Analysis Report - 2000-1994

Customer Name:		**Purchase Order:**	
Part Number:	MAX831CWE	**Lot/Date Code:**	
Manufacturer:	MAXIM	**Devices Received:**	5

Summary Of Inspection Results

Test-Process Operation	Quantity Inspected	Pass	Fail	Date	N/A	Comments / Observations
Incoming Inspection (SAE AS5553, Paragraph: E.1.1)						
Condition Observed	5	5	0	2012-10-03		Devices were received in acceptable condition. Total 5 devices, date code 0015.
External Visual Inspection (SAE AS5553, Paragraph: E.1.2 and MIL-STD-883, Method 2009.9)						
Condition Observed	5	5	0	2012-10-03		No anomalies were found. Devices passed visual inspection.
Package Inspection (SAE AS5553, Paragraph: E.1.2 and MIL-STD-883, Method 2009.9)						
Dimensions	1	1	0	2012-10-03		Dimensions match datasheet specification
Re-Surfacing / Re-Marking Testing (SAE AS5553 Paragraph:E.1.3 and MIL-STD-202 Method 215 and JESD22-B107C)						
Acetone Test	3	3	0	2012-10-03		No marking or secondary coating was removed.
Heated Chemical Test					X	
Internal Inspection (Decapsulation) (MIL-STD-883, Method 2014)						
Die Verification	1	1	0	2012-10-03		Internal inspection was performed on 1 device with date code 0015. Device revealed Maxim logo with 94 copyright. Die marking PW15Y was also found. Device confirmed to be a Maxim device. 1 device was destroyed for decapsulation purpose.
X-Ray Inspection (SAE AS5553, Paragraph: E.1.4 and MIL-STD-883, Method 2012.7)						
Die Construction	3	3	0	2012-10-03		Die construction and size are all the same. No anomalies were found.
XRF Inspection						
Non RoHS Compliant	3	3	0	2012-10-03		Pb > 1000ppm.
Electrical Test (MIL-STD-883 and Manufacturer Specification)						
Curve Tracer Test TA = 25˚C					X	
DC Limited Function Test TA = 25˚C	4	4	0	2012-10-03		MAX831CWE (Maxim): Input: 8Vdc-30Vdc, Output: 5Vdc/1A max. in 16-pins SOIC Tested 4, Passed: 4 functionally at 25C.
DC Function Test TA = -40˚C, 25˚C, 85˚C					X	
DC Function Test TA = -55˚C, 25˚C, 155˚C					X	
Memory Test TA = 25˚C					X	
Solderability Test (MIL-STD-883 Method 203.8 and J-STD-002)						
Hot Solder Dip	1	1	0	2012-10-03		Device was inspected under 20X magnification. All leads indicated to have over 95% solder coverage. No pinholes or voids are found.
Final (Outgoing Packaging) (IPC/JEDEC J-STD-033B.1)						
Baking / Dry-Pack					X	

Prepared by:		**Generated On:**
Approved by:		**Page:**
		Page **1** Of 16

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

Incoming Inspection (SAE AS5553, Paragraph: E.1.1)

Results Summary
Devices were received in acceptable condition. Total 5 devices, date code 0015.

Criteria	Acceptable	Suspect	Not Acceptable	N/A	Comments / Observations
Conditions					
ESD Protection	X				
Humidity Indicator Card (HIC) pass H2O Test	X				
Correct MSL Packaging				X	
Documents Match	X				
Country of Origin Match	X				Philippines
Box Damaged	X				
Type of Package	X				Tube

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

External Visual Inspection (SAE AS5553, Paragraph: E.1.2 and MIL-STD-883, Method 2009.9)

Criteria	Acceptable	Suspect	Not Acceptable	N/A	Comments / Observations
External Conditions					
Markings - Top	X				New Condition
Pin 1 Cavity - Top	X				
Markings - Bottom	X				
Indents - Bottom				X	
Country of Origin	X				Philippines
Mold Mark				X	
Lead Conditions					
Alignment	X				New Condition
Formation / Scratches	X				
Plating Composition	X				
Plating Quality	X				
Residue	X				
Package Conditions					
Dimensions	X				16-Pin SOIC W
Construction Quality	X				
Re-Surfacing / Re-Marking Testing (SAE AS5553 Paragraph:E.1.3 and MIL-STD-202 Method 215 and JESD22-B107C)					
Acetone Test	X				No secondary coating or marking was removed.
Heated Chemical Test				X	

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

Images For External Visual Inspection.

Figure 1. TOP

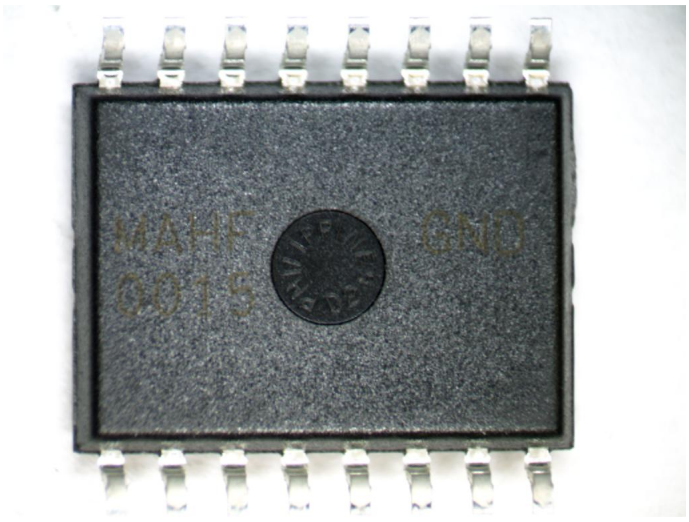

Figure 2. BOTTOM

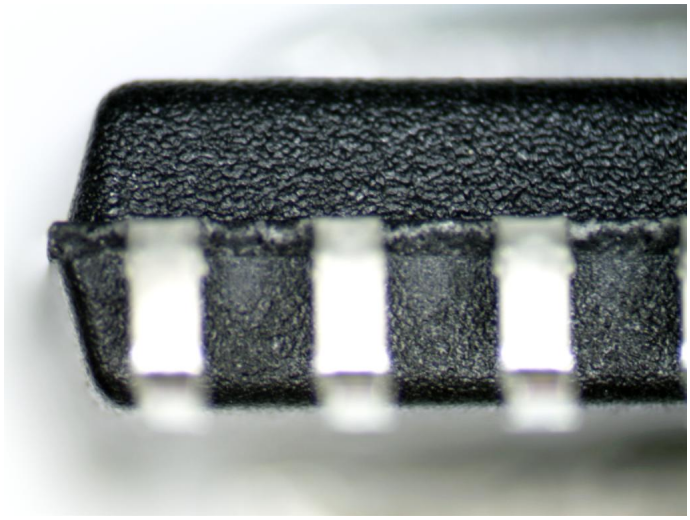

Figure 3. SIDE

Figure 4. BOTTOM PIN

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

Figure 5. LEADS VIEW 1

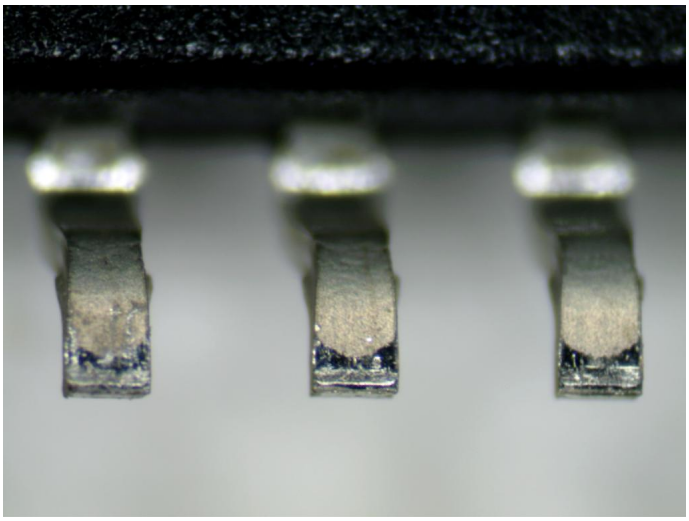

Figure 6. LEADS VIEW 2

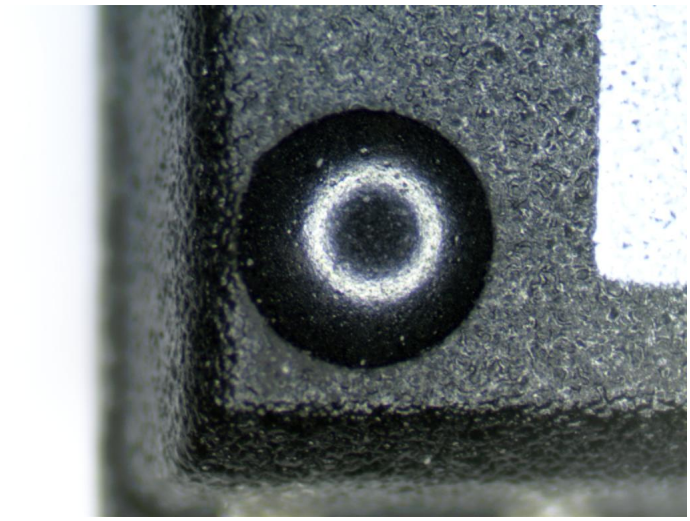

Figure 7. TOP PIN

Figure 8. AFTER PERMANENCY SAMPLE 1

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

Figure 9. AFTER PERMANENCY SAMPLE 2

Figure 10. AFTER PERMANENCY SAMPLE 3

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

Internal Inspection (Decapsulation) (MIL-STD-883, Method 2014)

Results Summary
Internal inspection was performed on 1 device with date code 0015. Device revealed Maxim logo with 94 copyright. Die marking PW15Y was also found. Device confirmed to be a Maxim device.

Criteria	Acceptable	Suspect	Not Acceptable	N/A	Comments / Observations
Internal Visual Inspection)					
Die Topography	X				
Die Markings	X				

Images For Internal Inspection (Decapsulation).

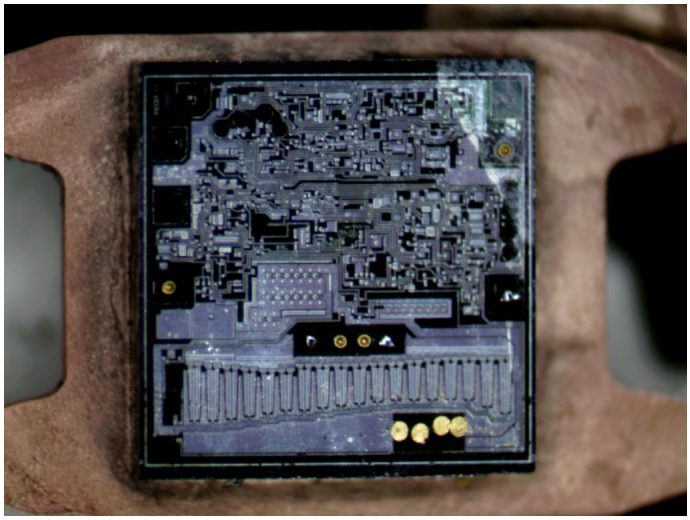

Figure 11. DIE TOPOGRAPHY

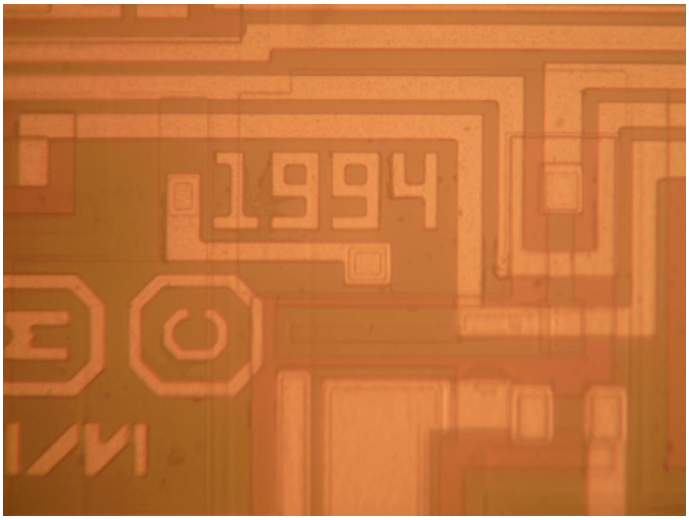

Figure 12. DIE DATE CODE

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

Figure 13. DIE NUMBER

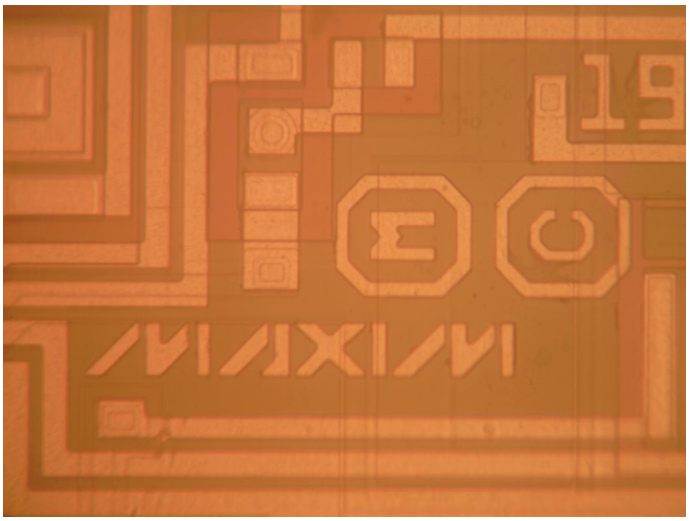

Figure 14. DIE LOGO

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Approved by:		**Page:** Page **8** Of 16

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

X-Ray Analysis (SAE AS5553, Paragraph: E.1.4 and MIL-STD-883, Method 2012.7)

Results Summary
3 samples of date code 0015 were X-ray. Die construction and size are all the same. No anomalies were found.

Criteria	Acceptable	Suspect	Not Acceptable	N/A	Comments / Observations
X-Ray Analysis					
Die Construction	X				
Wire Bond Layout/Quality	X				
Lead Conditions					

Images For X-Ray Analysis.

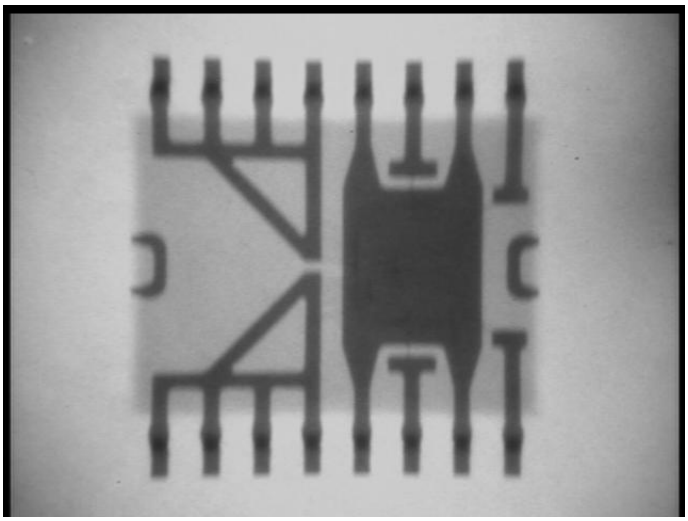


Figure 15. XRAY SAMPLE 1

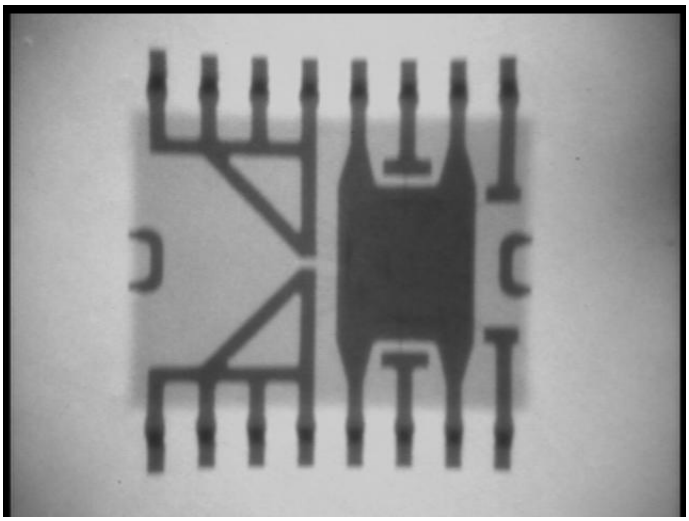


Figure 16. XRAY SAMPLE 2

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

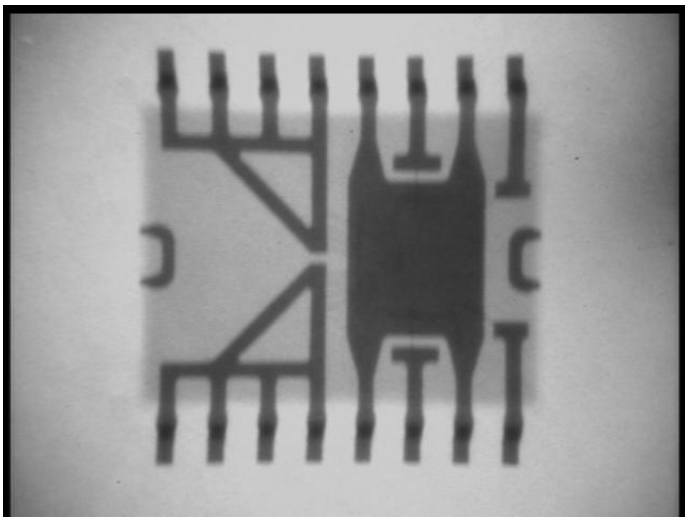


Figure 17. XRAY SAMPLE 3

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

XRF Analysis

Results Summary
The EU RoHS Directive (2011/65/EU) restricts the maximum allowable levels of lead (Pb), cadmium (Cd), mercury (Hg), hexavalent chromium (Cr6), polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants to 0.1% or 1000 ppm (except for cadmium, which is limited to 0.01% or 100 ppm) by weight of homogeneous material in electrical equipment and electronic products. In order to manufacture these products within or import into the European Union, manufacturers are responsible for providing due diligence documentation.

Criteria	Acceptable	Suspect	Not Acceptable	N/A	Comments / Observations
XRF Analysis					
Non RoHS Compliance	X				Pb > 1000ppm

Images For XRF Analysis.

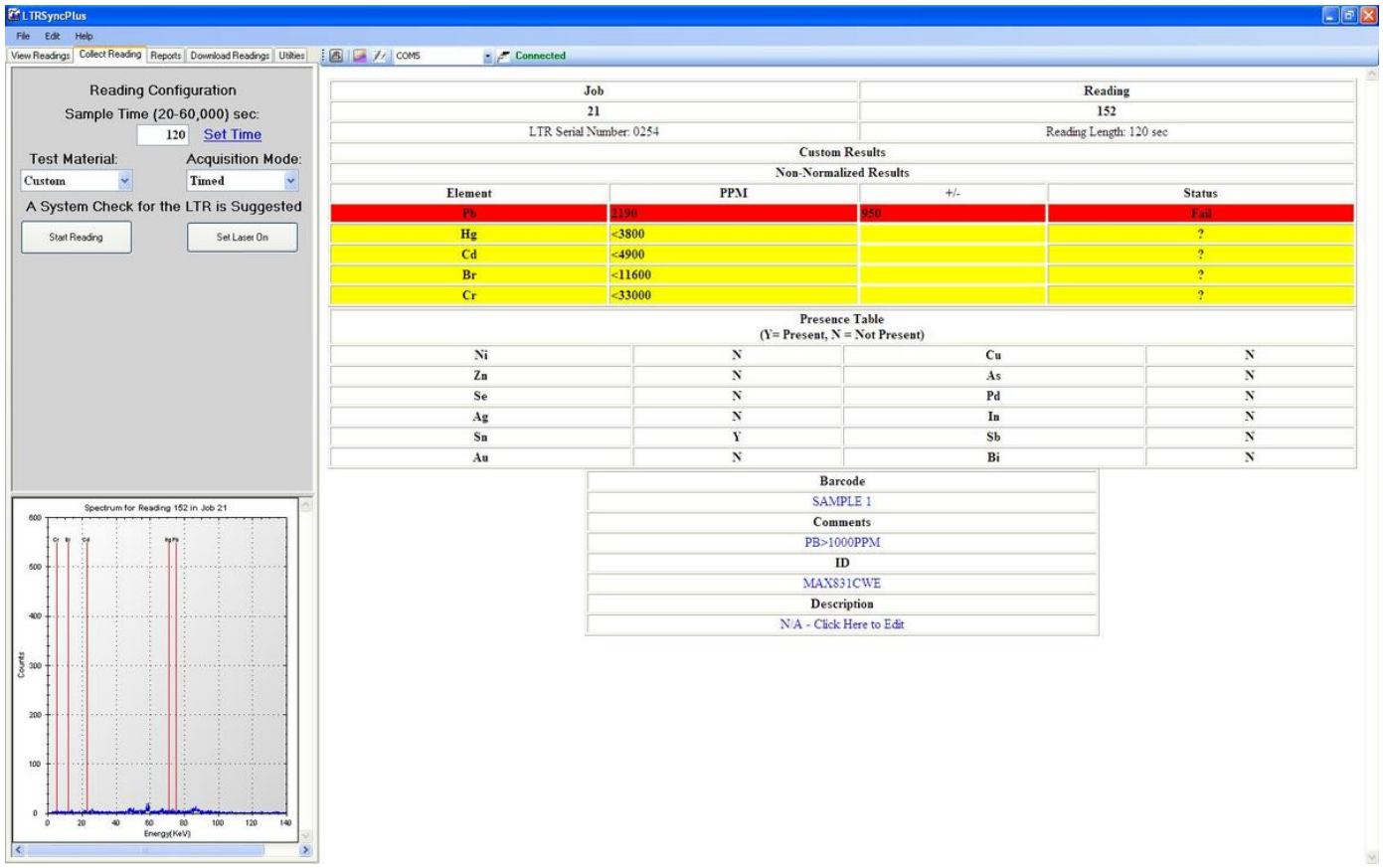
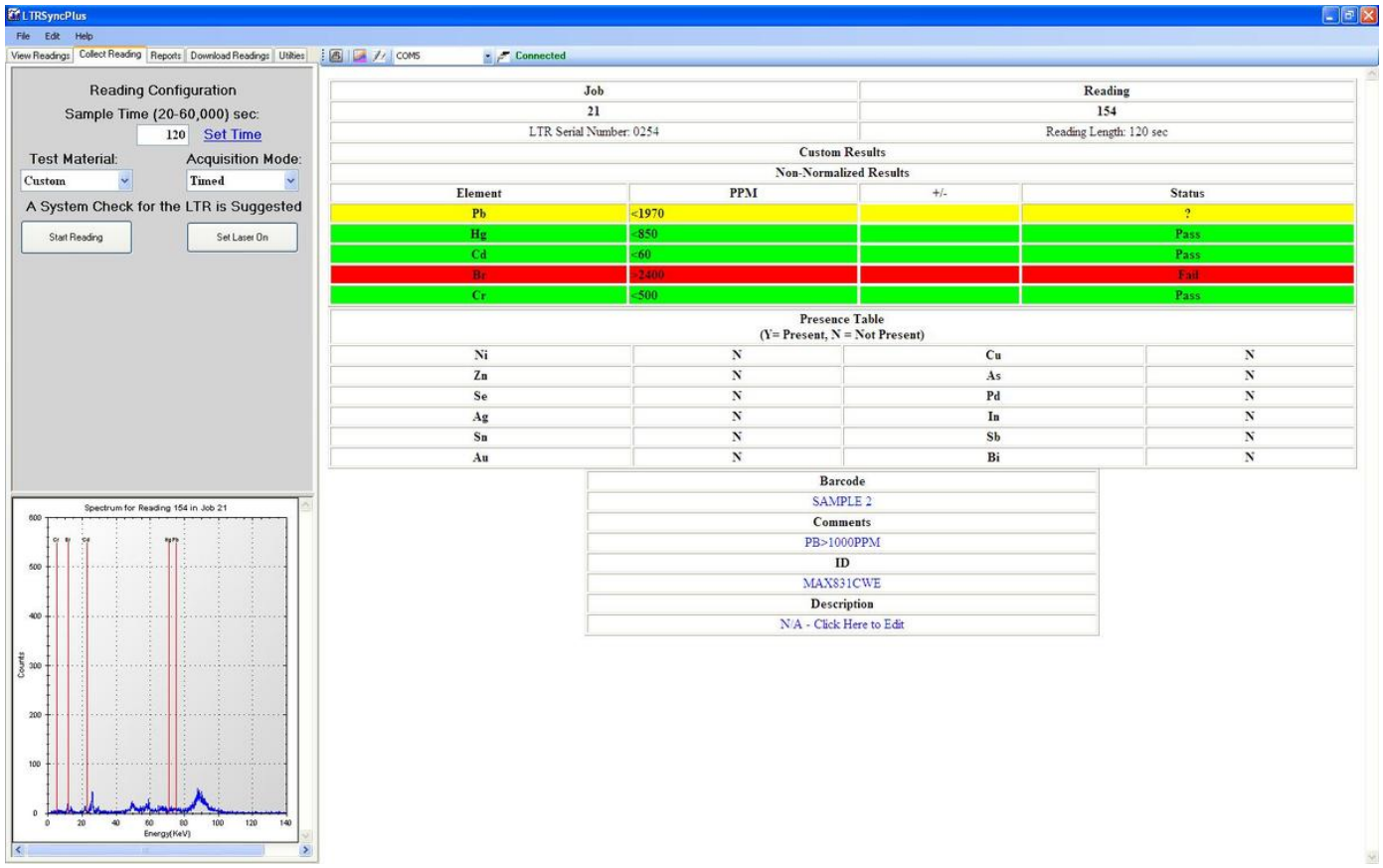


Figure 18. XRF SAMPLE 1

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5



Job	Reading
21	154
LTR Serial Number: 0254	Reading Length: 120 sec

Custom Results

Non-Normalized Results

Element	PPM	+/-	Status
Pb	<1970		?
Hg	<850		Pass
Cd	<60		Pass
Br	>2400		Fail
Cr	<500		Pass

Presence Table
(Y= Present, N = Not Present)

Ni	N	Cu	N
Zn	N	As	N
Se	N	Pd	N
Ag	N	In	N
Sn	N	Sb	N
Au	N	Bi	N

Barcode
SAMPLE 2
Comments
PB>1000PPM
ID
MAX831CWE
Description
N/A - Click Here to Edit

Figure 19. XRF SAMPLE 2

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

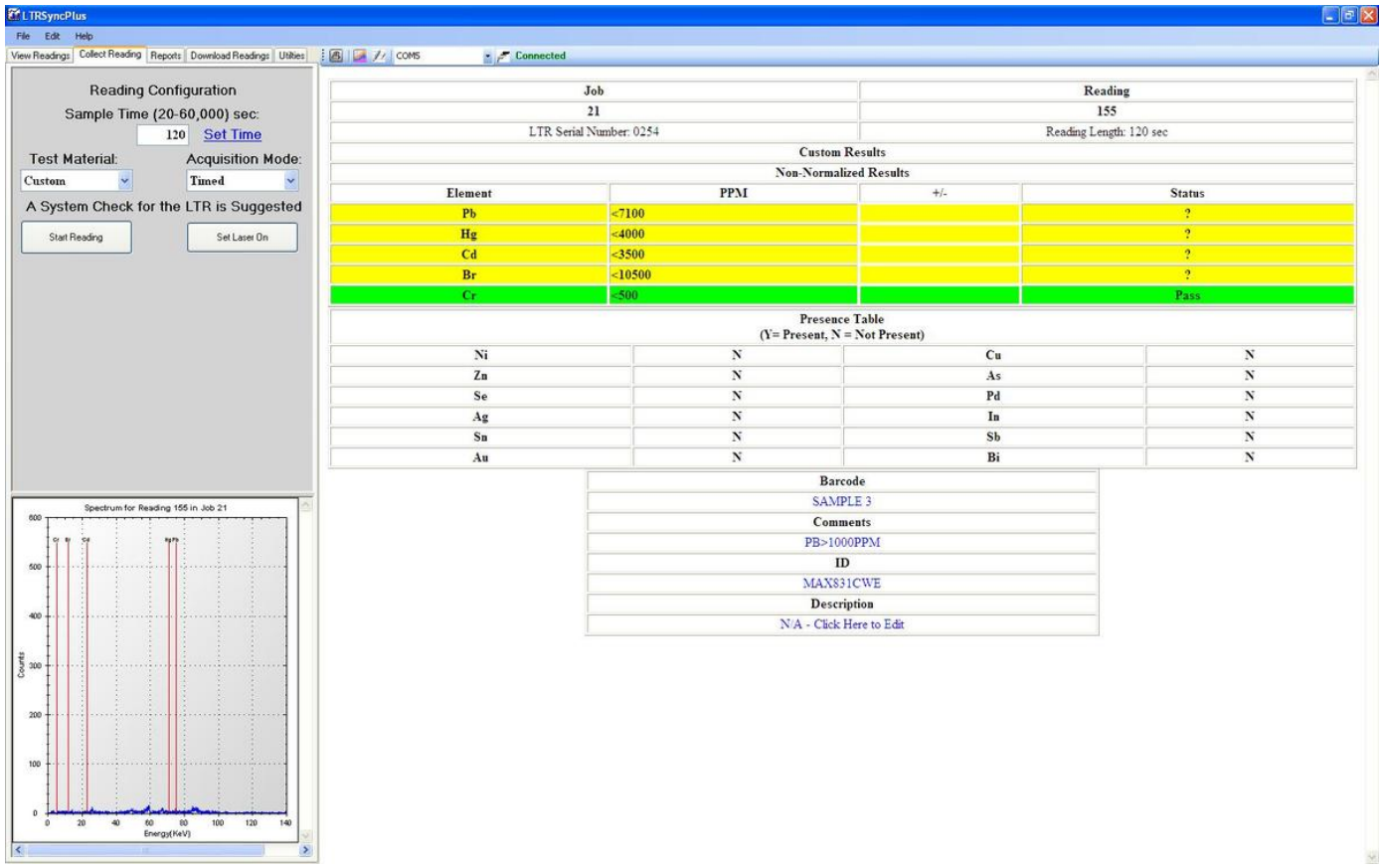


Figure 20. XRF SAMPLE 3

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

Electrical Test (MIL-STD-883 and Manufacturer Specification)

Results Summary
MAX831CWE (Maxim): Input: 8Vdc-30Vdc, Output: 5Vdc/1A max. in 16-pins SOIC
Tested 4, Passed: 4 functionally at 25C.

Test-Process Operation	Quantity Inspected	Pass	Fail	Date	N/A	Comments / Observations
Electrical Test (MIL-STD-883 and Manufacturer Specification)						
Curve Tracer Test TA = 25˚C					X	
DC Limited Function Test TA = 25˚C	4	4	0	2012-10-03		
DC Function Test TA = -40˚C, 25˚C, 85˚C					X	
DC Function Test TA = -55˚C, 25˚C, 155˚C					X	
Memory Test TA = 25˚C					X	

Images For Electrical Test.

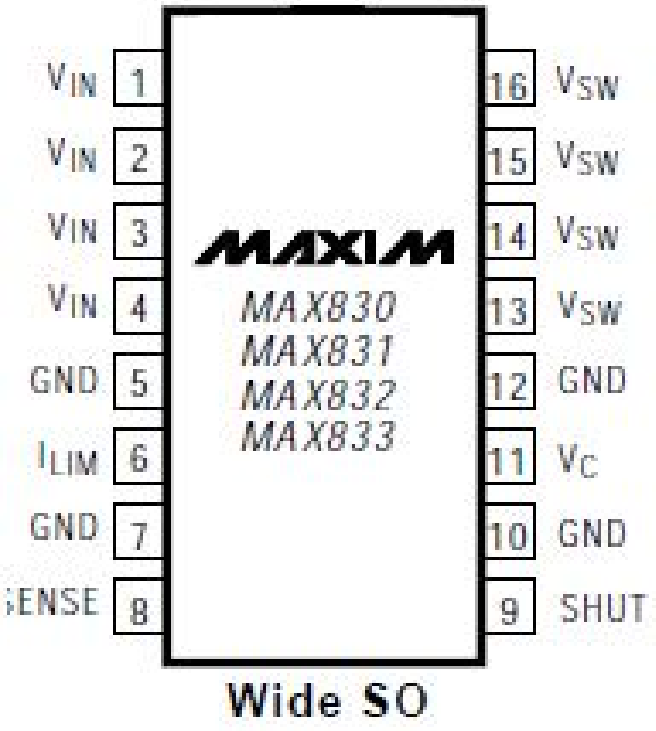


Figure 21. PINOUT DIAGRAM

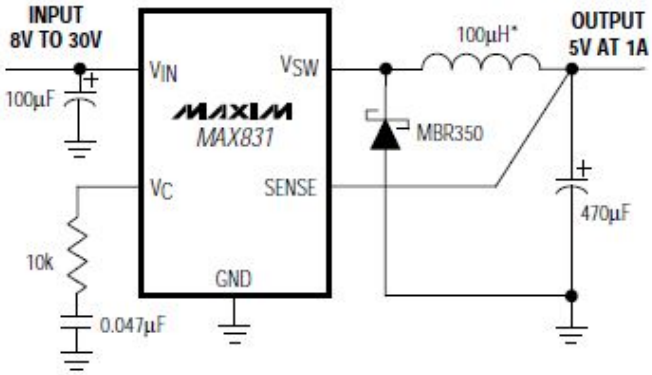


Figure 22. TEST SETUP

Prepared by:	Disclaimer	Generated On:
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		Page **14** Of 16

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

MAX831CWE pin out diagram in 16 pin SOIC

Test Setup: Feed in 20.0Vdc thru Vin, measure at Output for 5Vdc via 100 ohm load (50mA)
Also verify when pin 9 (Shut) is tied to Low, the DUT is shut down as expected (0V at Output)

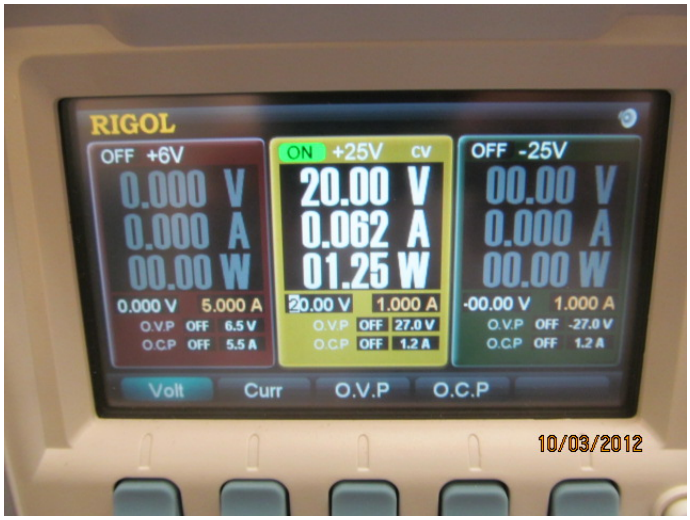

Figure 23. PS

Figure 24. VOUT16WNOSHUTTDWNPASS

Feed in 20.0Vdc to Vin (pins 1, 2, 3 and 4)

Output is measured as 5.0Vdc as expected for MAX831 device.

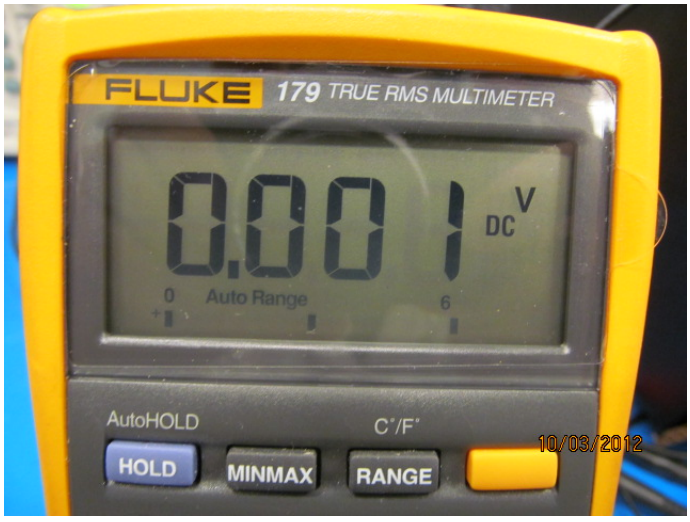

Figure 25. VOUT16WSHUTDOWNPASS

Verified when pin 9 (Shut) is tied to Low, the DUT is shut down as expected (0V at Output)

	Analysis Report - 2000-1994			
	Customer Name:		**Purchase Order:**	
	Part Number:	MAX831CWE	**Lot/Date Code:**	
	Manufacturer:	MAXIM	**Devices Received:**	5

Solderability Test (MIL-STD-883 Method 203.8 and J-STD-002)

Results Summary
1 device from date code 0015 was tested using dip and look method. Device was inspected under 20X magnification. All leads indicated to have over 95% solder coverage. No pinholes or voids are found.

Criteria	Acceptable	Suspect	Not Acceptable	N/A	Comments / Observations
Solderability Test					
Lead Conditions	X				

Images For Solderability Test.

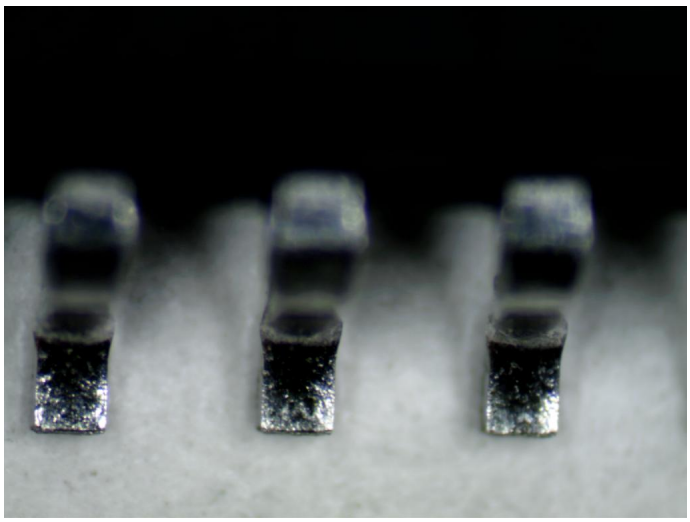

Figure 26. SOLDER LEADS VIEW 1

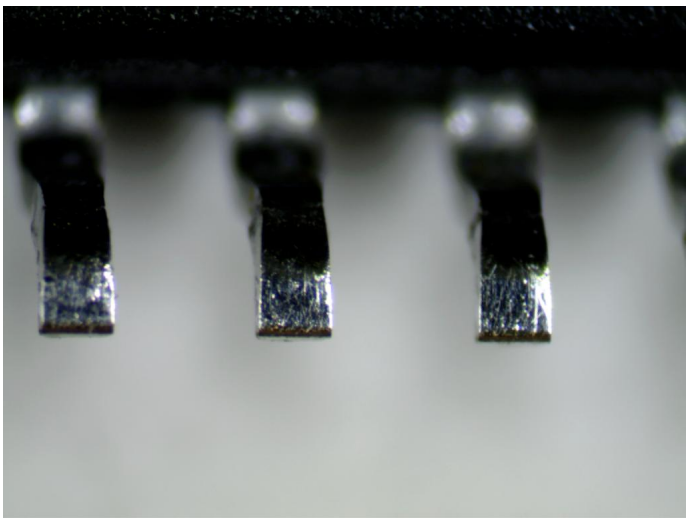

Figure 27. SOLDER LEADS VIEW 2