LANTRONIX®

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900-564 Rev. B

Notification: Soldering Profiles and Washing

This notification provides guidance in developing a manufacturing assembly process for several of Lantronix's embedded products.

Table 1 summarizes product family compatibility to manufacturing soldering & washing processes. The recommended profile details for compatible products are described in following sections.

Process / Product	*Reflow Soldering [Profile]*	*Wave Soldering [Profile]*	*Hand Soldering [Profile]*	*Washing*
xPort® **xPort® Pro**	Not Compatible (*1)	Compatible [WS-A]	Compatible [HS-A]	Not Compatible (*5)
XPort AR®	Not Compatible (*2)	Compatible [WS-A]	Compatible [HS-A]	Not Compatible (*5)
xPort® Direct+	Not Compatible (*3)	Compatible [WS-B]	Compatible [HS-B]	Not Compatible (*5)
MatchPort® b/g **MatchPort® b/g Pro** **MatchPort® AR** *(With plastic cover)*	Not Compatible (*3)	Compatible [WS-A]	Compatible [HS-A]	Not Compatible (*5)
MatchPort® **MatchPort® Pro** *(No plastic cover)*	Compatible [RS] but limited (*6)	Compatible [WS-A]	Compatible [HS-A]	Not Recommended (*5)
WiPort® **WiPort® NR**	Not Compatible (*4)	Compatible [WS-A]	Compatible [HS-A]	Not Compatible (*5)
PremierWave® EN **PremierWave® NR**	Not Applicable	Not Applicable	Not Applicable	Not Compatible (*5)
xPico® **xPico® Wi-Fi**	Not Applicable	Not Applicable	Not Applicable	Not Compatible (*5)

Table 1 - Product & Process Compatibility Matrix

Notes
*1 - Exposing product to reflow process can deform plastic material causing interference with RJ45 pin movement & insertion of Ethernet plug into jack. Do not use in reflow ovens, or process using paste-in-hole reflow.
*2 - Exposing product to reflow process can deform barcode label, making label unreadable. Do not use in reflow ovens, or process using paste-in-hole reflow.
*3 – Exposing product (with plastic cover) to reflow process can deform plastic cover. Do not use in reflow ovens, or process using paste-in-hole reflow.
*4 - Exposing product to long or multi-reflow process can disturb internal connector's soldering, resulting in failure at mounting connector.
*5 - Washing is a process to remove manufacturing process contaminants, typically after soldering. Washing enclosed products can force outside contaminants to become trapped inside product and affect product function.
*6 – Exposure limited to 1 reflow cycle.

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[RS] Reflow Soldering Compatible – Recommended Profile

Profile Feature	Recommendation
Preheat & Soak Temperature minimum (Tsmin) Temperature maximum (Tsmax) Time (Tsmin to Tsmax) (t_s)	 150°C 200°C 60-120 seconds
Average ramp-up rate (Tsmax to T_p)	3°C/second maximum
Liquidous temperature (T_L) Time at Liquidous (t)	217°C 40-90 seconds
Peak Temperature(T_p)	245°C
Time (t_p) within 5 °C of the specified classification temperature (Tc)	20 seconds
Average ramp-down rate (T_p to Tsmax)	6°C/second maximum
Time 25 °C to peak temperature	8 minutes maximum

Table 2 – Recommended Reflow Profile [RS] for Compatible Products

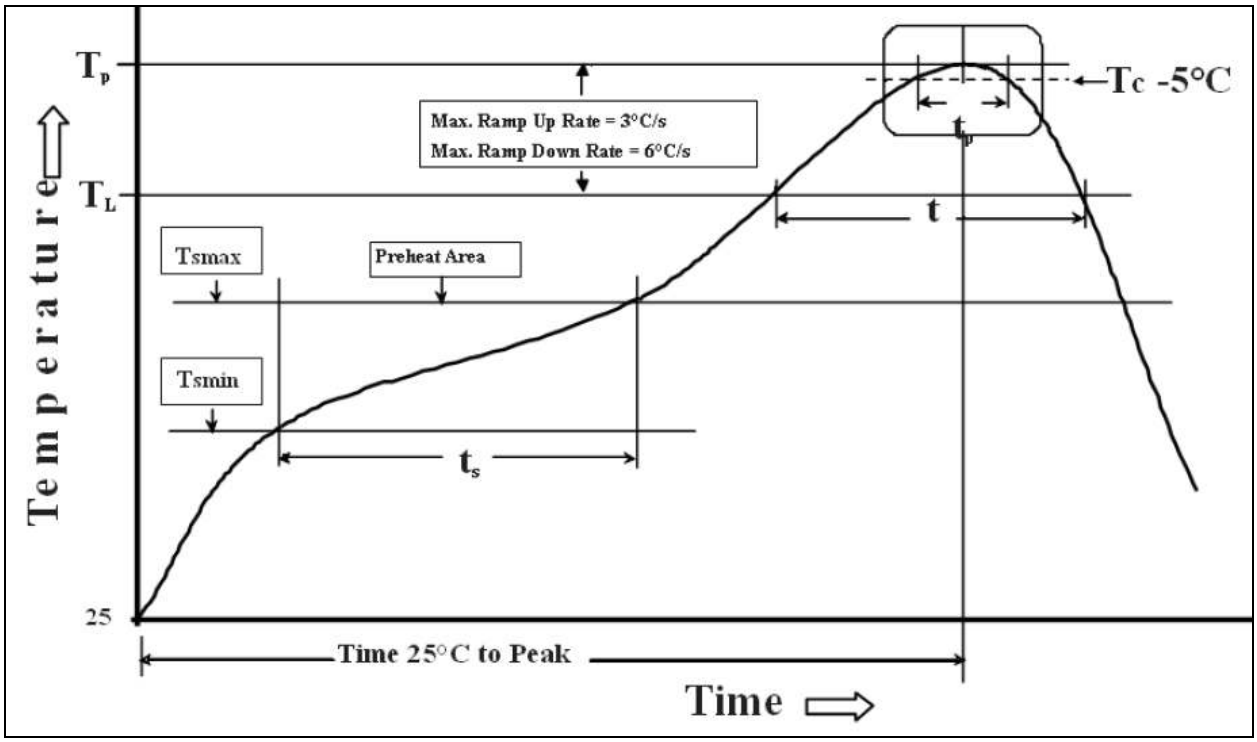

Figure 1 – Recommended Reflow Profile [RS] for Compatible Products

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[WS-A] Wave Soldering Compatible – Recommended Profile

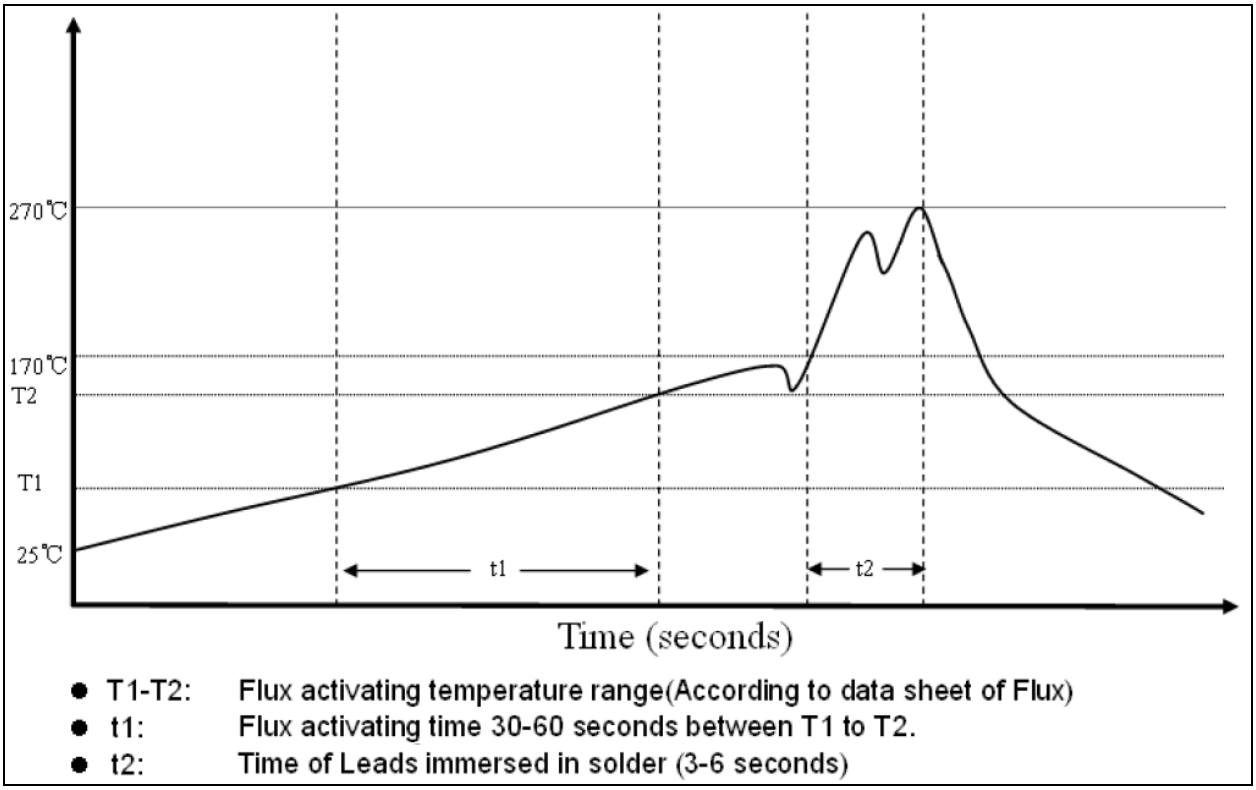

Figure 2 – Recommended Wave Soldering Profile [WS-A] for Compatible Products

Profile is temperature at soldered pins.

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[WS-B] Wave Soldering Compatible – Recommended Profile

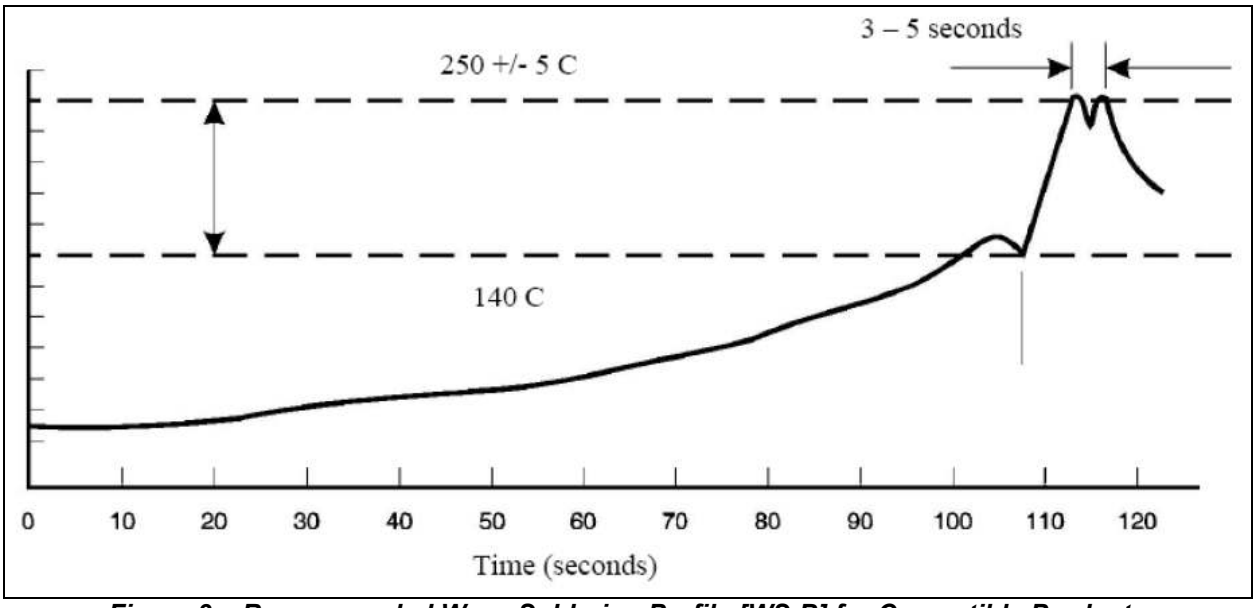

Figure 3 – Recommended Wave Soldering Profile [WS-B] for Compatible Products

Profile is temperature at soldered pins.
Pins immersed in solder 3 to 5 seconds.

[HS-A] Hand Soldering Compatible – Recommended Profile

60 Watt soldering iron, tip temperature 380°C +/- 30°C, maximum 10 seconds.

[HS-B] Hand Soldering Compatible – Recommended Profile

50 Watt soldering iron, tip temperature 340°C +/- 30°C, maximum 5 seconds.