°C to 150°C, 250 Cycles, 10-minute soak	3	3/16/20	Pass
APM-6849PA	MMIC Broadband Low Phase Noise	100°C to -65°C. 250 Cycles, 10-minute soak	1	12/2/19	Pass
T3A-07SMG-2	T3A MIXER with integrated amp	125°C to -65°C. 250 Cycles, 10-minute soaks	8	10/4/19	Pass
AMM-6702SM	MMIC Broadband LO Buffer AMP	150°C to -65°C, 500 Cycles, 10-minute soaks	2	8/28/19	Pass
MT3-0113QCQG-2	MMIC triple balanced mixer	150°C to -40°C, 500 Cycles, 10-minute soaks	2	7/26/19	Pass
MT3-0113SCQG-2	MMIC triple balanced mixer	150°C to -40°C, 500 Cycles, 10-minute soaks	2	7/26/19	Pass
BT-0010SMG-2	Bias Tee 20 MHz to 10 GHz	100°C to -55°C, 100 Cycles, 10-minute soaks	22	7/1/19	Pass
BT-0010SMG-2	Bias Tee 20 MHz to 10 GHz	100°C to -55°C, 500 Cycles, 10-minute soaks	6	5/28/19	Pass
MM1-1850HSM-2	MMIC Mixer RF 18 - 50 GHz	150°C to -65°C, 500 Cycles, 10-minute soaks	3	5/21/19	Pass
MEQ3-14ASM	MMIC Equalizer 14 GHz 3 dB	150°C to -65°C, 500 Cycles, 10-minute soaks	4	4/15/19	Pass
MEQ6-14ASM	MMIC Equalizer 14 GHz 6 dB	150°C to -65°C, 500 Cycles, 10-minute soaks	4	4/15/19	Pass
MEQ10-14ASM	MMIC Equalizer 14 GHz 10 dB	150°C to -65°C, 500 Cycles, 10-minute soaks	4	4/15/19	Pass
MEQ12-7ASM	MMIC Equalizer 7 GHz 12.5 dB	150°C to -65°C, 500 Cycles, 10-minute soaks	11	4/15/19	Pass
MEQ3-20ASM	MMIC Equalizer 20 GHz 3 dB	150°C to -65°C, 500 Cycles, 10-minute soaks	3	4/15/19	Pass
MEQ5-20ASM	MMIC Equalizer 20 GHz 5 dB	150°C to -65°C, 500 Cycles, 10-minute soaks	3	4/15/19	Pass

PD-0010	Power Divider DC-10 GHz	100°C to -55°C, 500 Cycles, 10-minute soaks	1	4/11/19	Pass
PD-0020G	Power Divider DC-20 GHz	100°C to -55°C, 500 Cycles, 10-minute soaks	1	4/11/19	Pass
MT3H-0113HS	MMIC T3 COTS Mixer RF 1.5 - 13	100°C to -55°C, 500 Cycles, 10-minute soaks	1	4/11/19	Pass
BT-0010SMG-2	Bias Tee 20 MHz to 10 GHz	125°C to -55°C, 500 Cycles, 10-minutes soak	21	12/26/18	Pass
MT3-0113LCQG-2	MMIC T3 COTS Mixer RF 1.5 - 13	125°C to -55°C, 500 Cycles, 10-minutes soak	19	12/14/18	Pass
MM2K-0530LCH-2	MMIC Mixer 5 - 30 GHz	150°C to -65°C, 10 Cycles, 10-minutes soak	12	8/1/18	Pass
T3A Mixer	T3 Mixer with integrated amp	85°C to -55°C, 25 Cycles, 15-minutes soak	21	5/5/2018	Pass
M1-0420LP	Mixer RF 4-20 GHz +7 dBm A pkg	125°C to -55°C 100 Cycles 10 minutes soak	3	2/5/18	Pass
M1-0420HP	Mixer RF 4-20 GHz +16 dBm A pkg	125°C to -55°C 100 Cycles 10 minutes soak	3	2/5/18	Pass
MM1K-1140HCH-2	MMIC Mixer RF 11 - 40 GHz	150°C to -65°C 10 Cycles 10 minutes soak	12	11/20/17	Pass
T3A Mixer	T3 Mixer with integrated amp	85°C to -55°C 25 Cycles 15 minutes soak	81	10/25/2017	Pass
BT - Bias Tee	Bias Tee Surface Mount	100°C to -40°C 300 Cycles 15 minutes soak	215	10/16/2017	Pass
T3A Mixer	T3 Mixer with integrated amp	85°C to -55°C 25 Cycles 15 minutes soak	73	5/26/2017	Pass
T3A Mixer	T3 Mixer with integrated amp	85°C to -55°C 25 Cycles 15 minutes soak	63	1/6/2017	Pass
T3A Mixer	T3 Mixer with integrated amp	85°C to -55°C 25 Cycles 15 minutes soak	29	9/17/2016	Pass
T3A Mixer	T3 Mixer with integrated amp	85°C to -55°C 25 Cycles 15 minutes soak	31	3/26/2016	Pass
T3A Mixer	T3 Mixer with integrated amp	85°C to -55°C 25 Cycles 15 minutes soak	27	2/8/2016	Pass
T3A Mixer	T3 Mixer with integrated amp	85°C to -55°C 25 Cycles 15 minutes soak	42	1/29/2016	Pass
T3A Mixer	T3 Mixer with integrated amp	85°C to -55°C 25 Cycles 15 minutes soak	38	1/19/2016	Pass
T3A Mixer	T3 Mixer with integrated amp	85°C to -55°C 25 Cycles 15 minutes soak	68	12/21/2015	Pass

The T3A Mixer is one of the most complicated devices built at Marki Microwave. By using this device as our qualification vehicle, it effectively qualifies all of the materials and processes used in all of our various products.

This T3 Mixer with integrated amp technology utilizes wire bonding, epoxy die attach, PCB soldering and hermetic seal. The T3 Mixer with integrated amp contains 63/37 solder, Ferrite Cores, Bi-filar wires, 100 mil Conical coils, chip capacitors, Integrated chip Amplifier, 0402 capacitors and resistors, Kovar standoff and T3 Mixer diodes.

By similarity any product using the same assembly techniques and materials can use these results for qualification.

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