



# Agilent HFCT-594xL/AL/TL/ATL and HFCT-5921TL Metalized Nose Qualification Report

## Reliability Data Sheet

### Summary

The build standard change to the HFCT-594xL/AL/TL/ATL and HFCT-5921TL transceivers has been successfully qualified in accordance with the requirements of Agilent Quality and Reliability Engineering.

This report summarizes the Qualification testing performed on the new variant housing over the defined test regime.

### Introduction

The transceivers covered by this report are high performance, cost effective modules for serial optical data communications applications specified for a bit rate of 2.125 Gb/s and 2.5 Gb/s.

These modules are designed for single mode fiber and operate at a nominal wavelength of 1300 nm. The design incorporates Agilent's high performance and reliable long wavelength optical devices and proven circuit technology to give long life and consistent service.

To provide more consistent EMC performance it has been necessary to metalize the nose of the plastic molded housing.

### Results

Appendix A gives a top-level summary of the qualification test legs, test reference, condition and sample size.

Appendix B contains a full set of results summarizing the changes in transmitter output power and receiver sensitivity over the test legs performed on the modules.

### Conclusions

At the time of publication of this report, the change to the LC pin-through-hole small form factor housing has successfully passed the design qualification as defined by the Agilent Quality and Reliability Department.

## Appendix A. Metalized Nose Qualification Test Status

Leg	Test	Reference	Condition	Status	No. Tested	No. Passed
D1	Damp Heat	MIL-STD-202F Method 103	85°C/85% RH 1000 hours	Pass	3 housings	3 <sup>1</sup>
D2	Mate/Demate		250 cycles	Pass	5 modules	5
D3	Contact Discharge ESD	IEC61000-4-2	8kV to nose	Pass	3 modules	3

### Note:

1. Visual inspection only was performed on these housings with the aim of establishing any apparent change in the quality of the metalization.



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## Appendix B. Metalized Nose Detailed Qualification Results

### Mate/Demate

250 cycles, +25 °C

Device	Pre		Post		Delta	
	Power (dBm)	Sensitivity (@2.5G, PRBS 2 <sup>23</sup> )	Power (dBm)	Sensitivity (@2.5G, PRBS 2 <sup>23</sup> )	Power (dBm)	Sensitivity (@2.5G, PRBS 2 <sup>23</sup> )
1	-3.03	-25.1	-3.14	-24.8	-0.11	0.3
2	-2.35	-24.2	-2.27	-24.1	0.08	0.1
3	-3.27	-25.2	-3.20	-25.2	0.07	0
4	-6.45	-25.1	-6.47	-25.2	-0.02	-0.1
5	-6.66	-25.3	-6.53	-25.4	0.13	-0.1

### Contact Discharge ESD

IEC61000-4-2, 8 kV to nose, +25 °C

Device	Pre		Post		Delta	
	Power (dBm)	Sensitivity (@2.5G, PRBS 2 <sup>23</sup> )	Power (dBm)	Sensitivity (@2.5G, PRBS 2 <sup>23</sup> )	Power (dBm)	Sensitivity (@2.5G, PRBS 2 <sup>23</sup> )
1	-2.71	-26.01	-2.71	-25.86	0	0.15
2	-1.87	-26.06	-1.87	-25.87	0	0.19
3	-6.73	-26.45	-6.71	-26.18	0.02	0.27

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