

BENEFITS OF MARS® QC MODULE

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The MARS® QC Module (available in MARS® Explorer QC and MARS® Production) makes your internal QC procedures simpler and can be easily tailored to meet your needs. The output of the automated QC process includes detailed and summary QC reports that help our clients identify and mitigate data quality issues.

The QC module:

- Automates quality control analysis for all files of a LiDAR point cloud data set with no file sampling
- Generates a QC report that provides raster analysis images, tabular data, and histograms for review
- Supports multi-thread data processing to improve QC analysis performance
- Allows customizable QC analysis through selection of tests/parameters to match project requirements
- Automatically documents QC analysis parameters to ensure consistency
- Supports analysis of multi-channel LiDAR sensor data

The module offers four options for advanced reporting capabilities:

- Two USGS tools to check compliance with the following:
 - LAS v1.4 data to the USGS NGP LiDAR Base Specification Version 1.2 (up to 24 automated tests)
 - LAS v1.0 - LAS v1.3 data to the older USGS NGP LiDAR Base Specification Version 1.0 (up to 30 automated tests)
- LiDAR data checks tool for verifying the expected data attributes, coverage, point density, and relative accuracy of a LiDAR point cloud dataset
- LiDAR calibration checks tool for verifying correct LiDAR collection system function by testing the relative accuracy and channel alignment (when applicable) of a LiDAR point cloud dataset

LiDAR Calibration Checks

The LiDAR Calibration Checks portion of the QC module verifies proper LiDAR collection systems function using tests of the accuracy of a LiDAR point cloud dataset.

[See Information Sheet >](#)

[See a Sample Report >](#)

LiDAR Data Checks

The LiDAR data checks section provides an automated method for verifying the expected data attributes, coverage, point density, and relative accuracy of a LiDAR point cloud dataset.

[See Information Sheet >](#)

[See a Sample Report >](#)

USGS NGP Version 1.2

The MARS® QC module is updated to verify compliance of LiDAR data deliverables to the LiDAR Base Specification (Version 1.2) as published by the United States Geological Survey (USGS). The input datasets for this report include boresighted (swath) LiDAR data in LAS format; classified (tiled) LiDAR data in LAS format; project tile scheme (Esri polygon shapefile); project boundary file (Esri polygon shapefile); and ground control checkpoints (CSV or SHP file).

[See USGS LiDAR Base Specification \(Version 1.2\) >](#)

[See Information Sheet >](#)

[See a Sample Detailed Report >](#)

[See a Sample Summary Report >](#)