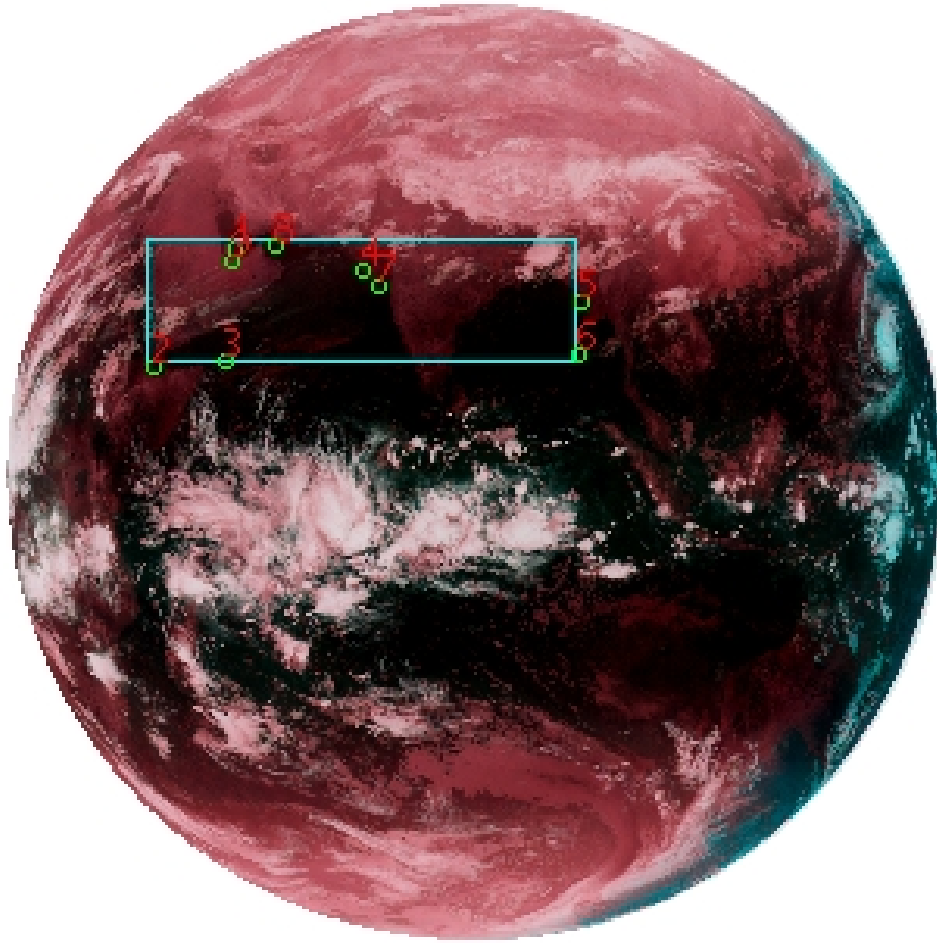


DQE Report: Location Accuracy of INSAT-3D-IMG STANDARD(FULL DISK) Product 3DIMG_25FEB2019_2130

Satellite INSAT-3D **No Of Bands** 6 **Product Type** STANDARD
Sensor IMG **LvlOfProcess** L1B **Selected Band** 2-TIR1
DOP/Time 25-02-19/21:30 **Station ID** BES **Field View(deg)** 17.974
Res(Y,X) [Km] (4.0,4.0) **Res(Y,X) [uRad]** (112.0,112.0)

(81.042N,0.843W)

(81.042N,163.157E)



(-81.042S,0.843W)

(-81.042S,163.157E)

GCP Distribution overview for 3DIMG25FEB20192130L1BSTD

Image Width: 2805 **Image Height:** 2816 **No Of GCPs:** 9

GCP Coverage(%) 12.46 **(N-S)** 43.92 **(E-W)**

Location Error(E)

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

Location Error (In IR Pixels)

| | Mean | Direction | Stddev | RMS |
|--------|--------|-----------|--------|-------|
| Along | 0.298 | N | 0.974 | 1.018 |
| Across | -2.464 | W | 1.216 | 2.747 |

Scale (Km)

| | Pixel Size | Stddev | %variation |
|---------|------------|--------|------------|
| Average | 4.513 | 0.322 | 12.815 |
| Along | 5.961 | 3.550 | 49.023 |
| Across | 4.612 | 0.969 | 15.288 |

Internal Distortion (in IR Pixels)

| | PeakToPeak | Mean | Stddev | RMS |
|--------|------------|-------|--------|-------|
| Along | 2.980 | 0.934 | 0.98 | 1.357 |
| Across | 3.047 | 0.223 | 1.00 | 1.020 |

Attitude Residuals (Deg)

| Pitch | Roll | Yaw |
|----------|----------|---------|
| -0.01819 | -0.00558 | 0.07262 |

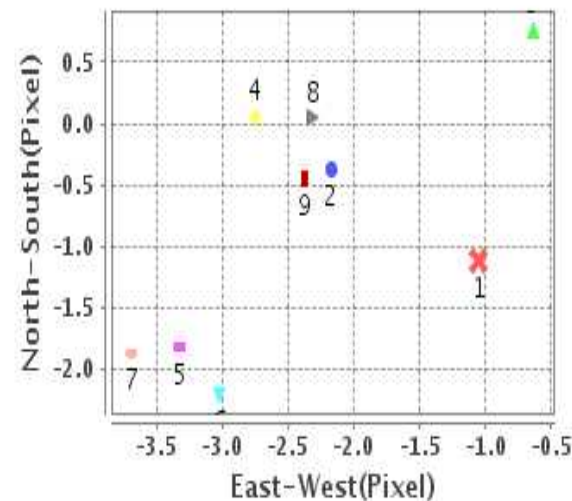
Reference Used

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

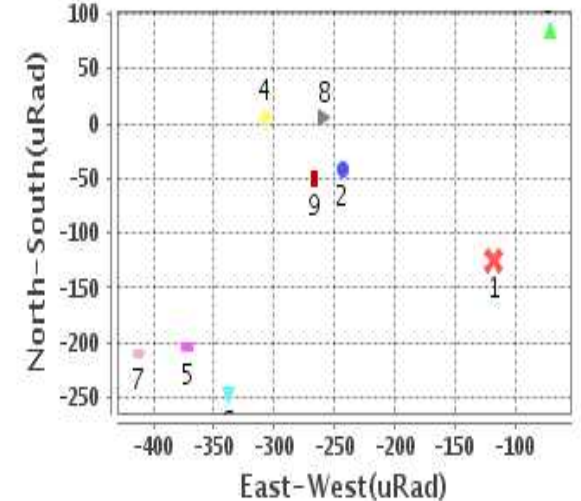
Radial Error (in IR Pixels)

| | |
|------|-------|
| Mean | 2.793 |
| Min | 1.173 |
| Max | 4.270 |
| CE90 | 3.489 |

Location Error For GCPs(Pixel)



Location Error For GCPs(uRad)



Detailed Product Information

Ancillary Info

| | | | |
|-------------------|---------------|---------------------------|------------|
| Satellite | INSAT-3D | Generation Date | 26-02-19 |
| Sensor | IMG | DQE Date | 27-02-2019 |
| PassType | NONE | Aquisition Date | 25-02-19 |
| Imaging Mode | FULL_FRAME | Aquisition Time(GMT) | 21:30 |
| 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) | 82.0 |
| LvlOfProcessing | STANDARD(FULL | Predicted Center Lat(deg) | -999.99 |
| DP JobId | 3DIMG_25FEB20 | Predicted Center Lon(deg) | -999.99 |
| ProductCode | NONE | | |
| Field View(deg) | 17.974 | | |

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) | 82.0 |
| 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) | 0.843 |
| SW_Lat(deg) | -81.042 |
| SW_Lon(deg) | 0.843 |
| NE_Lat(deg) | 81.042 |
| NE_Lon(deg) | 163.157 |
| SE_Lat(deg) | -81.042 |
| SE_Lon(deg) | 163.157 |

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 | SemiMajorAxis(m) | 6378137.00 | Mode Of Computation | grid |
| Ellipsoid | WGS_84 | | -sigma | 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 : 3DIMG25FEB20192130L1BSTD

(-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

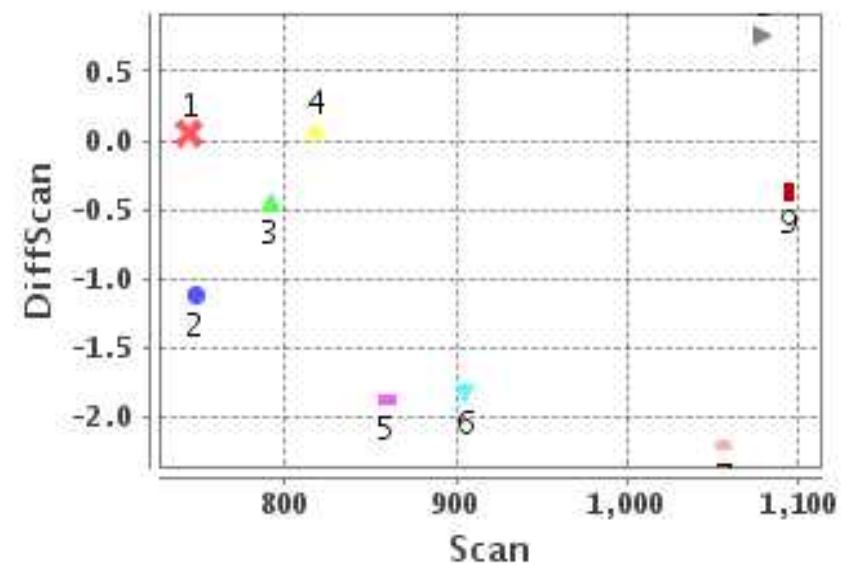
Image Width (pixels) : 2805 Image Height (pixels) : 2816 No of GCPs : 9

| | Mean | StdDev | Min | Max | Coverage(in %) |
|-----------------|-------|--------|-------|---------|----------------|
| GCP Scan | 899.7 | 134.3 | 744.2 | 1095.25 | 12.46 (N-S) |
| GCP Pix | 998.6 | 420.4 | 474.0 | 1706.00 | 43.92 (E-W) |

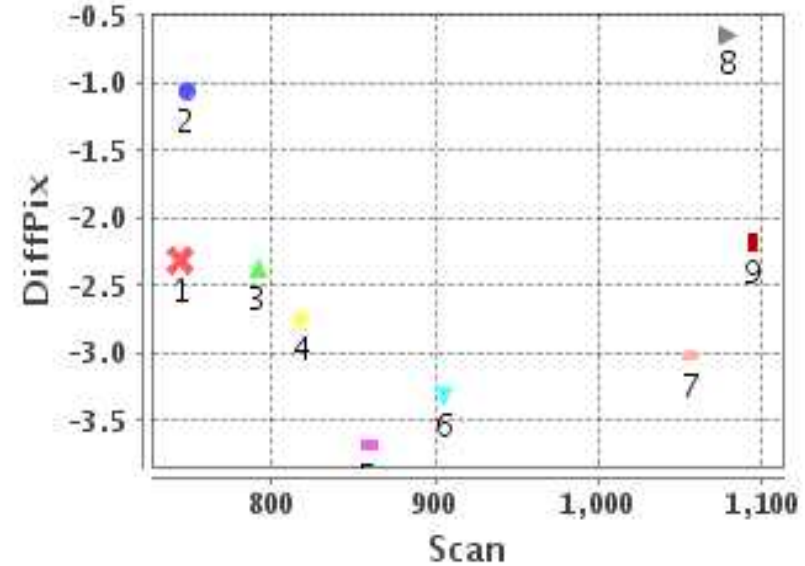
Identified Control Point details : (Differences are Reference - Product)

| No | Scan | Pix | DiffScan (line) | DiffPix (pixel) | DifLat (Km) | Dir | DifLon (Km) | Dir | Status |
|----|--------|--------|-----------------|-----------------|-------------|-----|-------------|-----|----------|
| 1 | 747.5 | 706.0 | -1.1 | -1.05 | 3.281 | N | 6.590 | W | Accepted |
| 2 | 1095.2 | 474.0 | -0.4 | -2.17 | 0.826 | N | 12.313 | W | Accepted |
| 3 | 1079.2 | 681.8 | 0.8 | -0.64 | 4.406 | S | 1.608 | E | Accepted |
| 4 | 817.8 | 1076.5 | 0.1 | -2.75 | 3.698 | S | 9.146 | W | Accepted |
| 5 | 905.8 | 1706.0 | -1.8 | -3.32 | 4.432 | N | 13.235 | W | Accepted |
| 6 | 1056.2 | 1697.2 | -2.2 | -3.02 | 7.441 | N | 10.731 | W | Accepted |
| 7 | 859.8 | 1121.0 | -1.9 | -3.69 | 5.106 | N | 16.297 | W | Accepted |
| 8 | 744.2 | 824.5 | 0.1 | -2.31 | 1.869 | S | 9.009 | W | Accepted |
| 9 | 791.5 | 700.0 | -0.5 | -2.38 | 0.403 | S | 12.986 | W | Accepted |

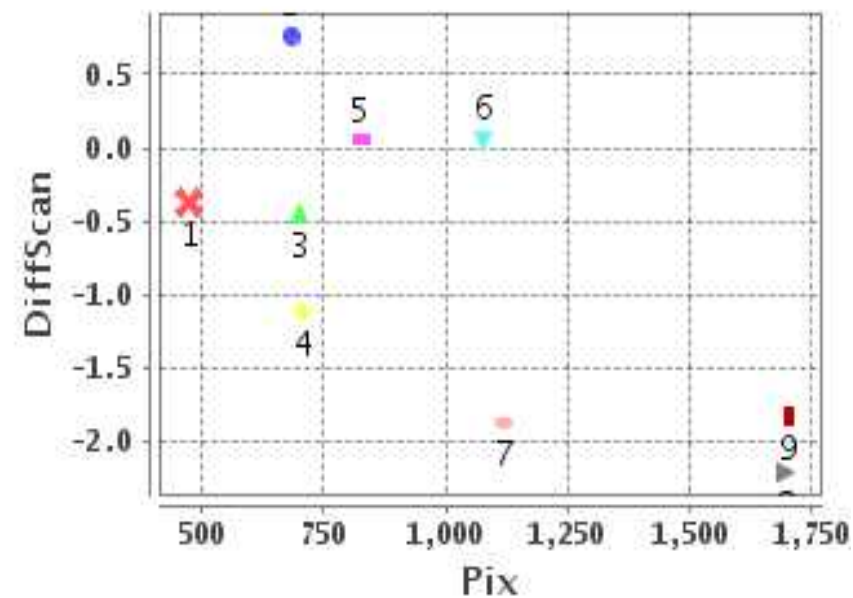
Error(Pixels) Vs. GCPScan



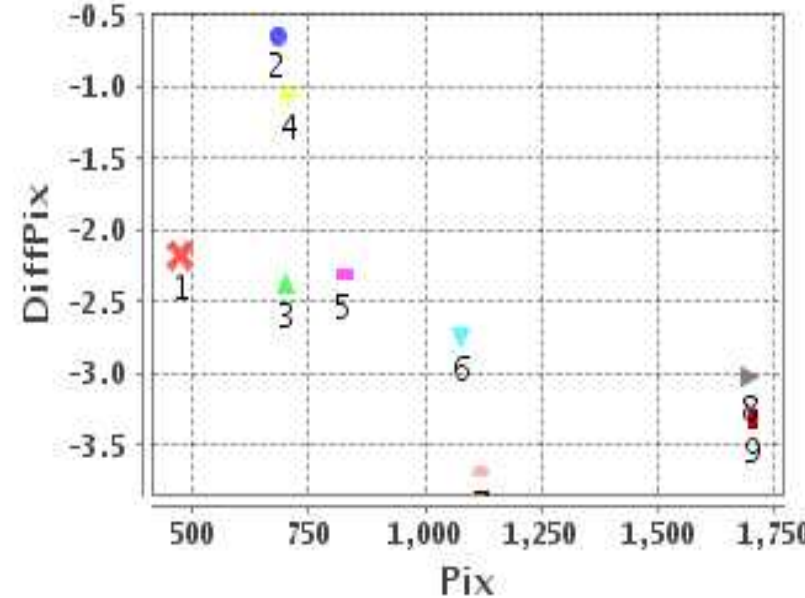
Error(Pixels) Vs. GCPScan



Error(Pixels) Vs. GCPPix



Error(Pixels) Vs. GCPPix



Number Of Points

| | |
|-------|---|
| North | 5 |
| South | 4 |
| East | 1 |
| West | 8 |

Radial Error (Km)

| | |
|------|-------|
| Mean | 2.793 |
| Min | 1.173 |
| Max | 4.270 |
| CE90 | 3.489 |

Location Accuracy

| | Mean | StdDev | RMS | Dir | * MinRMS | * MaxRMS |
|---------------|--------|--------|-------|-----|----------|----------|
| Along(Km) | 0.298 | 0.974 | 1.018 | N | 0.857 | 1.079 |
| Across (Km) | -2.464 | 1.216 | 2.747 | W | 2.533 | 2.911 |

Block-Wise Geo location Error Statistics

Location Accuracy,Scale,ID

| | | | |
|-----------------------------------|----------|-------|--|
| Scan Range-0-937; Pix Range-0-934 | | | |
| Number of GCPs | 3 | | |
| Location Error(Km) | | | |
| Along(Mean,Dir) | 0.336667 | N | |
| Across(Mean,Dir) | -9.53 | W | |
| Scale(Km) | | | |
| Average Scale (Mean,%Variation) | 4.99 | 24.83 | |
| Internal Distortion(Pixel) | | | |
| Along(Mean,Stddev) | 0.84 | 0.33 | |
| Across(Mean,Stddev) | -0.70 | 0.63 | |

| | | | |
|--------------------------------------|-------------|------|--|
| Scan Range-0-937; Pix Range-934-1869 | | | |
| Number of GCPs | 3 | | |
| Location Error(Km) | | | |
| Along(Mean,Dir) | 1.946670000 | N | |
| Across(Mean,Dir) | -12.89 | W | |
| Scale(Km) | | | |
| Average Scale (Mean,%Variation) | 4.31 | 7.77 | |
| Internal Distortion(Pixel) | | | |
| Along(Mean,Stddev) | 1.91 | 0.02 | |
| Across(Mean,Stddev) | 0.76 | 0.18 | |

| | | | |
|---------------------------------------|---------|----------|--|
| 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) | -1.795 | S | |
| Across(Mean,Dir) | -5.36 | W | |
| Scale(Km) | | | |
| Average Scale (Mean,%Variation) | 5.23 | 30.79 | |
| Internal Distortion(Pixel) | | | |
| Along(Mean,Stddev) | 1.15 | 0.00 | |
| Across(Mean,Stddev) | -1.53 | 0.00 | |

| | | | |
|---|---------|---------|--|
| Scan Range-937-1876; Pix Range-934-1869 | | | |
| Number of GCPs | 1 | | |
| Location Error(Km) | | | |
| Along(Mean,Dir) | 7.44 | N | |
| Across(Mean,Dir) | -10.73 | W | |
| 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