1. The novelty of the proposed algorithm should be emphasized. Motivation is the key to the introduction section. Need improvement: Summarize the knowledge gap here and justify why a new approach is needed.

2. P3, it is recommended to provide a summary of previous methods used for generating all-weather LST and SNR in the introduction part. For instance, mention relevant papers such as:

Jia, Aolin, et al. "Global hourly, 5 km, all-sky land surface temperature data from 2011 to 2021 based on integrating geostationary and polar-orbiting satellite data." Earth System Science Data 15.2 (2023): 869-895.

Xu, Shuo, and Jie Cheng. "A new land surface temperature fusion strategy based on cumulative distribution function matching and multiresolution Kalman filtering." Remote Sensing of Environment 254 (2021): 112256.

3. The data quality of in-situ measurements was not well displayed, which is crucial to evaluate the reliability of satellite data. It is recommended to add more detailed information such as the instruments used and the accuracy of station observations.

4. Line 240. The worse match between observations and in situ data may indicate high spatial heterogeneity. If the site is located in an area with high spatial heterogeneity, it may not be suitable for validating satellite data. It is important to provide additional clarification regarding the factors contributing to the worse validation results observed at certain sites.

5. Section 4.2. When discussing the merging of LST, it is important to compare the merged LST with in-situ measurements. Include a comparative analysis between the merged LST data and the corresponding in-situ measurements to demonstrate the accuracy and reliability of the merging process.

6. During the validation process, it is crucial to report the accuracy of clear-sky data (such as LST and SNR) separately from the accuracy of cloudy-sky data. This differentiation is important as it provides a comprehensive evaluation of the algorithm's performance under varying sky conditions.

7. In the conclusion section, it is important to outline the novel aspects and improvements introduced by the proposed method and the generated products, highlighting their advancements compared to existing methods and published products.