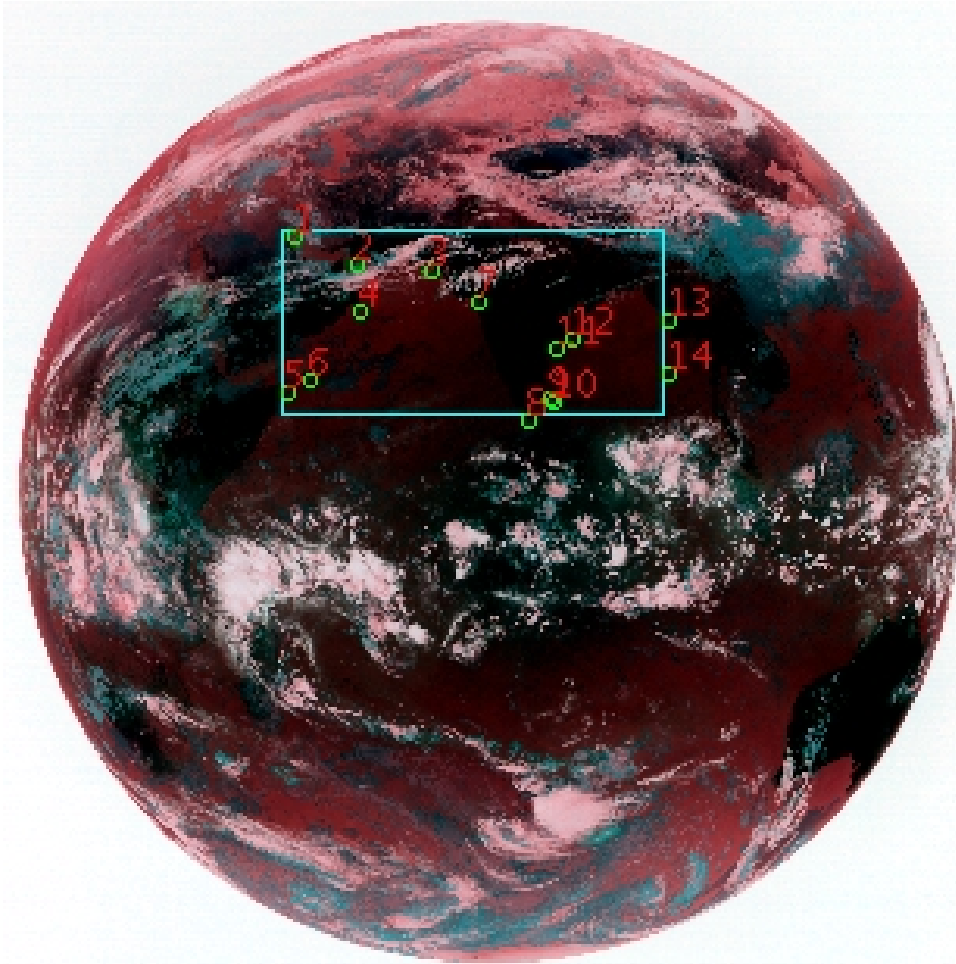


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG\_23FEB2019\_0615

**Satellite** INSAT-3DR    **No Of Bands** 6    **Product Type** STANDARD  
**Sensor** IMG    **LvlOfProcess** L1B    **Selected Band** 2-TIR1  
**DOP/Time** 23-02-19/06:15    **Station ID** BES    **Field View(deg)** 18.006  
**Res(Y,X) [Km]** (4.0,4.0)    **Res(Y,X) [uRad]** (112.0,112.0)

(80.882N,-7.082W)

(80.882N,155.228E)



(-81.128S,-7.082W)

(-81.128S,155.228E)

GCP Distribution overview for 3RIMG23FEB20190615L1BDQE

**Image Width:** 2805    **Image Height:** 2816    **No Of GCPs:** 14

**GCP Coverage(%)**    18.80    **(N-S)** 38.92    **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-5.219	S	1.204	5.356
Across	9.539	E	2.263	9.804

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.282	0.303	7.051
Along	4.817	2.996	20.434
Across	4.302	0.784	7.538

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.717	-0.372	0.92	0.992
Across	4.582	-0.464	1.28	1.363

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
0.05802	0.03300	0.01972

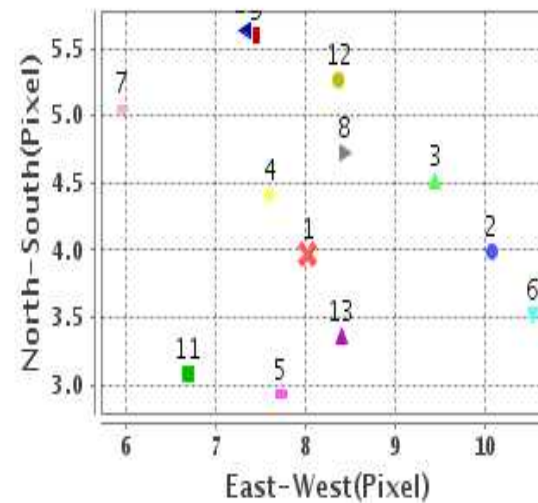
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

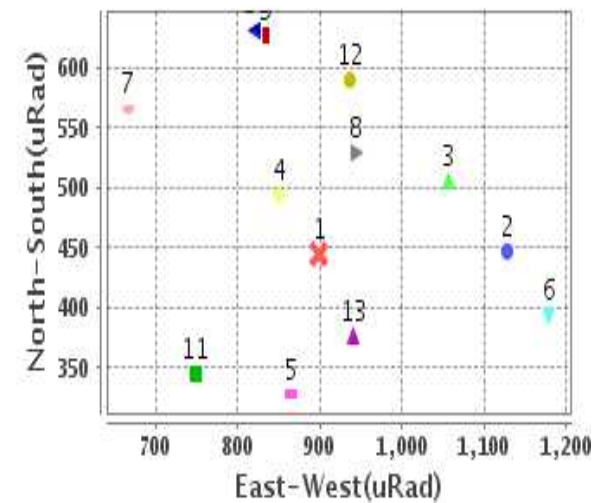
## Radial Error (in IR Pixels)

<b>Mean</b>	10.955
<b>Min</b>	7.539
<b>Max</b>	15.356
<b>CE90</b>	12.954

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	23-02-19
<b>Sensor</b>	IMG	<b>DQE Date</b>	25-02-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	23-02-19
<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_23FEB20	<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>	-0.123
<b>Center Lon(deg)</b>	74.073
<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>	80.882
<b>NW_Lon(deg)</b>	-7.082
<b>SW_Lat(deg)</b>	-81.128
<b>SW_Lon(deg)</b>	-7.082
<b>NE_Lat(deg)</b>	80.882
<b>NE_Lon(deg)</b>	155.228
<b>SE_Lat(deg)</b>	-81.128
<b>SE_Lon(deg)</b>	155.228

### 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>	meters	<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 : 3RIMG23FEB20190615L1BDQE**

(-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 : 14

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	968.3	161.3	668.8	1198.25	18.80 (N-S)
<b>GCP Pix</b>	1337.3	369.1	808.5	1900.25	38.92 (E-W)

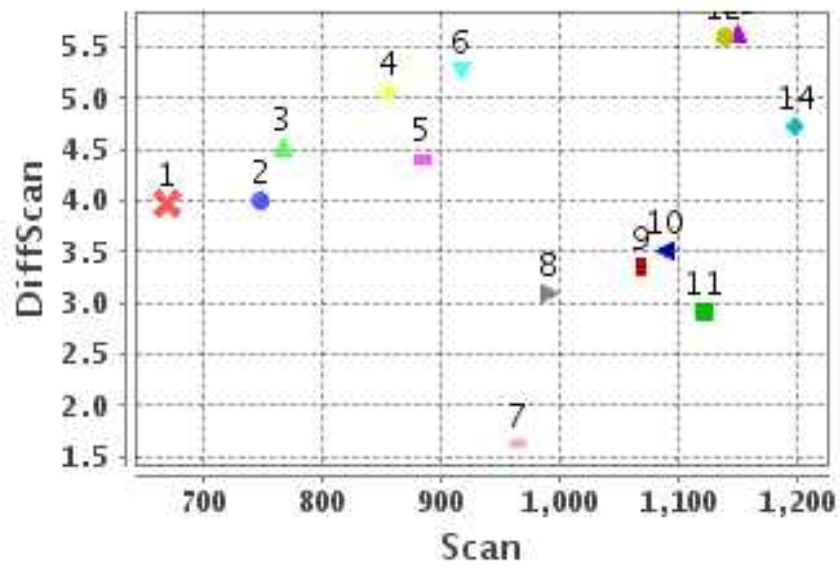
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	668.8	819.5	4.0	8.02	29.303	S	53.984	E	Accepted
2	748.2	1000.5	4.0	10.08	23.057	S	53.374	E	Accepted
3	766.5	1220.0	4.5	9.44	25.171	S	42.739	E	Accepted
4	883.2	1014.8	4.4	7.59	21.052	S	39.540	E	Accepted
5	1120.5	808.5	2.9	7.73	14.776	S	37.923	E	Accepted
6	1088.2	867.2	3.5	10.53	15.240	S	49.526	E	Accepted
7	855.2	1352.5	5.0	5.95	24.071	S	26.888	E	Accepted
8	1198.2	1498.8	4.7	8.43	18.618	S	36.144	E	Accepted
9	1138.5	1563.2	5.6	7.44	24.058	S	29.558	E	Accepted
10	1150.0	1573.5	5.6	7.33	21.745	S	30.036	E	Accepted
11	990.5	1582.0	3.1	6.68	14.687	S	26.340	E	Accepted
12	964.2	1621.2	1.6	7.84	7.476	S	32.907	E	Rejected
13	916.5	1900.2	5.3	8.36	25.788	S	34.906	E	Accepted

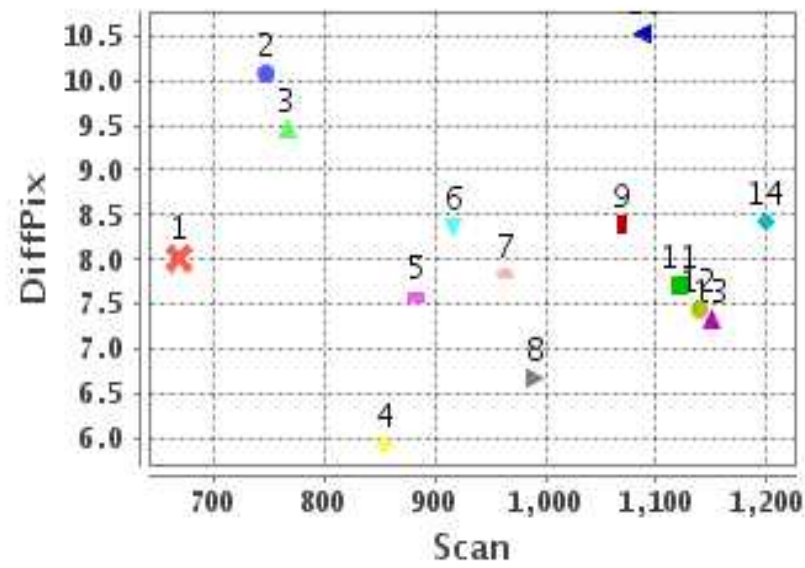
**Identified Control Point details : ( Differences are Reference - Product )**

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
14	1068.0	1900.0	3.4	8.40	13.832	S	35.058	E	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



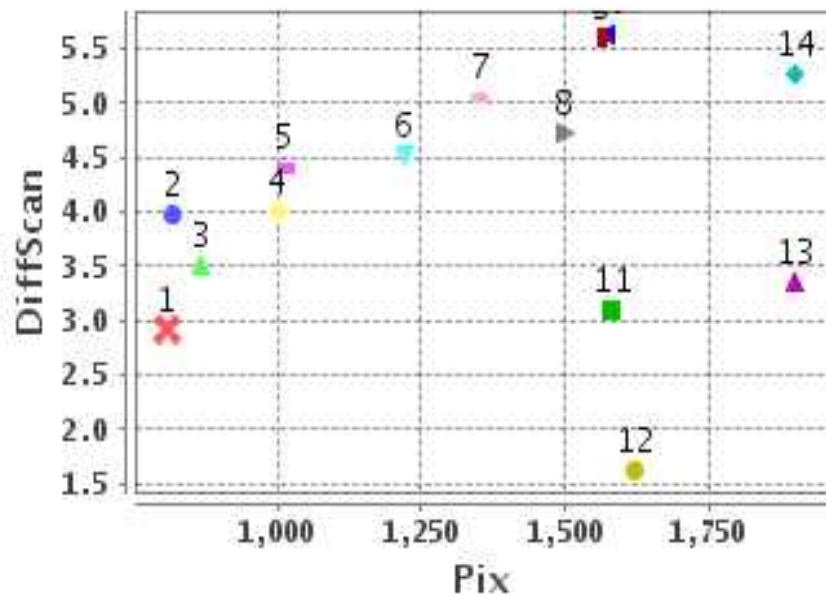
#### Number Of Points

North	0
South	13
East	13
West	0

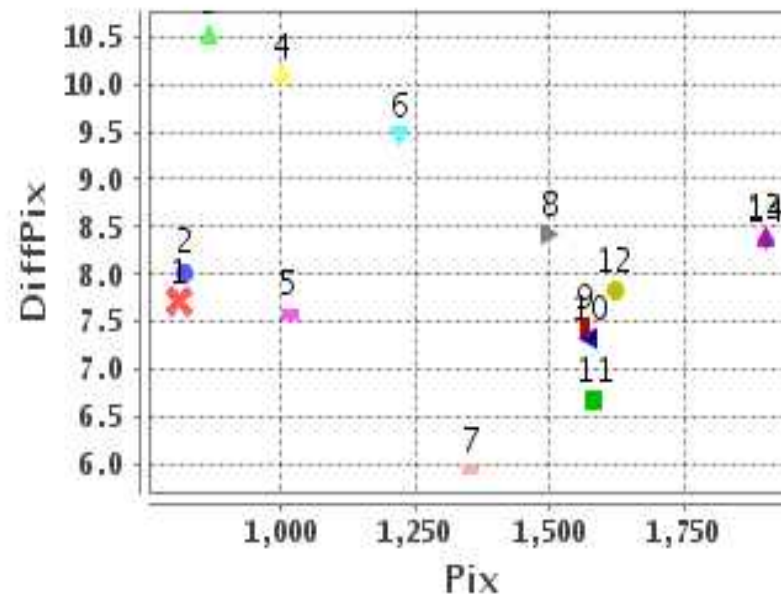
#### Radial Error ( Km )

Mean	10.955
Min	7.539
Max	15.356
CE90	12.954

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	-5.219	1.204	5.356	S	5.158	5.485
Across ( Km )	9.539	2.263	9.804	E	9.431	10.025

## 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) -29.3 S Across(Mean,Dir) 53.98 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 4 <b>Location Error(Km)</b> Along(Mean,Dir) -23.3375 S Across(Mean,Dir) 40.63 E <b>Scale(Km)</b> Average Scale (Mean,%Variation) 4.46 11.53 <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev) -0.67 0.28 Across(Mean,Stddev) 2.42 1.43	<b>Scan Range-0-937; Pix Range-1869-2805</b> Number of GCPs 1 <b>Location Error(Km)</b> Along(Mean,Dir) -25.78 S Across(Mean,Dir) 34.90 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) -15.005 S Across(Mean,Dir) 43.73 E <b>Scale(Km)</b> Average Scale (Mean,%Variation) 4.30 7.51 <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev) 0.60 0.00 Across(Mean,Stddev) -2.81 0.00	<b>Scan Range-937-1876; Pix Range-934-1869</b> Number of GCPs 4 <b>Location Error(Km)</b> Along(Mean,Dir) -19.7772 S Across(Mean,Dir) 30.52 E <b>Scale(Km)</b> Average Scale (Mean,%Variation) 4.00 0.05 <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev) -2.23 0.42 Across(Mean,Stddev) 1.28 0.34	<b>Scan Range-937-1876; Pix Range-1869-2805</b> Number of GCPs 1 <b>Location Error(Km)</b> Along(Mean,Dir) -13.83 S Across(Mean,Dir) 35.06 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