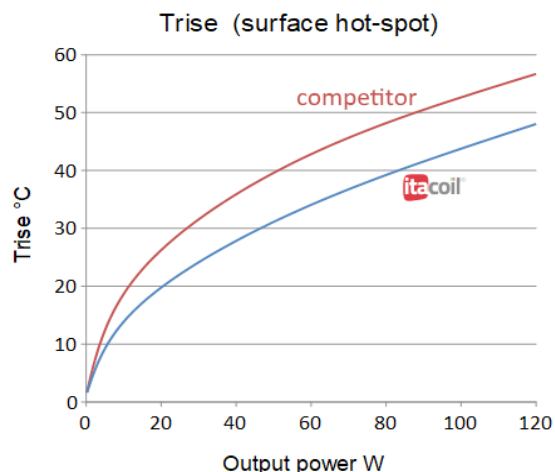
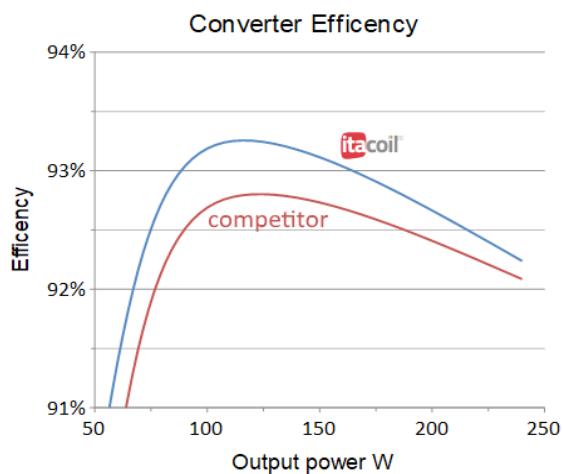


**Transformer comparative test**  
original Vs Itacoil resonant transformer<sup>(1)</sup>

		120W LOAD		
		ORIGINAL	itacoil®	
Input voltage		229,9	229,9	Vac
Input current		0,617	0,613	Aac
Input power		129,8	128,8	W
Output voltage		12,05	12,01	Vdc
Output current		9,994	9,995	Adc
Output power		120,4	120,1	W
Switching frequency		95,5	98,6	KHz
Board Efficiency		92,80	<b>93,25</b>	%
Total power loss @120W			<b>-0,65 (-6,9%)</b>	W
<b>Temperatures</b>				
Ambient		28,4	29,6	°C
T <sub>rise Prim</sub>		55,1	45,6	°C
T <sub>rise Sec</sub>		56,7	48,1	°C
T <sub>rise Core</sub>		44,3	41,9	°C

**TEST CONDITIONS AND NOTES**

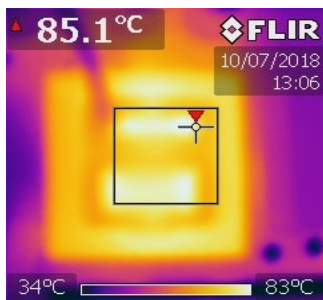
- Test performed on NXP®TEA1916DB1262 demo-board, LLC resonant converter with PFC stage and synchronous rectification based on TEA19161T, TEA19162T and TEA1995T. [\(demo-board user guide\)](#)
- The board requires air cooling at max power; for an accurate comparison the test at thermal regime has been performed at half power, without air cooling.
- The Itacoil tank is designed to work with the original 33nF resonant capacitor.
- The LLC transformer only has been replaced, no other improvement applied.



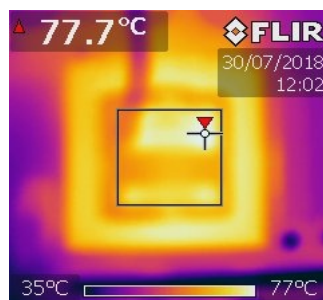
**TEST RESULTS**

The Itacoil transformer, designed to have the same dimensions and pin layout, achieves higher efficiency and lower Trise. The overall board performances are shown, the estimated loss improvement of the LLC stage is -9,5% about. Further improvements are possible by extended optimization.

ORIGINAL TRANSFORMER (@120W, t<sub>a</sub>=28,4°C)



ITACOIL TRANSFORMER (@120W, t<sub>a</sub>=29,6°C)



- BENEFITS OF TRANSFORMER DESIGN BY ITACOIL® PROPRIETARY SOFTWARE**
- smaller and lighter components
  - optimized power loss
  - best LLC stage efficiency
  - cost optimization
  - **first time success of your project**

(1) Transformer for lab test purpose only, not available as product sampling. Optimized design provided on request.

Every effort has been made to maximize the accuracy of the contents of this report. However no responsibility will be accepted for any inaccuracy. Each product must be analyzed and tested in the final equipment in order to verify that it meets all technical and safety requirements. Also consider normal tolerances before using. All informations are confidential. Any reproduction without written authorization is forbidden. Subject to change without notice.