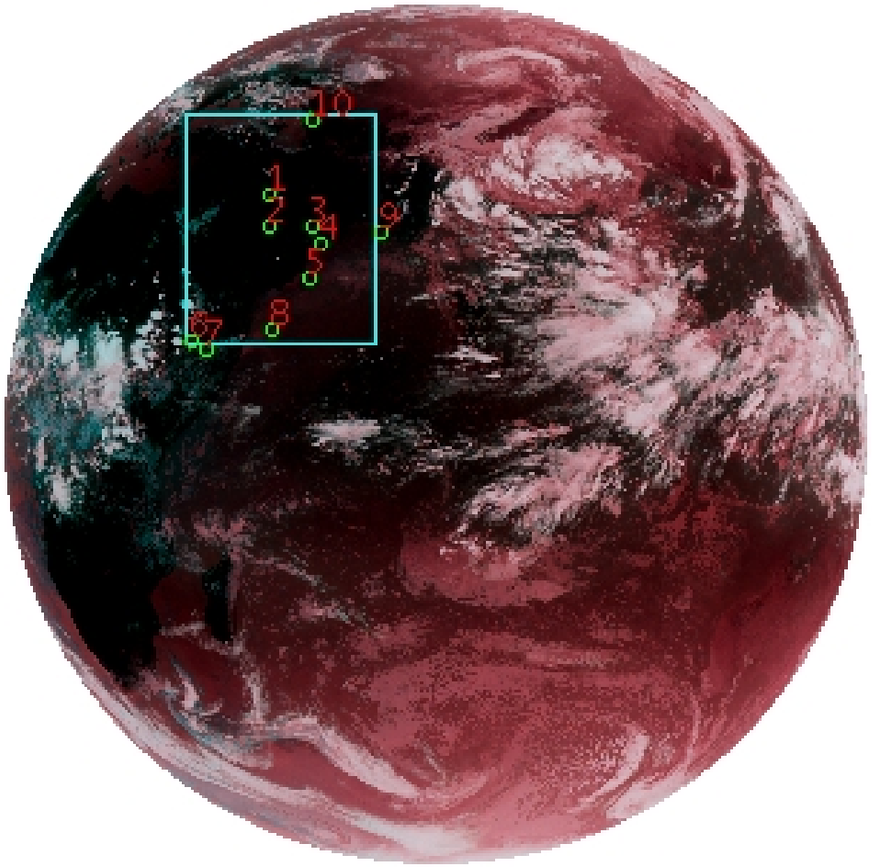
# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG_03SEP2018_1215

| | | | | | |
|---|---|---|---|---|---|
| **Satellite** | INSAT-3DR | **No Of Bands** | 6 | **Product Type** | STANDARD |
| **Sensor** | IMG | **LvlOfProcess** | L1B | **Selected Band** | 2-TIR1 |
| **DOP/Time** | 03-09-18/24:15 | **Station ID** | BES | **Field View(deg)** | 18.006 |
| **Res(Y,X) [Km]** | (4.0,4.0) | **Res(Y,X) [uRad]** | (112.0,112.0) | | |

(81.042N,-7.157W) (81.042N,155.157E)




(-81.042S,-7.157W) (-81.042S,155.157E)

GCP Distribution overview for 3RIMG03SEP20181215L1BSTD

**Image Width:** 2805 **Image Height:** 2816 **No Of GCPs:** 10

**GCP Coverage(%)** 25.43 **(N-S)** 21.18 **(E-W)**

**Location Error(E)**

Legend —0Km < E <= 50Km —50Km < E <= 100Km —E >100Km

## Location Error (In IR Pixels)

| | Mean | Direction | Stddev | RMS |
|---|---|---|---|---|
| Along | 2.142 | N | 1.241 | 2.475 |
| Across | -3.302 | W | 0.974 | 3.443 |

## Radial Error (in IR Pixels)

| | |
|---|---|
| **Mean** | 4.043 |
| **Min** | 2.347 |
| **Max** | 6.551 |
| **CE90** | 5.391 |

## Scale (Km)

| | Pixel Size | Stddev | %variation |
|---|---|---|---|
| Average | 4.819 | 0.665 | 20.485 |
| Along | 5.431 | 1.761 | 35.770 |
| Across | 5.741 | 3.846 | 43.520 |

## Internal Distortion (in IR Pixels)

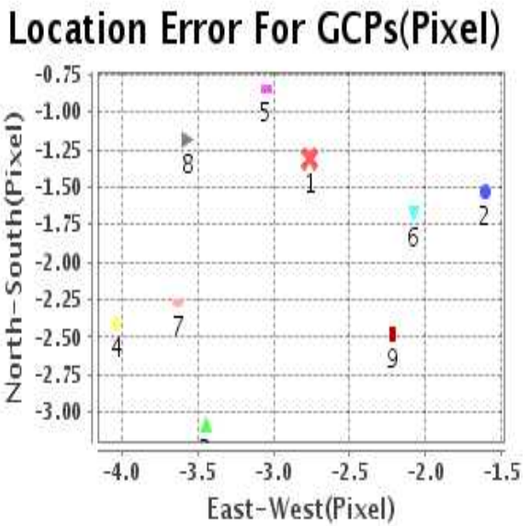
| | PeakToPeak | Mean | Stddev | RMS |
|---|---|---|---|---|
| Along | 2.235 | -0.694 | 0.69 | 0.981 |
| Across | 2.428 | -0.130 | 0.82 | 0.832 |

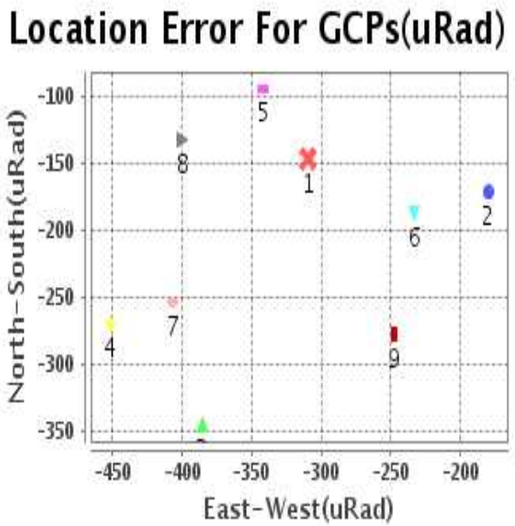
## Attitude Residuals (Deg)

| Pitch | Roll | Yaw |
|---|---|---|
| -0.02789 | -0.01650 | 0.04626 |

## Reference Used

| Sensor | Resolution | Projection |
|---|---|---|
| ETM | 500.00 | GGP |



# Detailed Product Information

## Ancillary Info

| | | | |
|---|---|---|---|
| Satellite | INSAT-3DR | Generation Date | 03-09-18 |
| Sensor | IMG | DQE Date | 12-09-2018 |
| PassType | NONE | Aquisition Date | 03-09-18 |
| Imaging Mode | FULL_FRAME | Aquisition Time(GMT) | 24:15 |
| Sat Altitude(m) | 3.6E7 | Nominal Altitude(Km) | 3.6E7 |
| Station | BES | Predicted Altitude(Km) | -999.99 |
| Sat Location(deg) | -999.99 E | Nominal Center Lat(deg) | 0.0 |
| Format | hdf5-1.8.8 | Nominal Center Lon(deg) | 74.0 |
| LvlOfProcessing | STANDARD | Predicted Center Lat(deg) | -999.99 |
| DP JobId | 3RIMG_03SEP20 | Predicted Center Lon(deg) | -999.99 |
| ProductCode | NONE | | |
| Field View(deg) | 18.006 | | |

## Projection Parameters

| | |
|---|---|
| Projection | None |
| Ellipsoid | WGS_84 |
| Datum | WGS_84 |
| Zone | NotAvail |
| Semi_Major_Axis(Km) | 6378.14 |
| Semi_Minor_Axis(Km) | 6356.75 |
| Standard_Parallel1(deg) | -999.99 |
| Standard_Parallel2(deg) | -999.99 |
| Projection_Origin_Lon(deg) | -999.99 |
| Projection_Origin_Lat(deg) | -999.99 |
| Projection_False_Easting(Km) | -999.99 |
| Projection_False_Northing(Km) | -999.99 |

## Scene Center Desc

| | |
|---|---|
| Centre Lat(deg) | 0.0 |
| Center Lon(deg) | 74.0 |
| Centre Roll(deg) | -999.0 |
| Centre Pitch(deg) | -999.0 |
| Center Yaw(deg) | -999.0 |
| SunElevation(deg) | -999.99 |
| SunAzimuth(deg) | -999.99 |
| SatElevation(deg) | -999.99 |
| SatAzimuth(deg) | -999.99 |

## Scene Corner Desc

| | |
|---|---|
| NW_Lat(deg) | 81.042 |
| NW_Lon(deg) | -7.157 |
| SW_Lat(deg) | -81.042 |
| SW_Lon(deg) | -7.157 |
| NE_Lat(deg) | 81.042 |
| NE_Lon(deg) | 155.157 |
| SE_Lat(deg) | -81.042 |
| SE_Lon(deg) | 155.157 |

## Band Wise Details

| | Res_AL(Km) | Res_AX(Km) | Image Height | Image Width |
|---|---|---|---|---|
| MIR | 4.0 | 4.0 | 2816 | 2805 |
| SWIR | 1.0 | 1.0 | 11264 | 11220 |
| TIR1 | 4.0 | 4.0 | 2816 | 2805 |
| TIR2 | 4.0 | 4.0 | 2816 | 2805 |
| VIS | 1.0 | 1.0 | 11264 | 11220 |
| WV | 8.0 | 8.0 | 1408 | 1402 |

## GDQE Computation Base

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Projection | MER | Wildpoint Rejection Threshold | 2.60 -sigma | SemiMajorAxis(m) | 6378137.00 | Mode Of Computation | grid |
| Ellipsoid | WGS_84 | | | SemiMinorAxis(m) | 6356752.31 | Used Reference Type | REFINSREF |
| Datum | WGS_84 | Unit | pixels | Standardparallel1(deg) | 17.0 | | |
| Zone | Not Applicable | | | Standardparallel2(deg) | 17.0 | | |

* -999.99 : Not Applicable/Not Available

# References

**JobId :** **3RIMG03SEP20181215L1BSTD**

(-999.99 - Not Available/Not Computed)

| Ref.No | Source | File Name | Resolution ( m ) | Projection |
|---|---|---|---|---|
| 1 | ETM | world_Band1.img | 500.0 | GGP |

# Location Accuracy

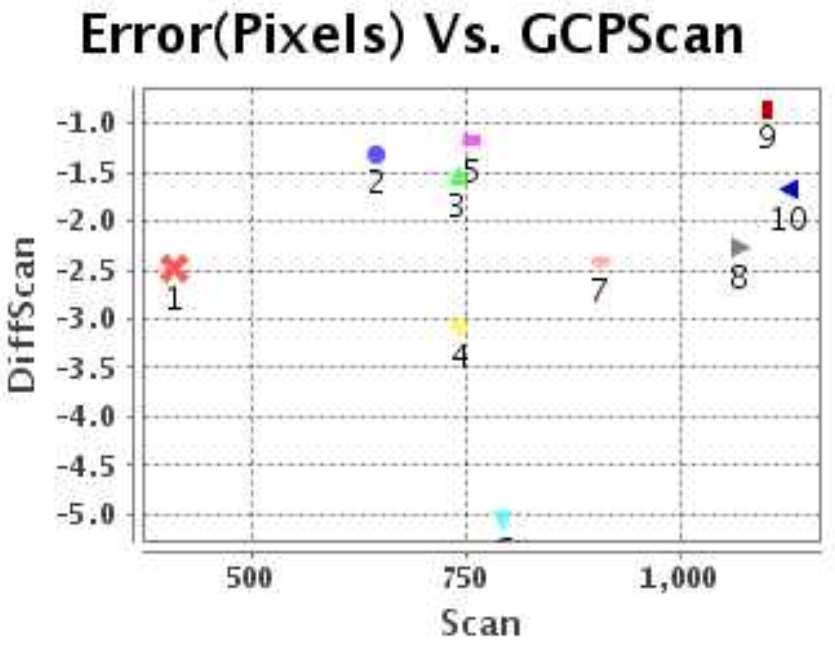
## GCP Distribution Statistics

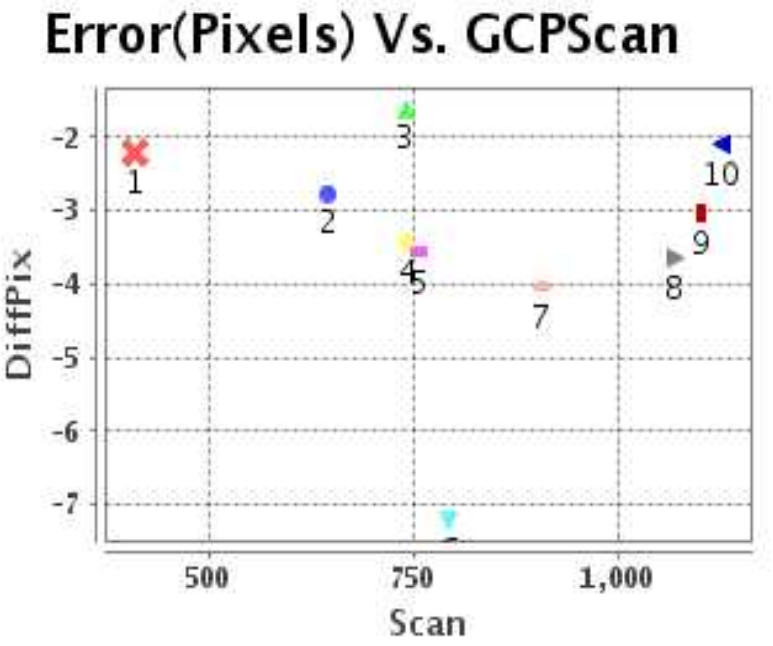
**Image Width (pixels) :** 2805 **Image Height (pixels) :** 2816 **No of GCPs :** 10

| | Mean | StdDev | Min | Max | Coverage(in %) |
|---|---|---|---|---|---|
| **GCP Scan** | 828.8 | 213.8 | 409.2 | 1125.25 | 25.43 (N-S) |
| **GCP Pix** | 916.2 | 166.3 | 628.5 | 1222.50 | 21.18 (E-W) |

## Identified Control Point details : ( Differences are Reference - Product )

| No | Scan | Pix | DiffScan (line) | DiffPix (pixel) | DifLat (Km) | Dir | DifLon (Km) | Dir | Status |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 645.2 | 865.2 | -1.3 | -2.76 | 7.066 | N | 15.067 | W | Accepted |
| 2 | 740.0 | 871.8 | -1.5 | -1.61 | 8.139 | N | 5.745 | W | Accepted |
| 3 | 741.5 | 1003.2 | -3.1 | -3.45 | 13.659 | N | 16.685 | W | Accepted |
| 4 | 793.8 | 1028.5 | -5.1 | -7.21 | 21.924 | N | 32.470 | W | Rejected |
| 5 | 905.2 | 992.5 | -2.4 | -4.04 | 9.657 | N | 15.678 | W | Accepted |
| 6 | 1101.2 | 628.5 | -0.8 | -3.05 | 2.578 | N | 13.061 | W | Accepted |
| 7 | 1125.2 | 671.8 | -1.7 | -2.08 | 6.108 | N | 7.130 | W | Accepted |
| 8 | 1068.5 | 873.2 | -2.3 | -3.63 | 7.655 | N | 14.810 | W | Accepted |
| 9 | 757.8 | 1222.5 | -1.2 | -3.57 | 2.857 | N | 13.077 | W | Accepted |
| 10 | 409.2 | 1004.2 | -2.5 | -2.21 | 19.381 | N | 17.636 | W | Accepted |



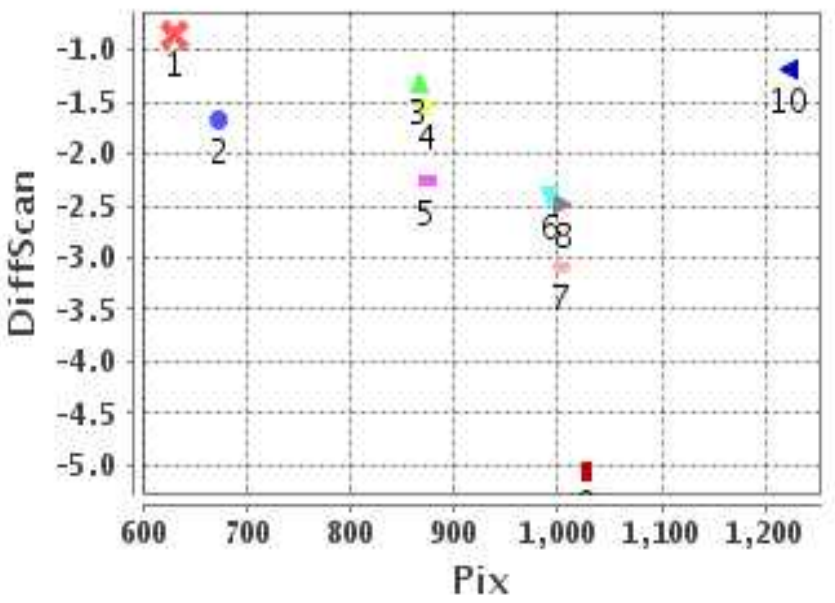



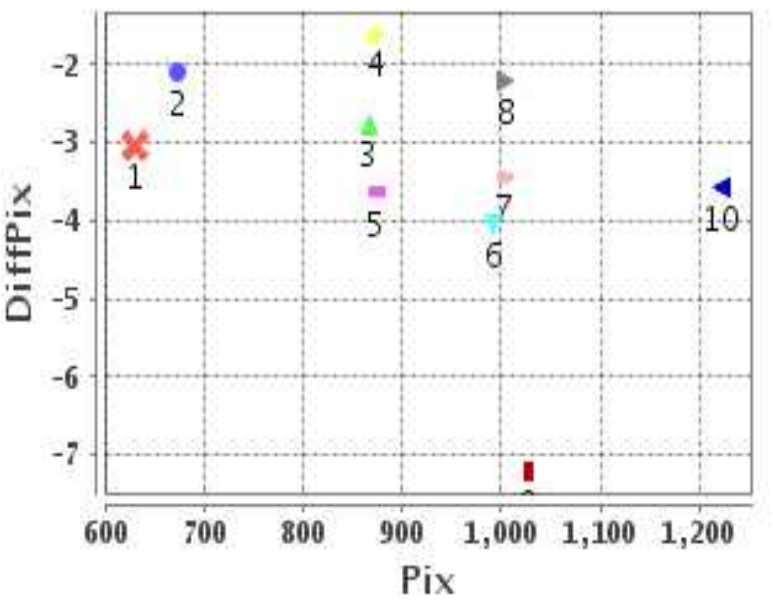

## Number Of Points

| | |
|---|---|
| North | 9 |
| South | 0 |
| East | 0 |
| West | 9 |

## Radial Error ( Km

| | |
|---|---|
| Mean | 4.043 |
| Min | 2.347 |
| Max | 6.551 |
| CE90 | 5.391 |




## Location Accuracy

| | Mean | StdDev | RMS | Dir | * MinRMS | * MaxRMS |
|---|---|---|---|---|---|---|
| Along( Km ) | 2.142 | 1.241 | 2.475 | N | 1.990 | 2.616 |
| Across ( Km ) | -3.302 | 0.974 | 3.443 | W | 3.302 | 3.616 |

# Block-Wise Geo location Error Statistics

## Location Accuracy,Scale,ID

**Scan Range-0-937; Pix Range-0-934**

| | | | |
|---|---|---|---|
| **Number of GCPs** | 2 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | 7.605 | N | |
| **Across(Mean,Dir)** | -10.40 | W | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | 5.64 | 41.03 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | 0.23 | 0.00 | |
| **Across(Mean,Stddev)** | -1.15 | 0.00 | |

**Scan Range-0-937; Pix Range-934-1869**

| | | | |
|---|---|---|---|
| **Number of GCPs** | 4 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | 11.39 | N | |
| **Across(Mean,Dir)** | -15.77 | W | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | 5.38 | 34.39 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -0.26 | 0.79 | |
| **Across(Mean,Stddev)** | -0.96 | 0.61 | |

**Scan Range-0-937; Pix Range-1869-2805**

| | | | |
|---|---|---|---|
| **Number of GCPs** | -999 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | -999.99 | NotAvail | |
| **Across(Mean,Dir)** | -999.99 | NotAvail | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | -999.99 | -999.9 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -999.99 | -999.99 | |
| **Across(Mean,Stddev)** | -999.99 | -999.99 | |

**Scan Range-937-1876; Pix Range-0-934**

| | | | |
|---|---|---|---|
| **Number of GCPs** | 3 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | 5.45 | N | |
| **Across(Mean,Dir)** | -11.67 | W | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | 4.66 | 16.61 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -1.00 | 0.41 | |
| **Across(Mean,Stddev)** | -0.19 | 0.78 | |

**Scan Range-937-1876; Pix Range-934-1869**

| | | | |
|---|---|---|---|
| **Number of GCPs** | -999 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | -999.99 | NotAvail | |
| **Across(Mean,Dir)** | -999.99 | NotAvail | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | -999.99 | -999.9 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -999.99 | -999.99 | |
| **Across(Mean,Stddev)** | -999.99 | -999.99 | |

**Scan Range-937-1876; Pix Range-1869-2805**

| | | | |
|---|---|---|---|
| **Number of GCPs** | -999 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | -999.99 | NotAvail | |
| **Across(Mean,Dir)** | -999.99 | NotAvail | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | -999.99 | -999.9 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -999.99 | -999.99 | |
| **Across(Mean,Stddev)** | -999.99 | -999.99 | |

**Scan Range-1876-2816; Pix Range-0-934**

| | | | |
|---|---|---|---|
| **Number of GCPs** | -999 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | -999.99 | NotAvail | |
| **Across(Mean,Dir)** | -999.99 | NotAvail | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | -999.99 | -999.9 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -999.99 | -999.99 | |
| **Across(Mean,Stddev)** | -999.99 | -999.99 | |

**Scan Range-1876-2816; Pix Range-937-1869**

| | | | |
|---|---|---|---|
| **Number of GCPs** | -999 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | -999.99 | NotAvail | |
| **Across(Mean,Dir)** | -999.99 | NotAvail | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | -999.99 | -999.9 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -999.99 | -999.99 | |
| **Across(Mean,Stddev)** | -999.99 | -999.99 | |

**Scan Range-1876-2816; Pix Range-1869-2805**

| | | | |
|---|---|---|---|
| **Number of GCPs** | -999 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | -999.99 | NotAvail | |
| **Across(Mean,Dir)** | -999.99 | NotAvail | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | -999.99 | -999.9 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -999.99 | -999.99 | |
| **Across(Mean,Stddev)** | -999.99 | -999.99 | |

*-999 : no gcp available

* -999.99 : values are not computed