FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month April 2018 No. 2

TOWER SEMICONDUCTOR LTD.

(Translation of registrant's name into English)

Ramat Gavriel Industrial Park
P.O. Box 619, Migdal Haemek, Israel 2310502
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F ⊠ Form 40-F □

Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

No ⊠

Yes \square

On April 30, 2018, the Registrant announced it has received an upgraded rating from Standard & Poor's Ma'alot (an Israeli rating company which is fully owned by S&P Global Ratings). Its previous rating was "ilA+" and the new upgraded rating is "ilAA-", with a stable horizon. Report is available at http://maya.tase.co.il/reports/details/1158852	

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: April 30, 2018

TOWER SEMICONDUCTOR LTD.

By: /s/ Nati Somekh

Name: Nati Somekh Title: Corporate Secretary