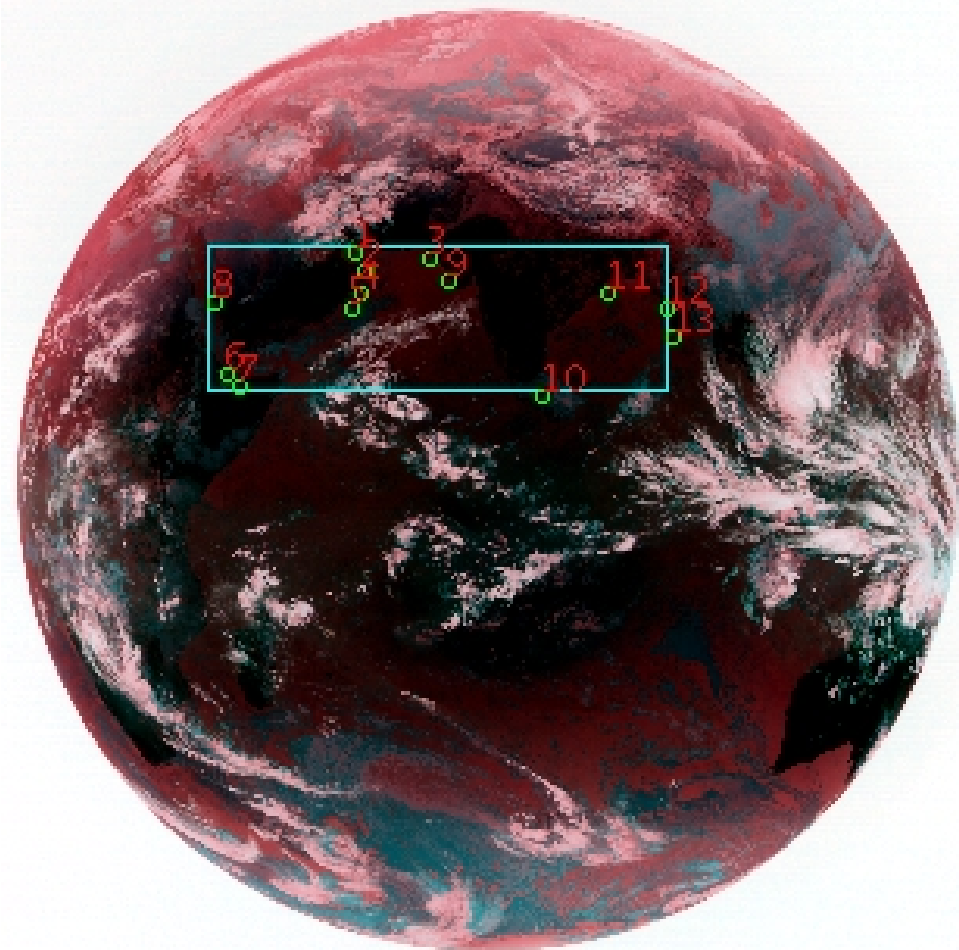


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG\_31DEC2018\_0615

**Satellite** INSAT-3DR    **No Of Bands** 6    **Product Type** STANDARD  
**Sensor** IMG    **LvlOfProcess** L1B    **Selected Band** 2-TIR1  
**DOP/Time** 31-12-18/06:15    **Station ID** BES    **Field View(deg)** 18.006  
**Res(Y,X) [Km]** (4.0,4.0)    **Res(Y,X) [uRad]** (112.0,112.0)

(81.046N,-7.278W)

(81.046N,155.174E)



(-80.992S,-7.278W)

(-80.992S,155.174E)

GCP Distribution overview for 3RIMG31DEC20180615L1BDQE

**Image Width:** 2805    **Image Height:** 2816    **No Of GCPs:** 13

**GCP Coverage(%)**    14.72    **(N-S)** 47.27    **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-3.227	S	1.312	3.483
Across	11.594	E	3.037	11.985

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.308	0.209	7.704
Along	4.492	0.986	12.296
Across	4.334	0.267	8.361

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.690	0.725	0.83	1.099
Across	3.866	2.713	1.21	2.970

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
0.06692	0.01900	0.06471

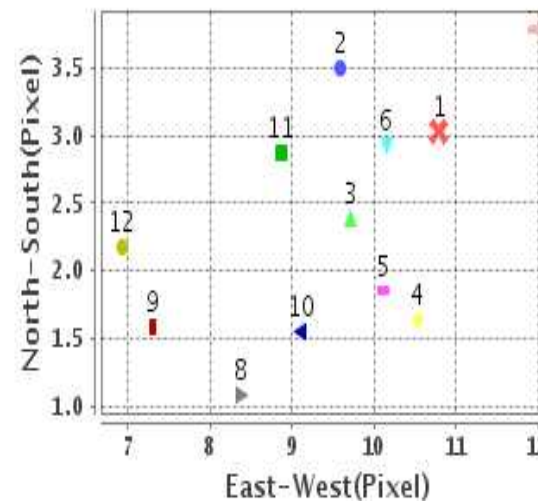
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

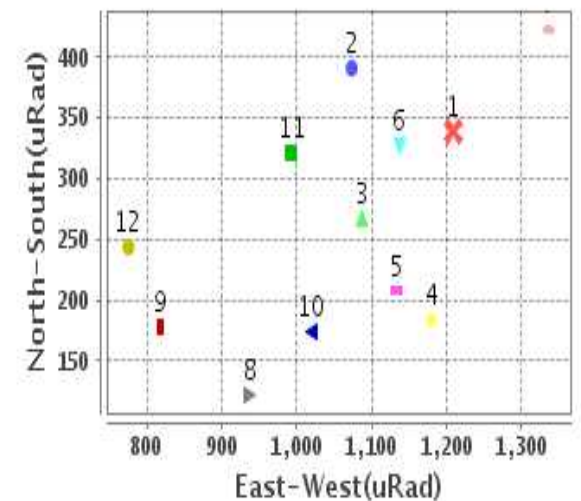
## Radial Error (in IR Pixels)

<b>Mean</b>	12.066
<b>Min</b>	7.772
<b>Max</b>	20.124
<b>CE90</b>	13.660

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	31-12-18
<b>Sensor</b>	IMG	<b>DQE Date</b>	01-01-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	31-12-18
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	06:15
<b>Sat Altitude(m)</b>	3.6E7	<b>Nominal Altitude(Km)</b>	3.6E7
<b>Station</b>	BES	<b>Predicted Altitude(Km)</b>	-999.99
<b>Sat Location(deg)</b>	-999.99 E	<b>Nominal Center Lat(deg)</b>	0.0
<b>Format</b>	hdf5-1.8.8	<b>Nominal Center Lon(deg)</b>	74.0
<b>LvlOfProcessing</b>	STANDARD	<b>Predicted Center Lat(deg)</b>	-999.99
<b>DP JobId</b>	3RIMG_31DEC20	<b>Predicted Center Lon(deg)</b>	-999.99
<b>ProductCode</b>	NONE		
<b>Field View(deg)</b>	18.006		

### Projection Parameters

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

### Scene Center Desc

<b>Centre Lat(deg)</b>	0.027
<b>Center Lon(deg)</b>	73.948
<b>Centre Roll(deg)</b>	-999.0
<b>Centre Pitch(deg)</b>	-999.0
<b>Center Yaw(deg)</b>	-999.0
<b>SunElevation(deg)</b>	-999.99
<b>SunAzimuth(deg)</b>	-999.99
<b>SatElevation(deg)</b>	-999.99
<b>SatAzimuth(deg)</b>	-999.99

### Scene Corner Desc

<b>NW_Lat(deg)</b>	81.046
<b>NW_Lon(deg)</b>	-7.278
<b>SW_Lat(deg)</b>	-80.992
<b>SW_Lon(deg)</b>	-7.278
<b>NE_Lat(deg)</b>	81.046
<b>NE_Lon(deg)</b>	155.174
<b>SE_Lat(deg)</b>	-80.992
<b>SE_Lon(deg)</b>	155.174

### Band Wise Details

	Res_AL(Km)	Res_AX(Km)	Image Height	Image Width
<b>MIR</b>	4.0	4.0	2816	2805
<b>SWIR</b>	1.0	1.0	11264	11220
<b>TIR1</b>	4.0	4.0	2816	2805
<b>TIR2</b>	4.0	4.0	2816	2805
<b>VIS</b>	1.0	1.0	11264	11220
<b>WV</b>	8.0	8.0	1408	1402

## GDQE Computation Base

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

\* -999.99 : Not Applicable/Not Available

## References

**JobId : 3RIMG31DEC20180615L1BDQE**

(-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

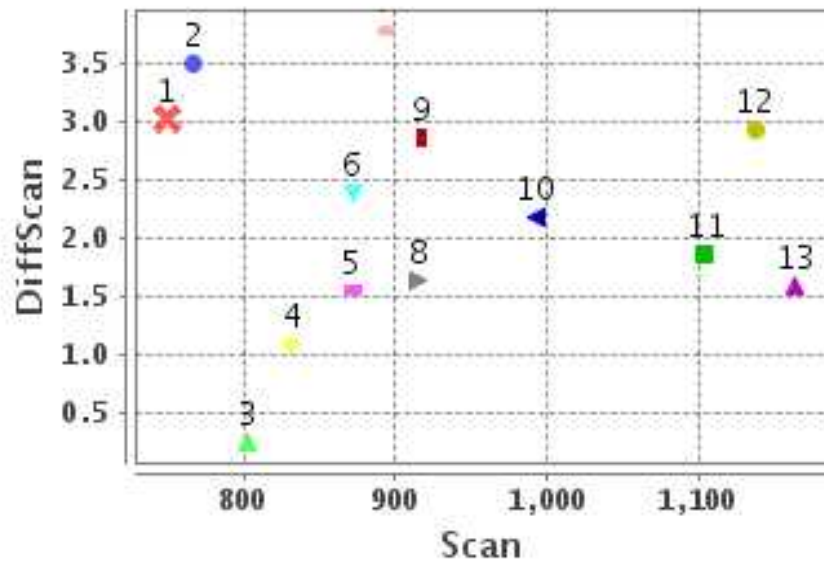
Image Width (pixels) : 2805      Image Height (pixels) : 2816      No of GCPs : 13

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	924.6	131.6	749.5	1164.00	14.72 (N-S)
<b>GCP Pix</b>	1196.6	441.3	598.8	1924.75	47.27 (E-W)

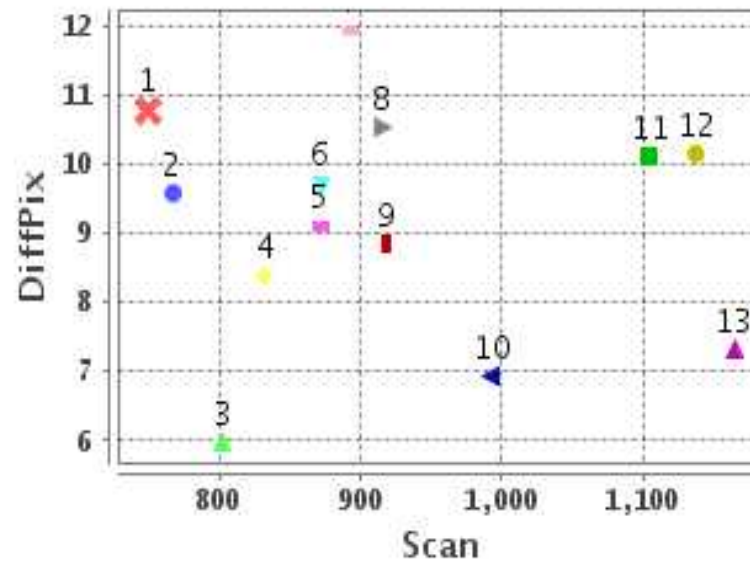
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	749.5	1002.5	3.0	10.79	19.279	S	55.504	E	Accepted
2	802.5	1028.8	0.3	5.98	4.642	S	31.200	E	Rejected
3	767.2	1222.8	3.5	9.59	19.084	S	45.934	E	Accepted
4	872.0	1023.2	2.4	9.71	11.919	S	45.301	E	Accepted
5	915.5	991.5	1.6	10.53	10.725	S	48.657	E	Accepted
6	1104.5	634.2	1.9	10.12	11.073	S	53.265	E	Accepted
7	1137.2	672.5	2.9	10.15	14.349	S	52.724	E	Accepted
8	893.5	598.8	3.8	11.94	22.998	S	77.142	E	Accepted
9	832.0	1277.2	1.1	8.37	4.983	S	36.244	E	Accepted
10	1164.0	1540.5	1.6	7.31	6.165	S	30.472	E	Accepted
11	871.5	1735.5	1.5	9.10	8.144	S	40.500	E	Accepted
12	917.5	1903.0	2.9	8.87	15.056	S	38.100	E	Accepted
13	992.5	1924.8	2.2	6.92	11.114	S	32.676	E	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



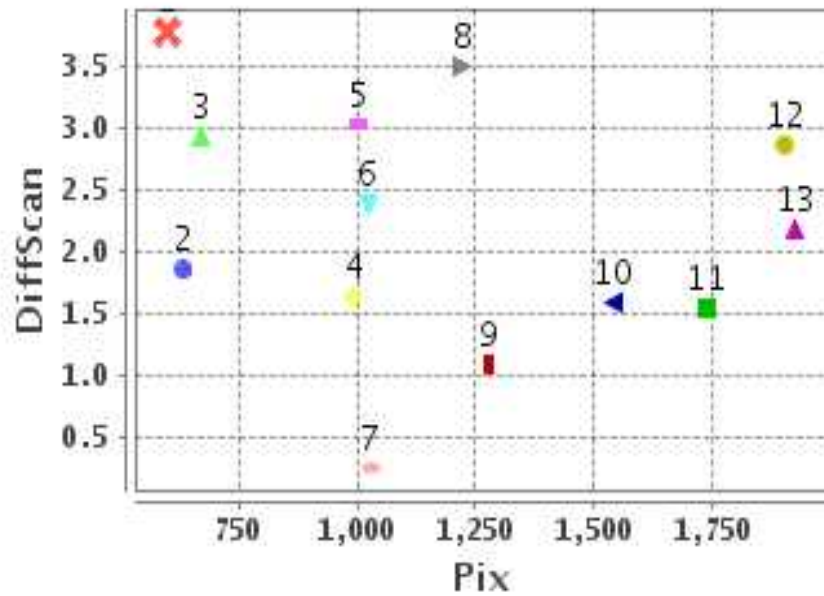
#### Number Of Points

North	0
South	12
East	12
West	0

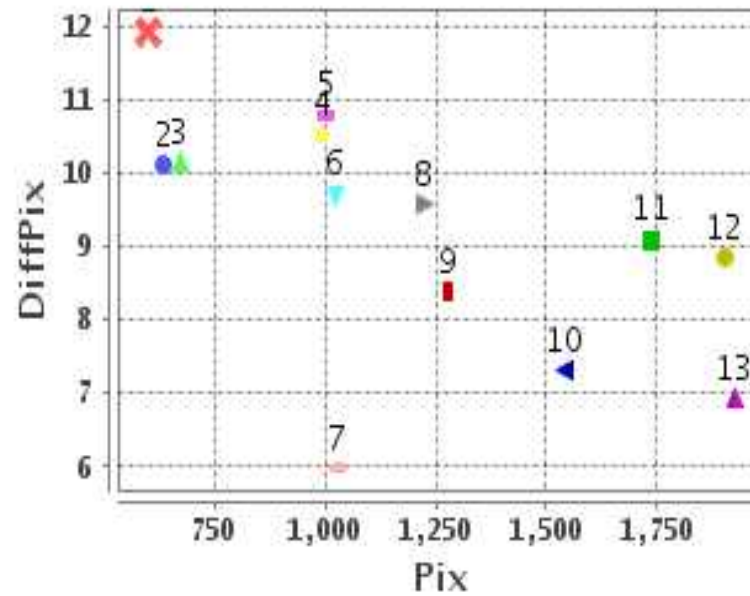
#### Radial Error ( Km )

Mean	12.066
Min	7.772
Max	20.124
CE90	13.660

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	-3.227	1.312	3.483	S	3.199	3.619
Across ( Km )	11.594	3.037	11.985	E	11.086	12.306

## Block-Wise Geo location Error Statistics

### Location Accuracy,Scale,ID

<b>Scan Range-0-937; Pix Range-0-934</b> Number of GCPs            1  <b>Location Error(Km)</b> Along(Mean,Dir)            -23.0                    S Across(Mean,Dir)            77.14                   E  <b>Scale(Km)</b> Average Scale (Mean,%Variation)    -999.99            -999.9  <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev)    -999.99            -999.99 Across(Mean,Stddev)    -999.99            -999.99	<b>Scan Range-0-937; Pix Range-934-1869</b> Number of GCPs            6  <b>Location Error(Km)</b> Along(Mean,Dir)            -12.3532999        S Across(Mean,Dir)            45.36                   E  <b>Scale(Km)</b> Average Scale (Mean,%Variation)    4.36                8.89  <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev)    1.00                0.84 Across(Mean,Stddev)    1.02                0.79	<b>Scan Range-0-937; Pix Range-1869-2805</b> Number of GCPs            1  <b>Location Error(Km)</b> Along(Mean,Dir)            -15.05                S Across(Mean,Dir)            38.10                E  <b>Scale(Km)</b> Average Scale (Mean,%Variation)    -999.99            -999.9  <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev)    -999.99            -999.99 Across(Mean,Stddev)    -999.99            -999.99
<b>Scan Range-937-1876; Pix Range-0-934</b> Number of GCPs            2  <b>Location Error(Km)</b> Along(Mean,Dir)            -12.715              S Across(Mean,Dir)            52.99                E  <b>Scale(Km)</b> Average Scale (Mean,%Variation)    4.98                24.38  <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev)    -1.08                0.00 Across(Mean,Stddev)    -0.03                0.00	<b>Scan Range-937-1876; Pix Range-934-1869</b> Number of GCPs            1  <b>Location Error(Km)</b> Along(Mean,Dir)            -6.16                S Across(Mean,Dir)            30.47                E  <b>Scale(Km)</b> Average Scale (Mean,%Variation)    -999.99            -999.9  <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev)    -999.99            -999.99 Across(Mean,Stddev)    -999.99            -999.99	<b>Scan Range-937-1876; Pix Range-1869-2805</b> Number of GCPs            1  <b>Location Error(Km)</b> Along(Mean,Dir)            -11.11               S Across(Mean,Dir)            32.68                E  <b>Scale(Km)</b> Average Scale (Mean,%Variation)    -999.99            -999.9  <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev)    -999.99            -999.99 Across(Mean,Stddev)    -999.99            -999.99
<b>Scan Range-1876-2816; Pix Range-0-934</b> Number of GCPs            -999  <b>Location Error(Km)</b> Along(Mean,Dir)            -999.99            NotAvail Across(Mean,Dir)            -999.99            NotAvail  <b>Scale(Km)</b> Average Scale (Mean,%Variation)    -999.99            -999.9  <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev)    -999.99            -999.99 Across(Mean,Stddev)    -999.99            -999.99	<b>Scan Range-1876-2816; Pix Range-937-1869</b> Number of GCPs            -999  <b>Location Error(Km)</b> Along(Mean,Dir)            -999.99            NotAvail Across(Mean,Dir)            -999.99            NotAvail  <b>Scale(Km)</b> Average Scale (Mean,%Variation)    -999.99            -999.9  <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev)    -999.99            -999.99 Across(Mean,Stddev)    -999.99            -999.99	<b>Scan Range-1876-2816; Pix Range-1869-2805</b> Number of GCPs            -999  <b>Location Error(Km)</b> Along(Mean,Dir)            -999.99            NotAvail Across(Mean,Dir)            -999.99            NotAvail  <b>Scale(Km)</b> Average Scale (Mean,%Variation)    -999.99            -999.9  <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev)    -999.99            -999.99 Across(Mean,Stddev)    -999.99            -999.99

\*-999 : no gcp available

\* -999.99 : values are not computed