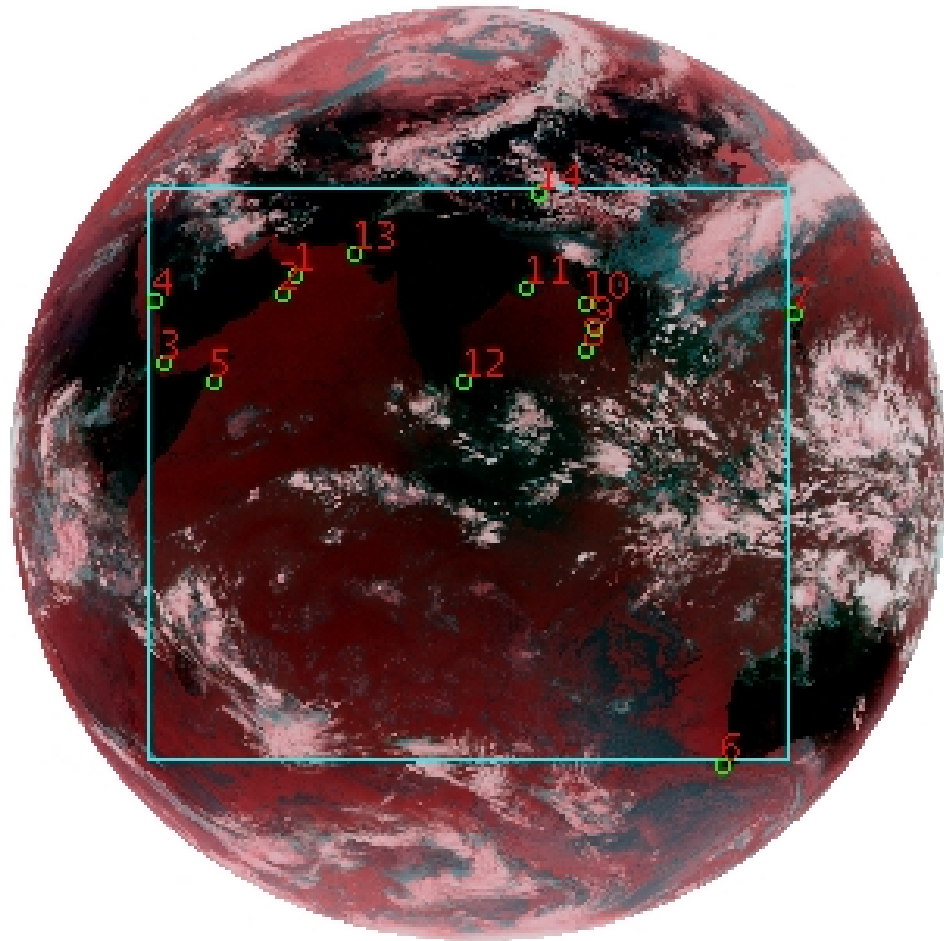


# DQE Report: Location Accuracy of INSAT-3D-IMG STANDARD(FULL DISK) Product 3DIMG\_31MAR2017\_0559

**Satellite** INSAT-3D      **No Of Bands** 6      **Product Type** STANDARD  
**Sensor** IMG      **LvlOfProcess** L1B      **Selected Band** 2-TIR1  
**DOP/Time** 31-03-17/05:59      **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 3DIMG31MAR20170559L1BSTD

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

**GCP Coverage(%)** 58.28      **(N-S)** 65.66      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.091	N	1.976	1.979
Across	-3.073	W	1.382	3.369

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.502	0.296	12.546
Along	5.264	3.811	31.589
Across	4.596	1.090	14.889

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	6.983	3.142	1.67	3.560
Across	3.319	0.337	0.93	0.988

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01871	-0.00156	0.06932

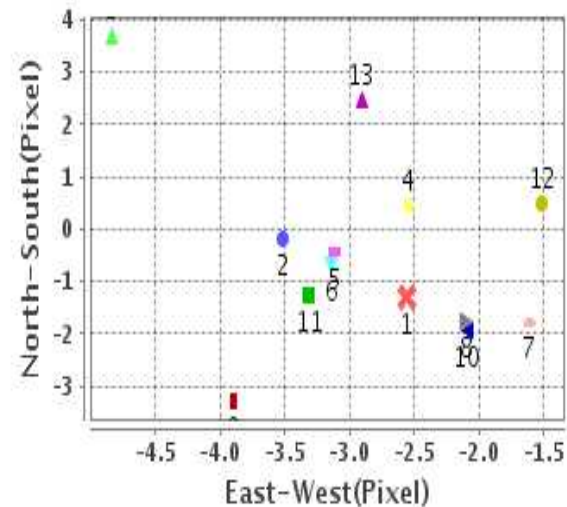
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

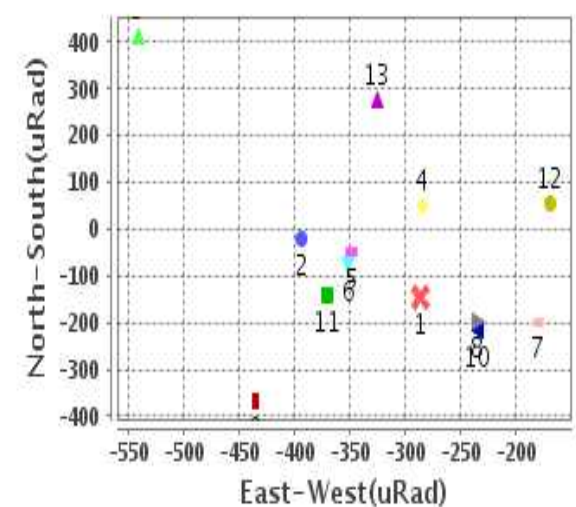
## Radial Error (in IR Pixels)

<b>Mean</b>	3.600
<b>Min</b>	1.616
<b>Max</b>	7.314
<b>CE90</b>	4.800

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3D	<b>Generation Date</b>	31-03-17
<b>Sensor</b>	IMG	<b>DQE Date</b>	03-04-2017
<b>PassType</b>	NONE	<b>Aquisition Date</b>	31-03-17
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	05:59
<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>	82.0
<b>LvlOfProcessing</b>	STANDARD(FULL)	<b>Predicted Center Lat(deg)</b>	-999.99
<b>DP JobId</b>	3DIMG_31MAR2	<b>Predicted Center Lon(deg)</b>	-999.99
<b>ProductCode</b>	NONE		
<b>Field View(deg)</b>	17.974		

### 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>	0.0
<b>Center Lon(deg)</b>	82.0
<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>	81.042
<b>NW_Lon(deg)</b>	0.843
<b>SW_Lat(deg)</b>	-81.042
<b>SW_Lon(deg)</b>	0.843
<b>NE_Lat(deg)</b>	81.042
<b>NE_Lon(deg)</b>	163.157
<b>SE_Lat(deg)</b>	-81.042
<b>SE_Lon(deg)</b>	163.157

### 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 : 3DIMG31MAR20170559L1BSTD**

(-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>	1016.4	366.0	592.2	2233.50	58.28 (N-S)
<b>GCP Pix</b>	1302.1	570.8	457.0	2298.75	65.66 (E-W)

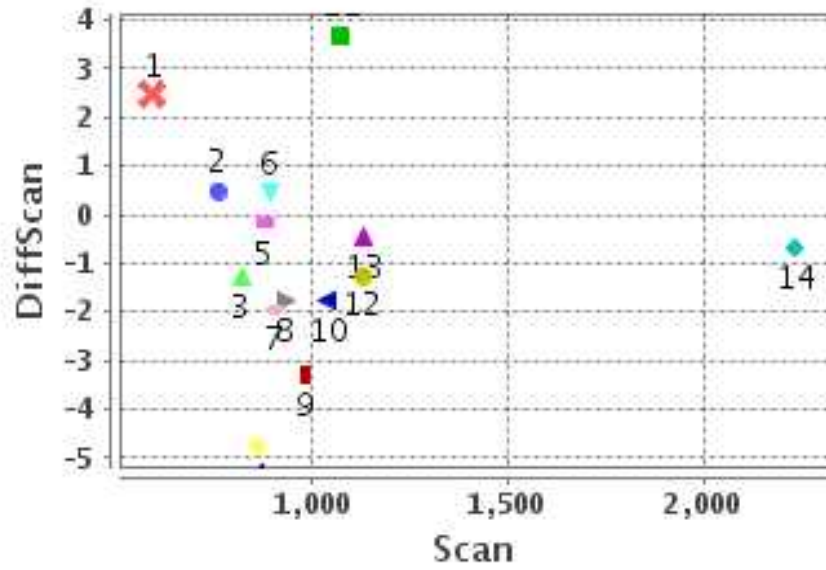
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	820.2	862.0	-1.3	-2.56	5.564	N	13.379	W	Accepted
2	878.0	826.5	-0.2	-3.52	0.810	N	14.013	W	Accepted
3	1073.0	481.0	3.7	-4.83	15.622	S	24.739	W	Accepted
4	891.0	457.0	0.5	-2.55	1.775	S	16.344	W	Accepted
5	1132.5	629.5	-0.4	-3.11	0.083	S	13.018	W	Accepted
6	2233.5	2089.5	-0.7	-3.14	2.505	N	16.829	W	Accepted
7	932.5	2298.8	-1.8	-1.61	5.722	N	3.003	W	Accepted
8	1041.8	1696.0	-1.7	-2.10	3.243	N	8.113	W	Accepted
9	980.2	1723.2	-3.3	-3.89	12.235	N	14.799	W	Accepted
10	905.5	1698.8	-1.9	-2.10	6.482	N	5.730	W	Accepted
11	861.5	1528.0	-4.8	2.15	19.239	N	9.841	E	Rejected
12	1129.0	1346.2	-1.3	-3.31	5.381	N	11.972	W	Accepted
13	759.2	1028.2	0.5	-1.51	3.902	S	5.401	W	Accepted

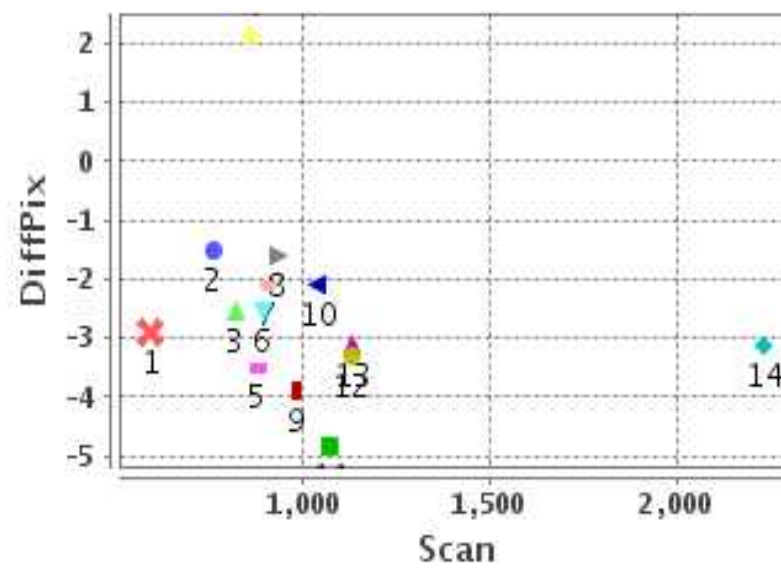
**Identified Control Point details : ( Differences are Reference - Product )**

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
14	592.2	1564.5	2.5	-2.90	15.811	S	12.442	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



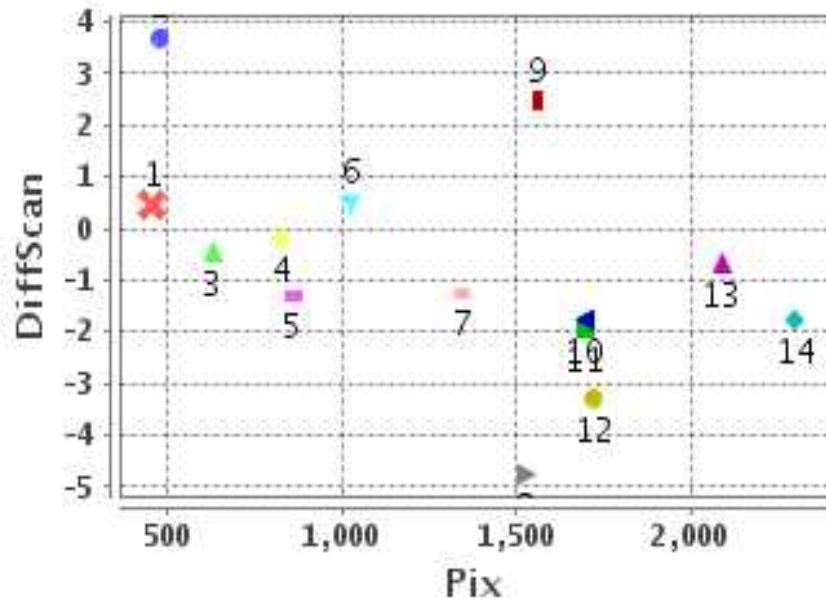
#### Number Of Points

North	8
South	5
East	0
West	13

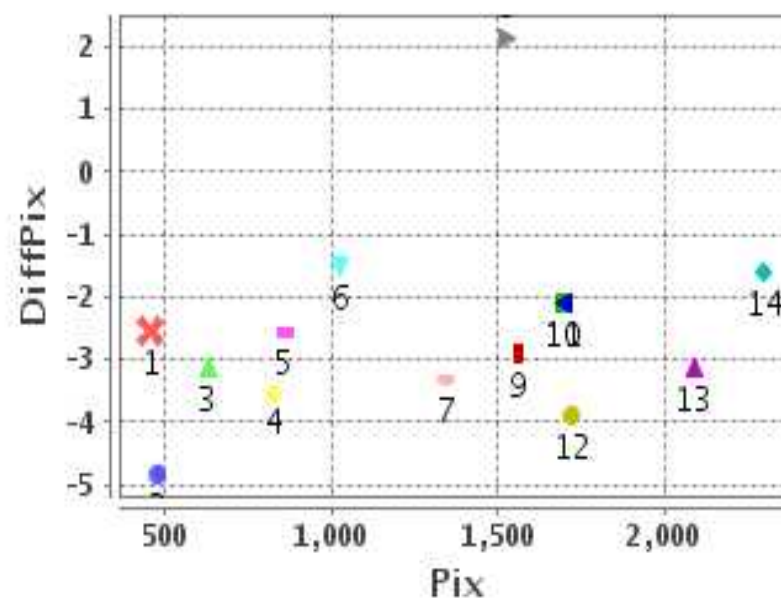
#### Radial Error ( Km )

Mean	3.600
Min	1.616
Max	7.314
CE90	4.800

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.091	1.976	1.979	N	1.714	2.059
Across ( Km )	-3.073	1.382	3.369	W	3.018	3.500

## Block-Wise Geo location Error Statistics

### Location Accuracy,Scale,ID

<b>Scan Range-0-937; Pix Range-0-934</b> Number of GCPs 3 <b>Location Error(Km)</b> Along(Mean,Dir) 1.53 N Across(Mean,Dir) -14.58 W <b>Scale(Km)</b> Average Scale (Mean,%Variation) 5.00 24.89 <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev) -1.44 0.32 Across(Mean,Stddev) 0.49 0.48	<b>Scan Range-0-937; Pix Range-934-1869</b> Number of GCPs 3 <b>Location Error(Km)</b> Along(Mean,Dir) -4.41333 S Across(Mean,Dir) -7.86 W <b>Scale(Km)</b> Average Scale (Mean,%Variation) 4.51 12.79 <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev) 3.21 1.22 Across(Mean,Stddev) 0.99 0.40	<b>Scan Range-0-937; Pix Range-1869-2805</b> Number of GCPs 1 <b>Location Error(Km)</b> Along(Mean,Dir) 5.72 N Across(Mean,Dir) -3.00 W <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) -7.855 S Across(Mean,Dir) -18.88 W <b>Scale(Km)</b> Average Scale (Mean,%Variation) 5.49 37.15 <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev) 4.14 0.00 Across(Mean,Stddev) -1.72 0.00	<b>Scan Range-937-1876; Pix Range-934-1869</b> Number of GCPs 3 <b>Location Error(Km)</b> Along(Mean,Dir) 6.95667 N Across(Mean,Dir) -11.63 W <b>Scale(Km)</b> Average Scale (Mean,%Variation) 4.14 3.43 <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev) -1.78 0.24 Across(Mean,Stddev) -0.32 0.90	<b>Scan Range-937-1876; 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
<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 1 <b>Location Error(Km)</b> Along(Mean,Dir) 2.51 N Across(Mean,Dir) -16.83 W <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