



PRODUCT / PROCESS CHANGE NOTIFICATION
PCN-000774

Date: November 4, 2021

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Semtech Corporation, 200 Flynn Road, Camarillo CA 93012

Change Details

Part Number(s) Affected: SX1280IMLTRT SX1281IMLTRT	Customer Part Number(s) Affected: <input checked="" type="checkbox"/> N/A
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Description, Purpose and Effect of Change:

For business continuity purposes, Semtech will start using qualified second-sources for assembly for the above-mentioned parts.

The assembly of these parts is currently performed at Carsem (Malaysia). Second-source assembly has been qualified at Greatek (Taiwan).

Change Classification	<input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor	Impact to Form, Fit, Function	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Impact to Data Sheet	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	New Revision or Date	<input checked="" type="checkbox"/> N/A

Impact to Performance, Characteristics or Reliability:

No impact to performance, characteristics or reliability is expected as a result of this change.

Implementation Date	February 4, 2022	Work Week	2206
Last Time Ship (LTS) Of unchanged product	N/A	Affecting Lot No. / Serial No. (SN)	N/A
Sample Availability	November 4, 2021	Qualification Report Availability	November 4, 2021

Supporting Documents for Change Validation/Attachments:

- From-To analysis
- Reliability qualification report available upon request.

Issuing Authority

Semtech Business Unit:	Wireless and Sensing Product Group
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PCN No. 000774
Qualification of Greatek Taiwan for SX1280IMLTRT/
SX1281IMLTRT products

Introduction

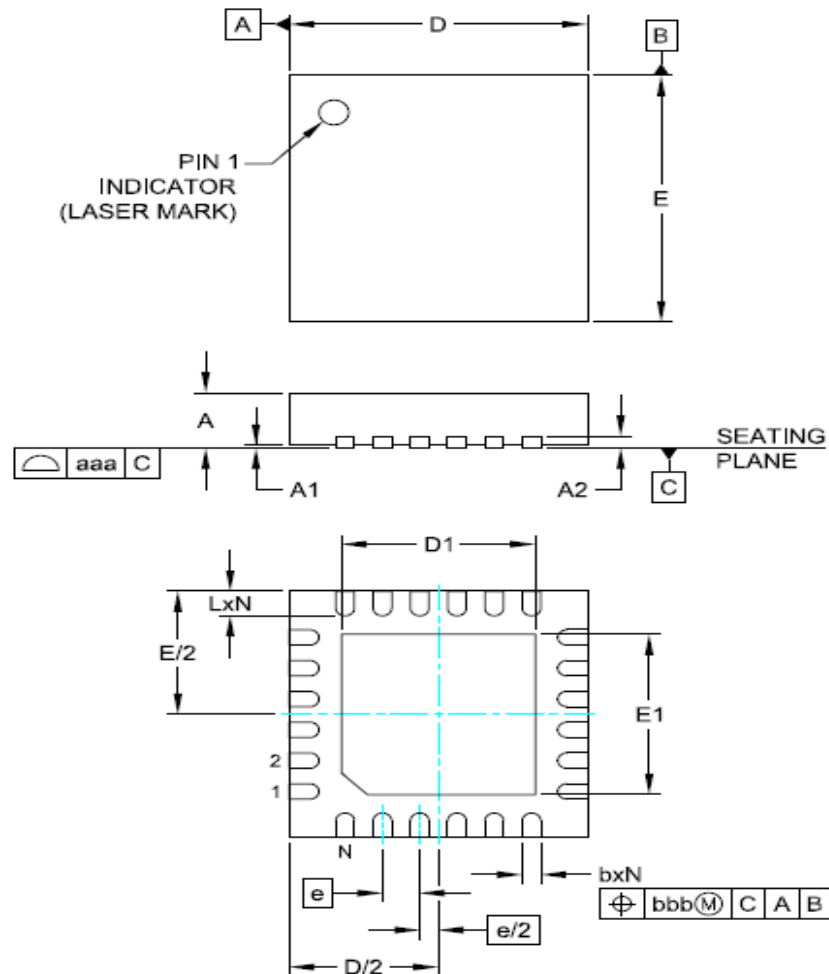
- ❑ SX1280IMLTRT and SX1281IMLTRT are qualified in Greatek, Taiwan.
Current Assembly is performed in ASE(M), Malaysia.

- ❑ The change affect applicable to products:
SX1280IMLTRT, SX1281IMLTRT.

- ❑ Qualification Vehicles selected are LLCC68IMLTRT

- ❑ Schedule for Implementation
Passing REL qualification MSL 1 under Rel job# 6970.

SEMTECH Package Outline on SX1250IMLTRT ASE (M) (Old) and Greatek (New)



DIM	DIMENSIONS		
	MILLIMETERS		
	MIN	NOM	MAX
A	0,80	0,90	1,00
A1	0,00	0,02	0,05
A2	(0,20)		
b	0,18	0,23	0,30
D	3,90	4,00	4,10
D1	2,55	2,60	2,65
E	3,90	4,00	4,10
E1	2,55	2,60	2,65
e	0,50 BSC		
L	0,35	0,40	0,45
N	24		
aaa	0,08		
bbb	0,10		

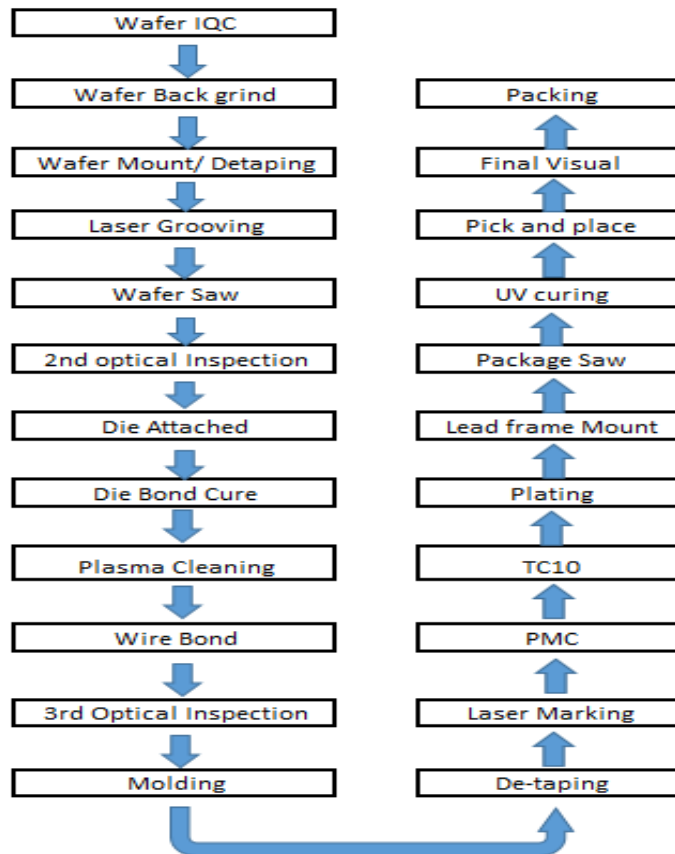
No Change in Package Outline.

- NOTES:
1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
 2. COPLANARITY APPLIES TO THE EXPOSED PAD AS WELL AS THE TERMINALS.

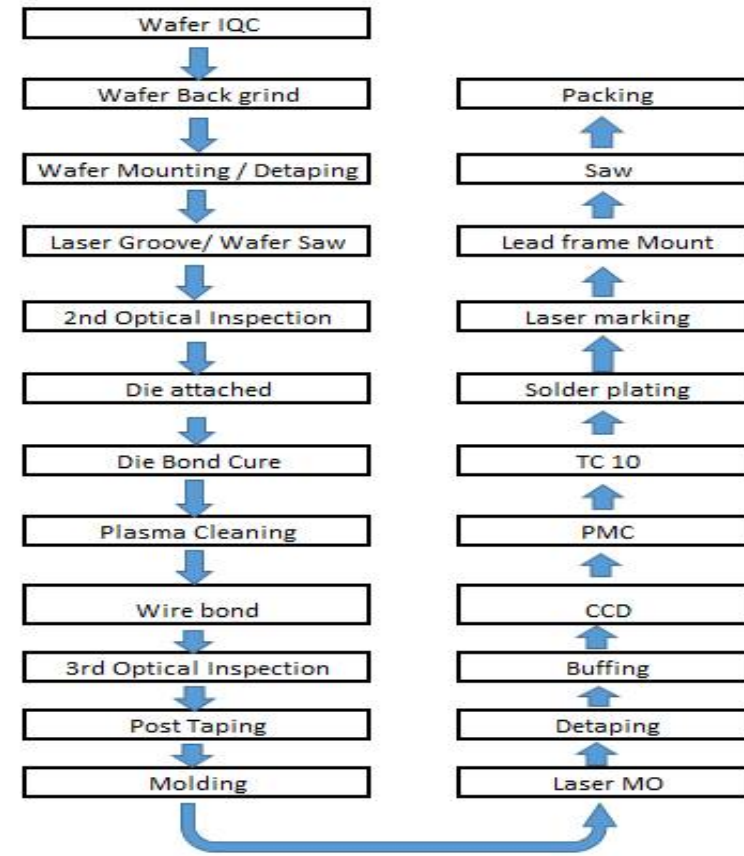
Assembly Process Flow Comparison for ASE(M) (Old) vs. Greatek (New)

Assembly Process Flow:

ASE (M) (Old)



GREATEK (New)



- No major Change in manufacturing Flow
- 100% TCT10 process step is applied in the assembly flow for both ASE(M) and Greatek.

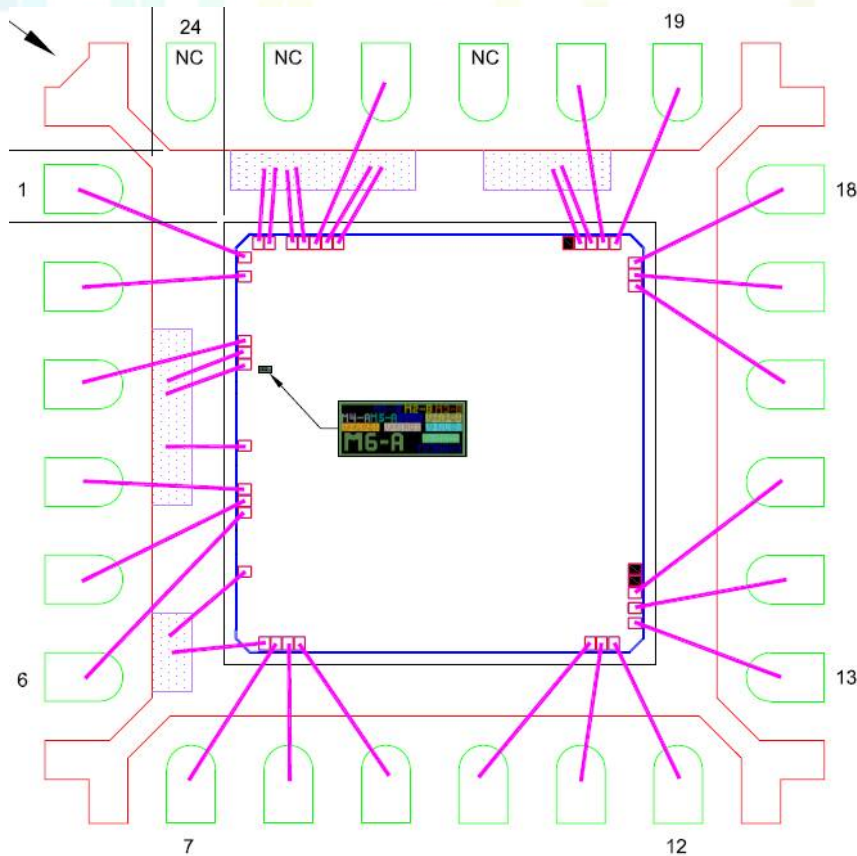
BOM (ASE (M) vs Greatek



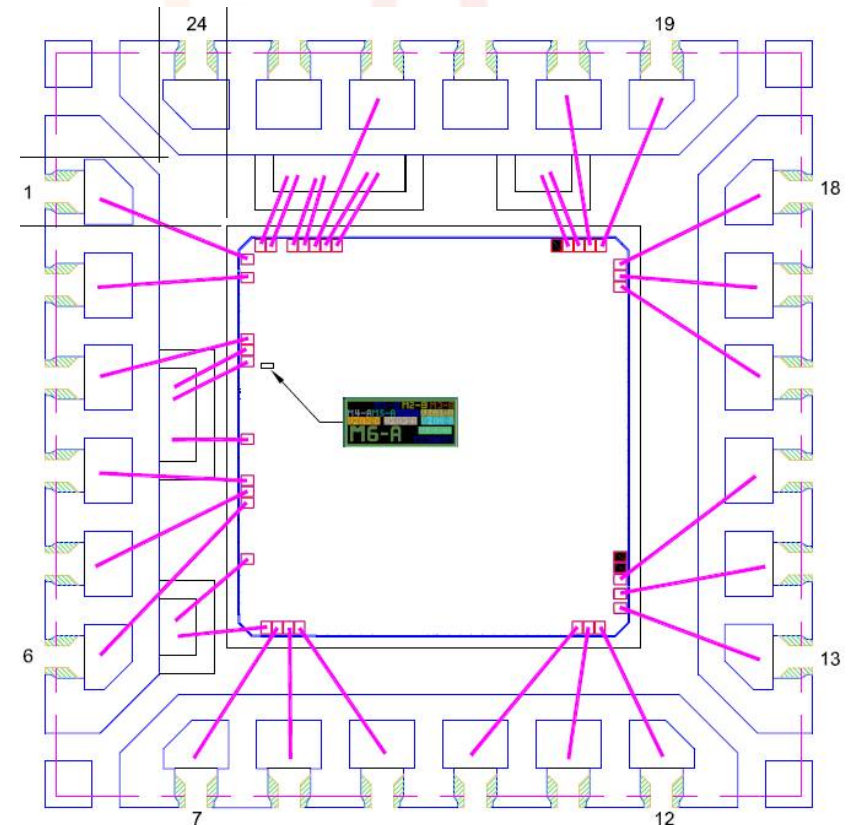
ASE (M) (Old)				Greatek (New)			
Epoxy	Leadframe	Wire Type	Mold compound	Epoxy	Leadframe	Wire Type	Mold compound
CRM1076DS	AgCu LDF	0.8 mils PdCuAu wire	G770HJ	EN-4900 Conductive epoxy	AgCu LDF	0.8 mils PdCuAu wire	G700HA

- BOM for both supplier (Greatek/ ASE(M)) is MSL1 qualified.
- Epoxy used for ASE (M) is CRM1076DS while Greatek are using epoxy material EN-4900. Both are conductive epoxy which is proven to achievable MSL 1 performance.
- Lead frame base material and finishing is identical for both supplier. These are supplier standard BOM with proven MSL1 performance.
- Both ASEM and Greatek supplier are using 0.8 mil PdCuAu wire which achieving MSL 1 performance.
- Mold compound used for ASE (M) is G770HJ while Greatek is using G700HA. Both compound was from same supplier of Sumitomo. This is supplier standard BOM with proven MSL1 performance. Both BOM running >5years high volume production. Greatek has shipped >100Mu with G700HA on QFN/DFN products.
- There is some BOM differences between both supplier ASE (M) and Greatek except wire selection. However, this BOM material in Greatek has been proven to achieving MSL 1.

Bonding Layout SX1280/ SX1281 (ASEM vs Greatek)



ASEM Bonding layout (OLD)



Greatek Bonding layout (New)

No Change in Bonding Layout.