

Evaluation of Synspective Normalised Radar Backscatter (NRB) Synthetic Aperture Radar (SAR) product. [NRB] self-assessment submitted by Synspective (SAR (NRB) PFS v1.2) for CEOS-ARD Compliance.

Summary Self-Assessment Table

|            |                         |                                               | Threshold    | Goal         |
|------------|-------------------------|-----------------------------------------------|--------------|--------------|
| <b>1</b>   | <b>CEOS-ARD product</b> | <b>General Metadata</b>                       |              |              |
| 1.1        | [ALL]                   | Traceability                                  | Not Required | Not Assessed |
| 1.2        | [ALL]                   | Metadata Machine Readability                  | Yes          | Not Assessed |
| 1.3        | [ALL]                   | Product Type                                  | Yes          | Not Assessed |
| 1.4        | [ALL]                   | Document Identifier                           | Yes          | Not Assessed |
| 1.5        | [ALL]                   | Data Collection Time                          | Yes          | Not Assessed |
| <b>1.6</b> |                         | <b>Source Data Attributes</b>                 |              |              |
| 1.6.1      | [ALL]                   | Source Data Access                            | Yes          | Not Assessed |
| 1.6.2      | [ALL]                   | Instrument                                    | Yes          | Not Assessed |
| 1.6.3      | [ALL]                   | Source Data Acquisition Time                  | Yes          | Not Assessed |
| 1.6.4      | [ALL]                   | Source Data Acquisition Parameters            | Yes          | Not Assessed |
| 1.6.5      | [ALL]                   | Source Data Orbit Information                 | Yes          | Not Assessed |
| 1.6.6      | [ALL]                   | Source Data Processing Parameters             | Yes          | Not Assessed |
| 1.6.7      | [ALL]                   | Source Data Image Attributes                  | Yes          | Not Assessed |
| 1.6.8      | [ALL]                   | Sensor Calibration                            | Not Required | Not Assessed |
| 1.6.9      | [ALL]                   | Performance Indicators                        | Yes          | Not Assessed |
| 1.6.10     | [ALL]                   | Source Data Polarimetric Calibration Matrices | Not Required | Not Assessed |
| 1.6.11     | [ALL]                   | Mean Faraday Rotation Angle                   | Not Required | Not Assessed |
| 1.6.12     | [ALL]                   | Ionosphere indicator                          | Not Required | Not Assessed |
| <b>1.7</b> |                         | <b>CEOS-ARD Product Attributes</b>            |              |              |

|        |                                    |                                     |                      |              |
|--------|------------------------------------|-------------------------------------|----------------------|--------------|
| 1.7.1  | [ALL]                              | Product Data Access                 | Yes                  | Not Assessed |
| 1.7.2  | [ALL]                              | Auxiliary Data                      | Not Required         | Not Assessed |
| 1.7.3  | [ALL]                              | Product Sample Spacing              | Yes                  | Not Assessed |
| 1.7.4  | [NRB]<br>[POL]<br>[ORB]<br>[InSAR] | Product Equivalent Number of Looks  | Not Required         | Not Assessed |
| 1.7.5  | [ALL]                              | Product Resolution                  | Not Required         | Not Assessed |
| 1.7.6  | [NRB]<br>[POL]<br>[ORB]            | Product Filtering                   | Yes                  | Not Assessed |
| 1.7.7  | [ALL]                              | Product Bounding Box                | Yes                  | Not Assessed |
| 1.7.8  | [ALL]                              | Product Geographical Extent         | Yes                  | Not Assessed |
| 1.7.9  | [ALL]                              | Product Image Size                  | Yes                  | Not Assessed |
| 1.7.10 | [ALL]                              | Product Pixel Coordinate Convention | Yes                  | Not Assessed |
| 1.7.11 | [ALL]                              | Product Coordinate Reference System | Yes                  | Not Assessed |
| 1.7.12 | [ORB]                              | Look Direction Polynomials          | Not Product Relevant | Not Relevant |
| 1.7.13 | [GSLC]<br>[InSAR]                  | Radar Unit Look Vector              | Not Product Relevant | Not Relevant |
| 1.7.14 | [GSLC]                             | Slant Range Sensor to Surface       | Not Product Relevant | Not Relevant |
| 1.7.15 | [NRB]<br>[POL]<br>[GSLC]           | Reference Orbit                     | Not Required         | Not Assessed |
| 1.7.16 | [InSAR]                            | InSAR Pair                          | Not Product Relevant | Not Relevant |
| 1.7.17 | [InSAR]                            | InSAR Pair Co registration          | Not Product Relevant | Not Relevant |

|          |                                   |                                  | Threshold            | Goal         |
|----------|-----------------------------------|----------------------------------|----------------------|--------------|
| 1.7.18   | [InSAR]                           | Coherence                        | Not Product Relevant | Not Relevant |
| 1.7.19   | [InSAR]                           | Interferogram Filtering          | Not Product Relevant | Not Relevant |
| 1.7.20   | [InSAR]                           | Phase Unwrapping                 | Not Product Relevant | Not Relevant |
| 1.7.21   | [GSLC]<br>[InSAR]                 | Atmospheric Phase Correction     | Not Product Relevant | Not Relevant |
| 1.7.22   | [GSLC]<br>[InSAR]                 | Ionospheric Phase Correction     | Not Product Relevant | Not Relevant |
| 1.7.23   | [InSAR]                           | Displacement Modelling           | Not Product Relevant | Not Relevant |
|          |                                   |                                  | Threshold            | Goal         |
| <b>2</b> | <b>CEOS-ARD product</b>           | <b>Per-Pixel Metadata</b>        |                      |              |
| 2.1      | [ALL]                             | Metadata Machine Readability     | Yes                  | Not Assessed |
| 2.2      | [ALL]                             | Data Mask Image                  | Yes                  | Not Assessed |
| 2.3      | [ALL]                             | Scattering Area Image            | Not Required         | Not Assessed |
| 2.4      | [NRB]<br>[POL]<br>[ORB]<br>[GSLC] | Local Incident Angle Image       | Yes                  | Not Assessed |
| 2.5      | [ALL]                             | Ellipsoidal Incident Angle Image | Not Required         | Not Assessed |
| 2.6      | [ALL]                             | Noise Power Image                | Not Required         | Not Assessed |
| 2.7      | [NRB]<br>[POL]<br>[GSLC]          | Gamma-to-Sigma Ratio Image       | Not Required         | Not Assessed |
| 2.8      | [ALL]                             | Acquisition ID Image             | Not Required         | Not Assessed |
| 2.9      | [NRB]<br>[POL]                    | Per-pixel DEM                    | Not Required         | Not Assessed |

|          |                             |                                                   |                         |              |
|----------|-----------------------------|---------------------------------------------------|-------------------------|--------------|
|          | [GSLC]<br>[InSAR]           |                                                   |                         |              |
| 2.10     | [ORB]                       | Per-pixel Geoid                                   | Not Product<br>Relevant | Not Relevant |
| 2.11     | [ORB]                       | Look Direction Image                              | Not Product<br>Relevant | Not Relevant |
| 2.12     | [GSLC]<br>[InSAR]           | Radar Unit Look Vector Grid Image                 | Not Product<br>Relevant | Not Relevant |
| 2.13     | [GSLC]<br>[InSAR]           | Slant Range Sensor to Surface Image               | Not Product<br>Relevant | Not Relevant |
| 2.14     | [GSLC]<br>[InSAR]           | InSAR Phase Uncertainty Image                     | Not Product<br>Relevant | Not Relevant |
| 2.15     | [GSLC]<br>[InSAR]           | Atmospheric Phase Correction Image                | Not Product<br>Relevant | Not Relevant |
| 2.16     | [GSLC]<br>[InSAR]           | Ionospheric Phase Correction Image                | Not Product<br>Relevant | Not Relevant |
| 2.17     | [InSAR]                     | Simulated Topographic Phase                       | Not Product<br>Relevant | Not Relevant |
| 2.18     | [InSAR]                     | InSAR Perpendicular Baseline                      | Not Product<br>Relevant | Not Relevant |
| 2.19     | [InSAR]                     | InSAR Parallel Baseline                           | Not Product<br>Relevant | Not Relevant |
| 2.20     | [InSAR]                     | InSAR Displacement Model Points                   | Not Product<br>Relevant | Not Relevant |
|          |                             |                                                   | <b>Threshold</b>        | <b>Goal</b>  |
| <b>3</b> | <b>CEOS-ARD<br/>product</b> | <b>Radiometrically Corrected<br/>Measurements</b> |                         |              |
| 3.1      | [ALL]                       | Backscatter Measurements                          | Yes                     | Not Assessed |
| 3.2      | [ALL]                       | Scaling Conversion                                | Yes                     | Not Assessed |
| 3.3      | [ALL]                       | Noise Removal                                     | Yes                     | Not Assessed |

|          |                                     |                                               |                      |              |
|----------|-------------------------------------|-----------------------------------------------|----------------------|--------------|
| 3.4      | [NRB]<br>[POL]<br>[GSLC]<br>[InSAR] | Radiometric Terrain Correction Algorithms     | Yes                  | Not Assessed |
| 3.5      | [ALL]                               | Radiometric Accuracy                          | Not Required         | Not Assessed |
| 3.6      | [ORB]                               | Mean Wind-Normalised Backscatter Measurements | Not Product Relevant | Not Relevant |
| 3.7      | [NRB]<br>[POL]                      | Flattened Phase                               | Not Required         | Not Assessed |
| 3.8      | [InSAR]                             | Coherence Image                               | Not Product Relevant | Not Relevant |
| 3.9      | [InSAR]                             | Interferogram Image                           | Not Product Relevant | Not Relevant |
| 3.10     | [InSAR]                             | Unwrapped Interferogram Image                 | Not Product Relevant | Not Relevant |
| 3.11     | [InSAR]                             | InSAR Displacement Image                      | Not Product Relevant | Not Relevant |
| 3.12     | [InSAR]                             | InSAR Displacement Residue Image              | Not Product Relevant | Not Relevant |
| 3.13     | [InSAR]                             | InSAR Displacement Rate Image                 | Not Product Relevant | Not Relevant |
| 3.14     | [InSAR]                             | InSAR Displacement Rate Model fit Image       | Not Product Relevant | Not Relevant |
|          |                                     |                                               | <b>Threshold</b>     | <b>Goal</b>  |
| <b>4</b> | <b>CEOS-ARD product</b>             | <b>Geometric Corrections</b>                  |                      |              |
| 4.1      | [ALL]                               | Geometric Correction Algorithms               | Not Required         | Not Assessed |
| 4.2      | [ALL]                               | Digital Elevation Model                       | Yes                  | Not Assessed |
| 4.3      | [ALL]                               | Geometric Accuracy                            | Yes                  | Not Assessed |
| 4.4      | [ALL]                               | Geometric Refined Accuracy                    | Not Required         | Not Assessed |

|     |       |                     |     |              |
|-----|-------|---------------------|-----|--------------|
| 4.5 | [ALL] | Gridding Convention | Yes | Not Assessed |
|-----|-------|---------------------|-----|--------------|

**CEOS-ARD Evaluation Outcome: (SAR PFS v1.2)**

|                         |                                                              |
|-------------------------|--------------------------------------------------------------|
| <b>Product type:</b>    | Normalised Radar Backscatter (NRB)                           |
| <b>Threshold level:</b> | Compliance verified at Threshold level against SAR PFS v1.2. |
| <b>Goal level:</b>      | No Assessment.                                               |