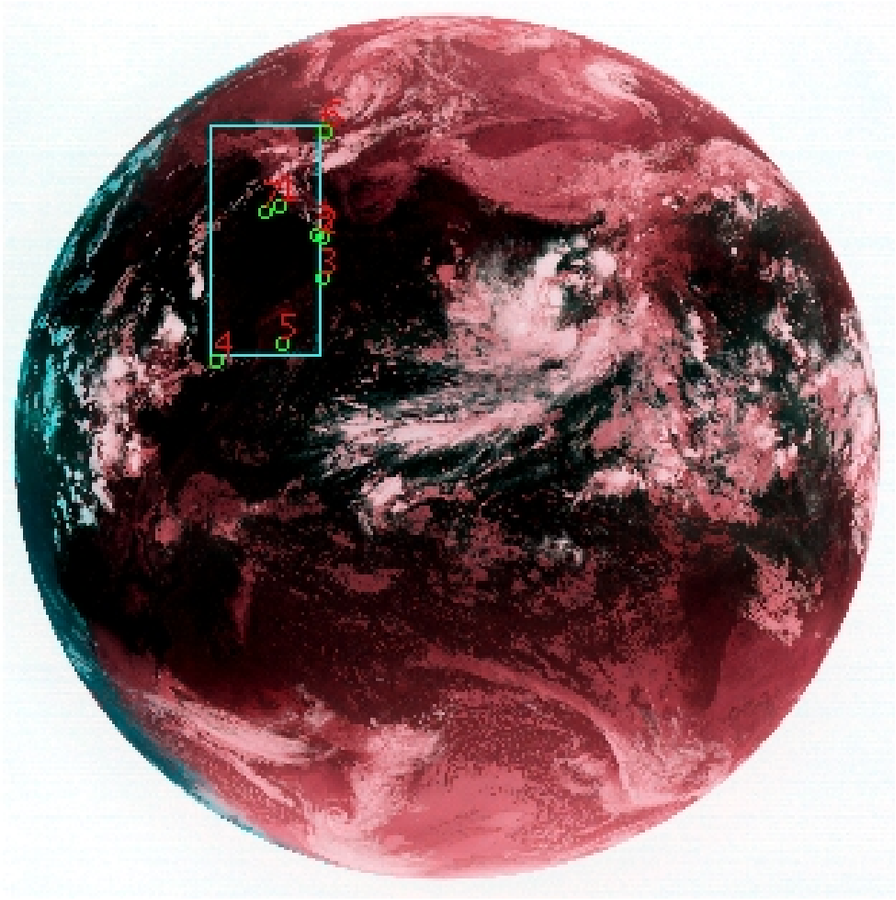
# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG_19SEP2018_1545

| | | | | | |
|---|---|---|---|---|---|
| **Satellite** | INSAT-3DR | **No Of Bands** | 6 | **Product Type** | STANDARD |
| **Sensor** | IMG | **LvlOfProcess** | L1B | **Selected Band** | 2-TIR1 |
| **DOP/Time** | 19-09-18/15:45 | **Station ID** | BES | **Field View(deg)** | 18.006 |
| **Res(Y,X) [Km]** | (4.0,4.0) | **Res(Y,X) [uRad]** | (112.0,112.0) | | |

(80.756N,-7.102W) (80.756N,155.176E)




(-80.979S,-7.102W) (-80.979S,155.176E)

GCP Distribution overview for 3RIMG19SEP20181545L1BDQE

**Image Width:** 2805 **Image Height:** 2816 **No Of GCPs:** 8

**GCP Coverage(%)** 25.62 **(N-S)** 12.01 **(E-W)**

**Location Error(E)**

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

## Location Error (In IR Pixels)

| | Mean | Direction | Stddev | RMS |
|---|---|---|---|---|
| Along | 12.545 | N | 2.767 | 12.846 |
| Across | -36.911 | W | 5.070 | 37.258 |

## Radial Error (in IR Pixels)

| | |
|---|---|
| **Mean** | 39.002 |
| **Min** | 33.360 |
| **Max** | 51.199 |
| **CE90** | 41.076 |

## Scale (Km)

| | Pixel Size | Stddev | %variation |
|---|---|---|---|
| Average | 4.980 | 0.659 | 24.509 |
| Along | 5.005 | 1.275 | 25.118 |
| Across | 5.356 | 1.363 | 33.905 |

## Internal Distortion (in IR Pixels)

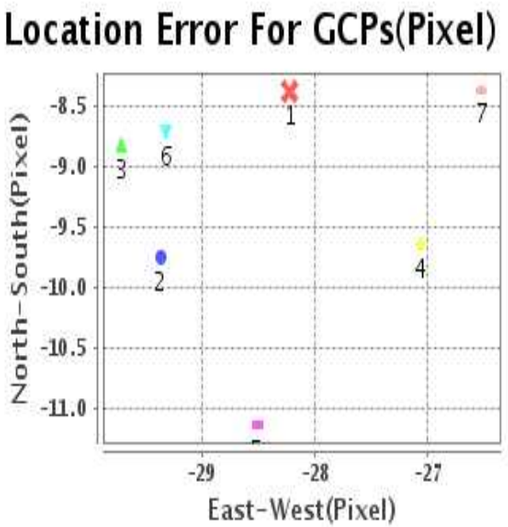
| | PeakToPeak | Mean | Stddev | RMS |
|---|---|---|---|---|
| Along | 2.782 | 0.644 | 0.97 | 1.165 |
| Across | 3.184 | 1.543 | 1.06 | 1.873 |

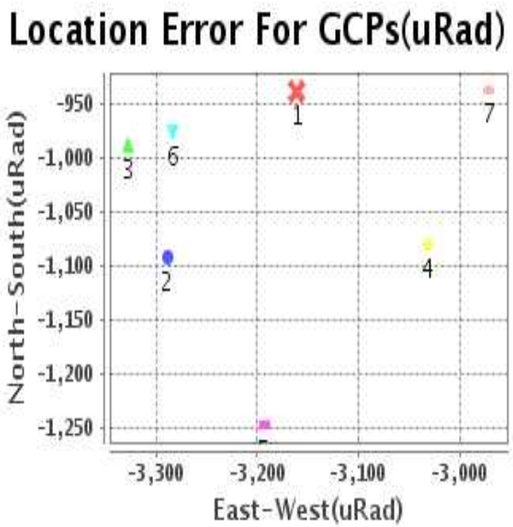
## Attitude Residuals (Deg)

| Pitch | Roll | Yaw |
|---|---|---|
| -0.22748 | -0.09106 | 0.17352 |

## Reference Used

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



# Detailed Product Information

## Ancillary Info

| | | | |
|---|---|---|---|
| Satellite | INSAT-3DR | Generation Date | 19-09-18 |
| Sensor | IMG | DQE Date | 25-09-2018 |
| PassType | NONE | Aquisition Date | 19-09-18 |
| Imaging Mode | FULL_FRAME | Aquisition Time(GMT) | 15:45 |
| 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_19SEP20 | 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) | -0.112 |
| Center Lon(deg) | 74.037 |
| 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) | 80.756 |
| NW_Lon(deg) | -7.102 |
| SW_Lat(deg) | -80.979 |
| SW_Lon(deg) | -7.102 |
| NE_Lat(deg) | 80.756 |
| NE_Lon(deg) | 155.176 |
| SE_Lat(deg) | -80.979 |
| SE_Lon(deg) | 155.176 |

## 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 :** **3RIMG19SEP20181545L1BDQE**

(-999.99 - Not Available/Not Computed)

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

# Location Accuracy

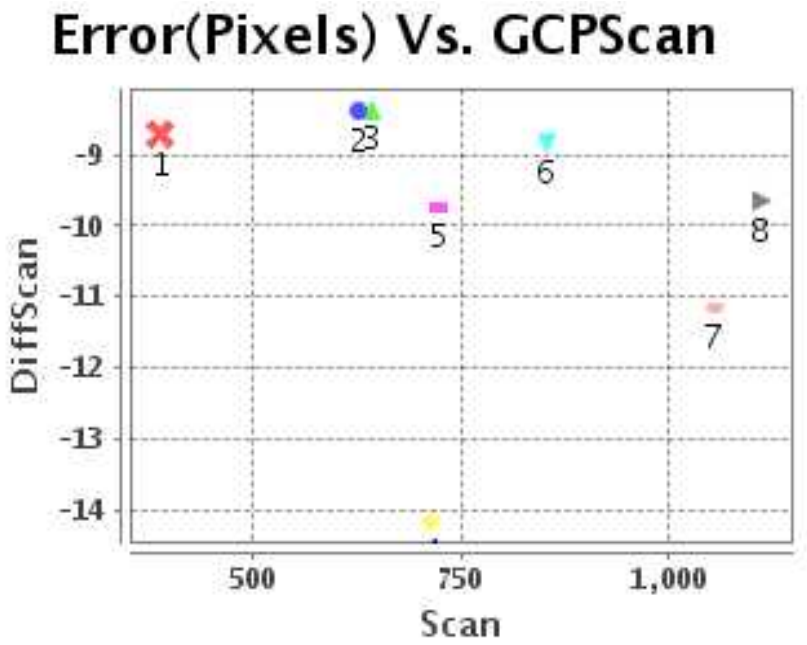
## GCP Distribution Statistics

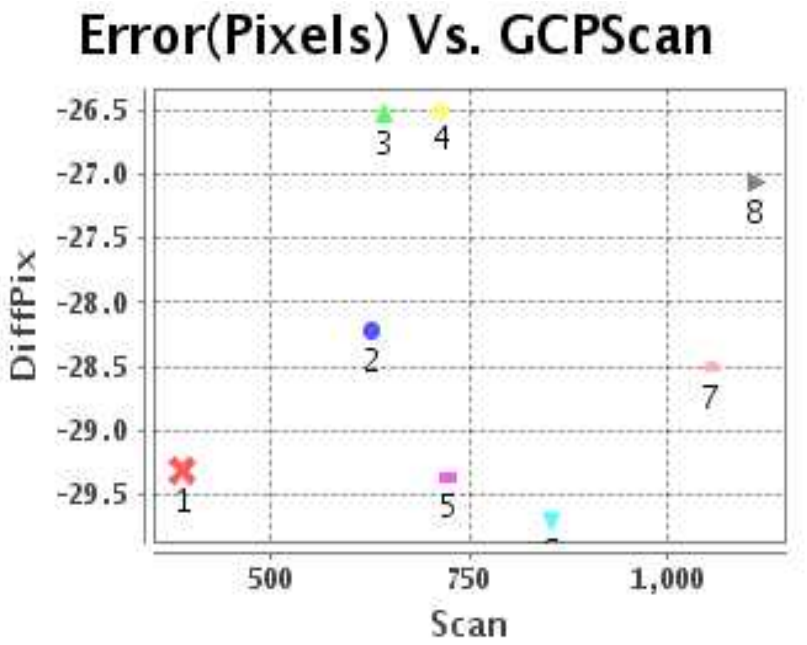
**Image Width (pixels) :** 2805 **Image Height (pixels) :** 2816 **No of GCPs :** 8

| | Mean | StdDev | Min | Max | Coverage(in %) |
|---|---|---|---|---|---|
| **GCP Scan** | 764.1 | 221.0 | 388.8 | 1110.25 | 25.62 (N-S) |
| **GCP Pix** | 896.5 | 112.5 | 664.0 | 1000.75 | 12.01 (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 | 626.5 | 859.5 | -8.4 | -28.22 | 50.130 | N | 156.471 | W | Accepted |
| 2 | 723.5 | 997.2 | -9.7 | -29.36 | 49.107 | N | 141.895 | W | Accepted |
| 3 | 852.2 | 998.5 | -8.8 | -29.71 | 40.954 | N | 132.822 | W | Accepted |
| 4 | 1110.2 | 664.0 | -9.6 | -27.06 | 39.682 | N | 133.626 | W | Accepted |
| 5 | 1054.5 | 865.5 | -11.1 | -28.51 | 45.806 | N | 125.334 | W | Accepted |
| 6 | 388.8 | 1000.8 | -8.7 | -29.31 | 75.519 | N | 190.365 | W | Accepted |
| 7 | 642.5 | 811.2 | -8.4 | -26.53 | 50.053 | N | 152.998 | W | Accepted |
| 8 | 714.5 | 975.0 | -14.2 | -26.49 | 72.656 | N | 135.080 | W | Rejected |



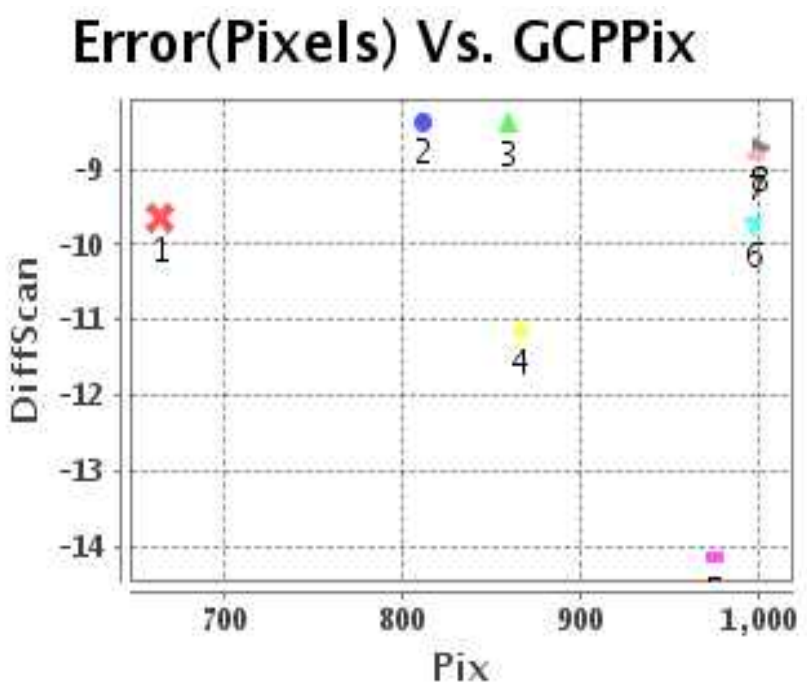



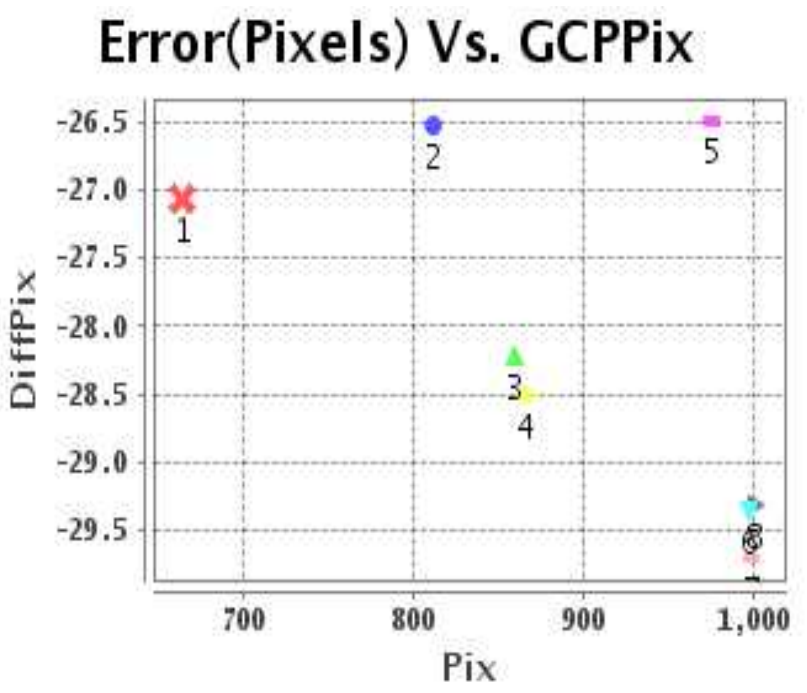

**Number Of Points**

| | |
|---|---|
| North | 7 |
| South | 0 |
| East | 0 |
| West | 7 |

**Radial Error ( Km**

| | |
|---|---|
| Mean | 39.002 |
| Min | 33.360 |
| Max | 51.199 |
| CE90 | 41.076 |




**Location Accuracy**

| | Mean | StdDev | RMS | Dir | * MinRMS | * MaxRMS |
|---|---|---|---|---|---|---|
| Along( Km ) | 12.545 | 2.767 | 12.846 | N | 11.538 | 13.271 |
| Across ( Km ) | -36.911 | 5.070 | 37.258 | W | 35.242 | 38.156 |

# 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)** | 50.09 | N | |
| **Across(Mean,Dir)** | -154.74 | W | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | 4.66 | 16.54 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -0.02 | 0.00 | |
| **Across(Mean,Stddev)** | 1.70 | 0.00 | |

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

| | | | |
|---|---|---|---|
| **Number of GCPs** | 3 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | 55.19 | N | |
| **Across(Mean,Dir)** | -155.03 | W | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | 5.75 | 43.77 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | 0.58 | 0.46 | |
| **Across(Mean,Stddev)** | 0.15 | 0.20 | |

**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** | 2 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | 42.74 | N | |
| **Across(Mean,Dir)** | -129.48 | W | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | 4.38 | 9.53 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -1.50 | 0.00 | |
| **Across(Mean,Stddev)** | 1.44 | 0.00 | |

**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