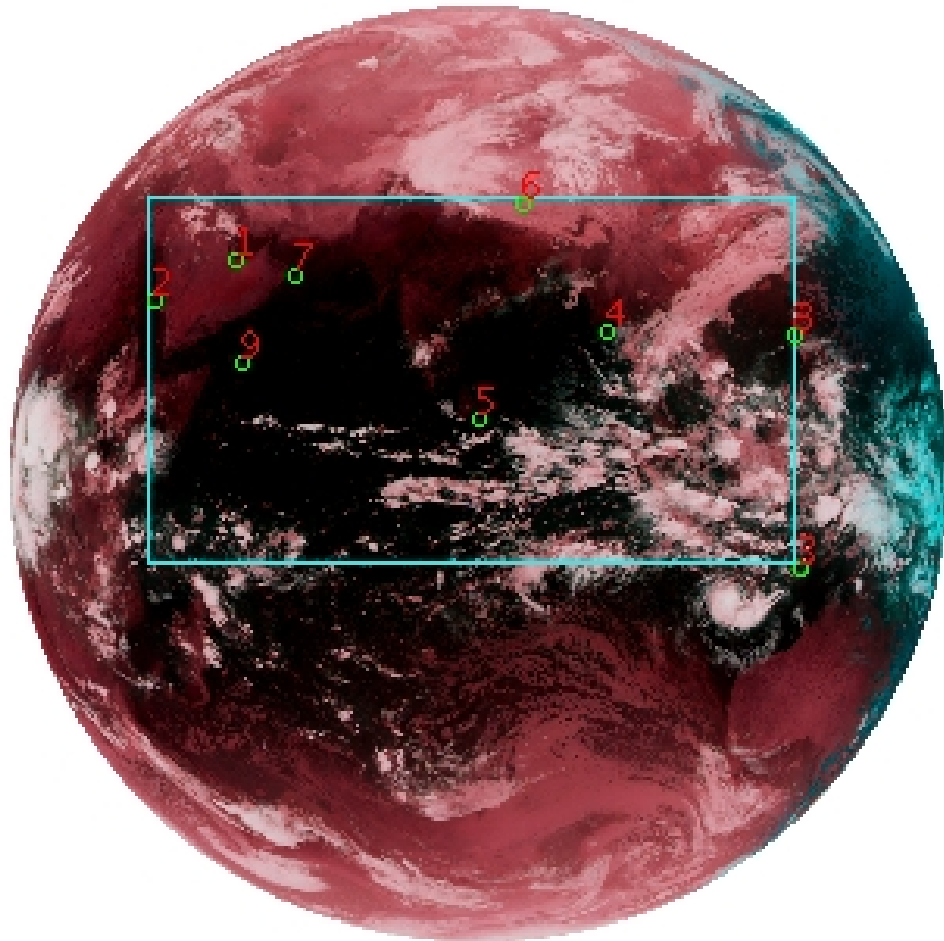


# DQE Report: Location Accuracy of INSAT-3D-IMG STANDARD(FULL DISK) Product 3DIMG\_05APR2017\_2130

**Satellite** INSAT-3D      **No Of Bands** 6      **Product Type** STANDARD  
**Sensor** IMG      **LvlOfProcess** L1B      **Selected Band** 2-TIR1  
**DOP/Time** 05-04-17/21:30      **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 3DIMG05APR20172130L1BSTD

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

**GCP Coverage(%)** 37.31      **(N-S)** 66.47      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-0.103	S	1.433	1.437
Across	-2.571	W	1.848	3.166

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.527	0.353	13.169
Along	4.692	0.970	17.311
Across	4.704	0.813	17.593

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	4.233	-1.285	1.20	1.761
Across	6.265	0.496	1.92	1.979

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01617	0.00061	0.00431

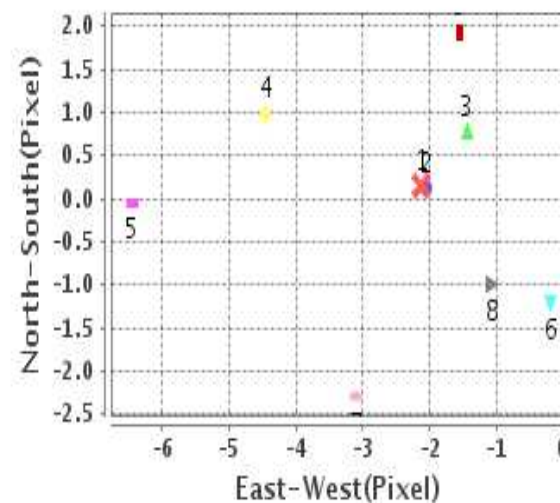
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

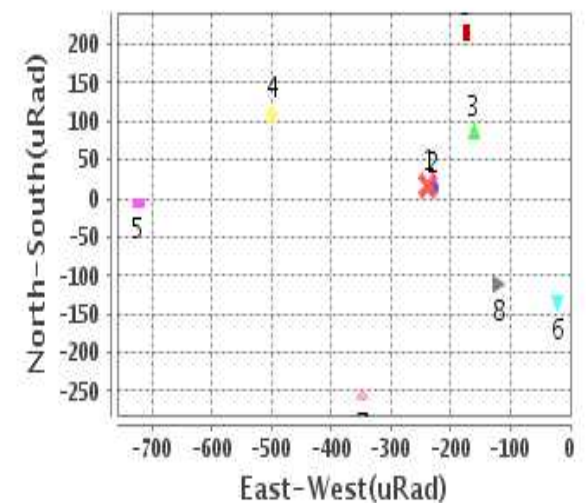
## Radial Error (in IR Pixels)

<b>Mean</b>	3.081
<b>Min</b>	.993
<b>Max</b>	6.146
<b>CE90</b>	4.845

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3D	<b>Generation Date</b>	06-04-17
<b>Sensor</b>	IMG	<b>DQE Date</b>	07-04-2017
<b>PassType</b>	NONE	<b>Aquisition Date</b>	05-04-17
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	21:30
<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_05APR20	<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 : 3DIMG05APR20172130L1BSTD**

(-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

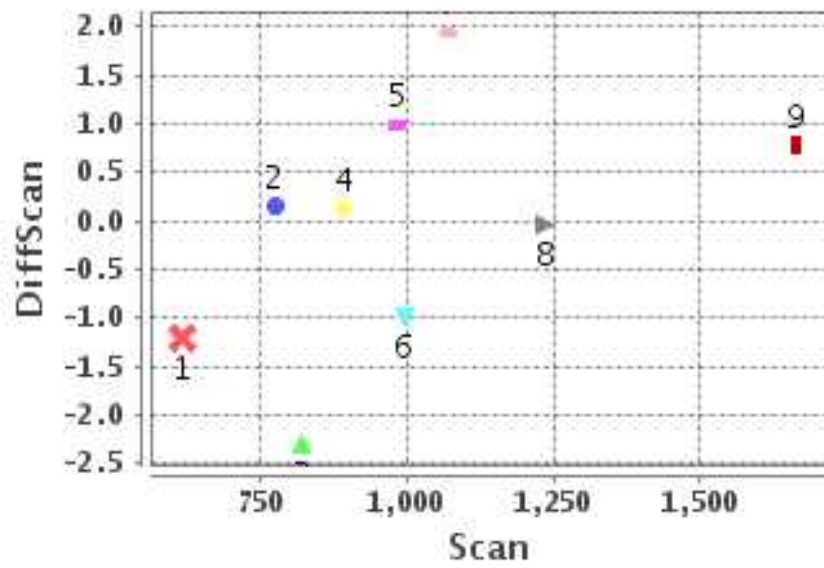
Image Width (pixels) : 2805      Image Height (pixels) : 2816      No of GCPs : 9

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	1005.9	288.1	614.5	1665.25	37.31 (N-S)
<b>GCP Pix</b>	1331.5	660.6	456.5	2321.00	66.47 (E-W)

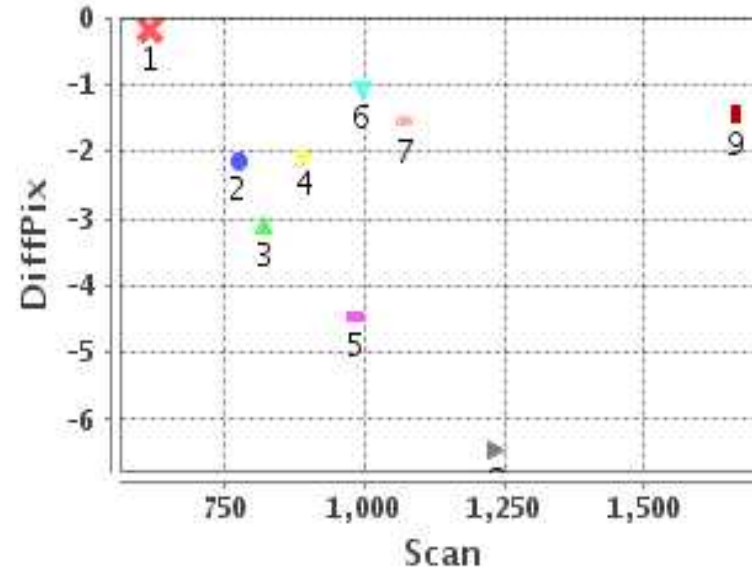
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	774.0	685.2	0.1	-2.13	0.134	N	10.297	W	Accepted
2	891.2	456.5	0.1	-2.05	1.305	S	10.177	W	Accepted
3	1665.2	2321.0	0.8	-1.44	3.538	S	6.972	W	Accepted
4	984.5	1756.2	1.0	-4.45	6.517	S	18.250	W	Accepted
5	1236.2	1390.0	-0.0	-6.45	0.856	S	24.569	W	Accepted
6	614.5	1512.2	-1.2	-0.18	3.942	N	0.486	E	Accepted
7	821.2	862.5	-2.3	-3.11	10.147	N	14.666	W	Accepted
8	995.0	2297.2	-1.0	-1.06	4.391	N	3.691	W	Accepted
9	1071.5	702.2	1.9	-1.55	10.101	S	4.405	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



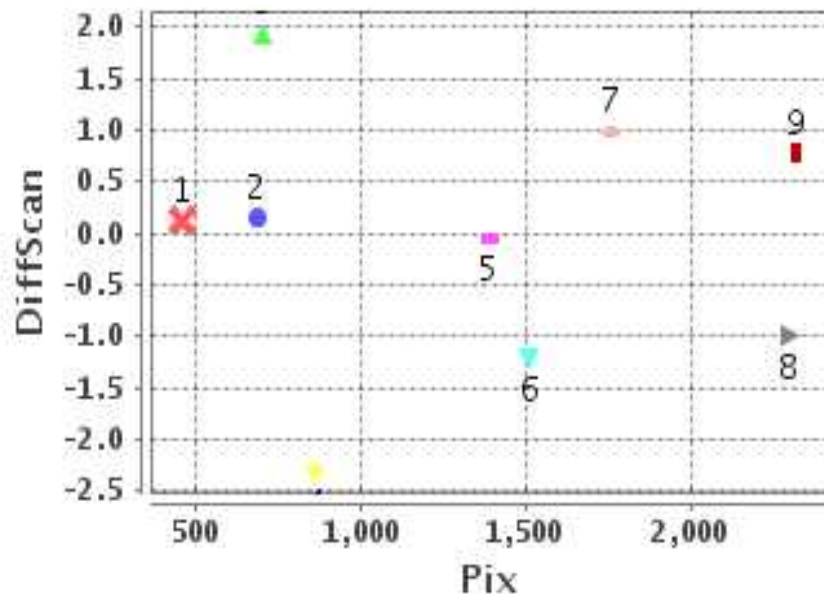
#### Number Of Points

North	4
South	5
East	1
West	8

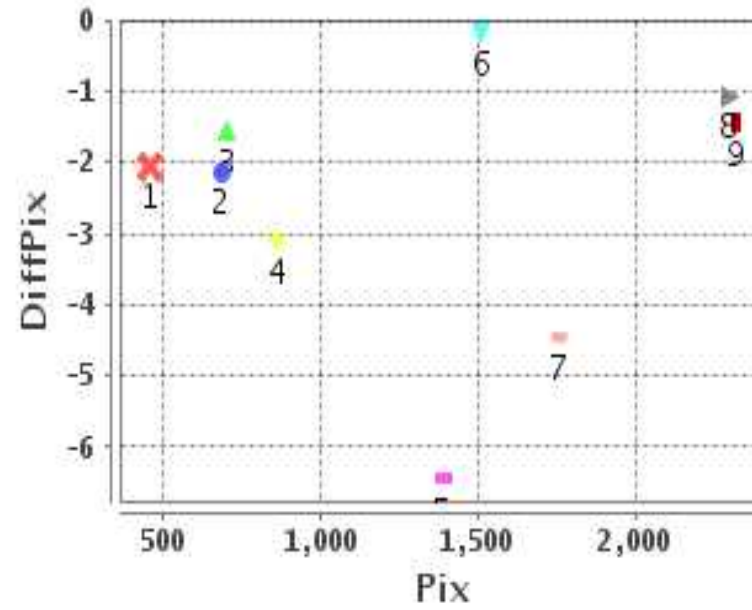
#### Radial Error ( Km )

Mean	3.081
Min	.993
Max	6.146
CE90	4.845

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	-0.103	1.433	1.437	S	1.232	1.524
Across ( Km )	-2.571	1.848	3.166	W	2.561	3.358

## 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)	2.99	N	
Across(Mean,Dir)	-11.71	W	
<b>Scale(Km)</b>			
Average Scale (Mean,%Variation)	5.17	29.35	
<b>Internal Distortion(Pixel)</b>			
Along(Mean,Stddev)	1.23	1.20	
Across(Mean,Stddev)	0.57	0.49	

<b>Scan Range-0-937; Pix Range-934-1869</b>			
Number of GCPs	1		
<b>Location Error(Km)</b>			
Along(Mean,Dir)	3.95	N	
Across(Mean,Dir)	0.48	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-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-937-1876; Pix Range-0-934</b>			
Number of GCPs	1		
<b>Location Error(Km)</b>			
Along(Mean,Dir)	-10.1	S	
Across(Mean,Dir)	-4.40	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-934-1869</b>			
Number of GCPs	2		
<b>Location Error(Km)</b>			
Along(Mean,Dir)	-3.683	S	
Across(Mean,Dir)	-21.41	W	
<b>Scale(Km)</b>			
Average Scale (Mean,%Variation)	4.07	1.73	
<b>Internal Distortion(Pixel)</b>			
Along(Mean,Stddev)	1.03	0.00	
Across(Mean,Stddev)	-2.00	0.00	

<b>Scan Range-937-1876; Pix Range-1869-2805</b>			
Number of GCPs	2		
<b>Location Error(Km)</b>			
Along(Mean,Dir)	0.425	N	
Across(Mean,Dir)	-5.34	W	
<b>Scale(Km)</b>			
Average Scale (Mean,%Variation)	4.10	2.53	
<b>Internal Distortion(Pixel)</b>			
Along(Mean,Stddev)	-1.79	0.00	
Across(Mean,Stddev)	0.38	0.00	

<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