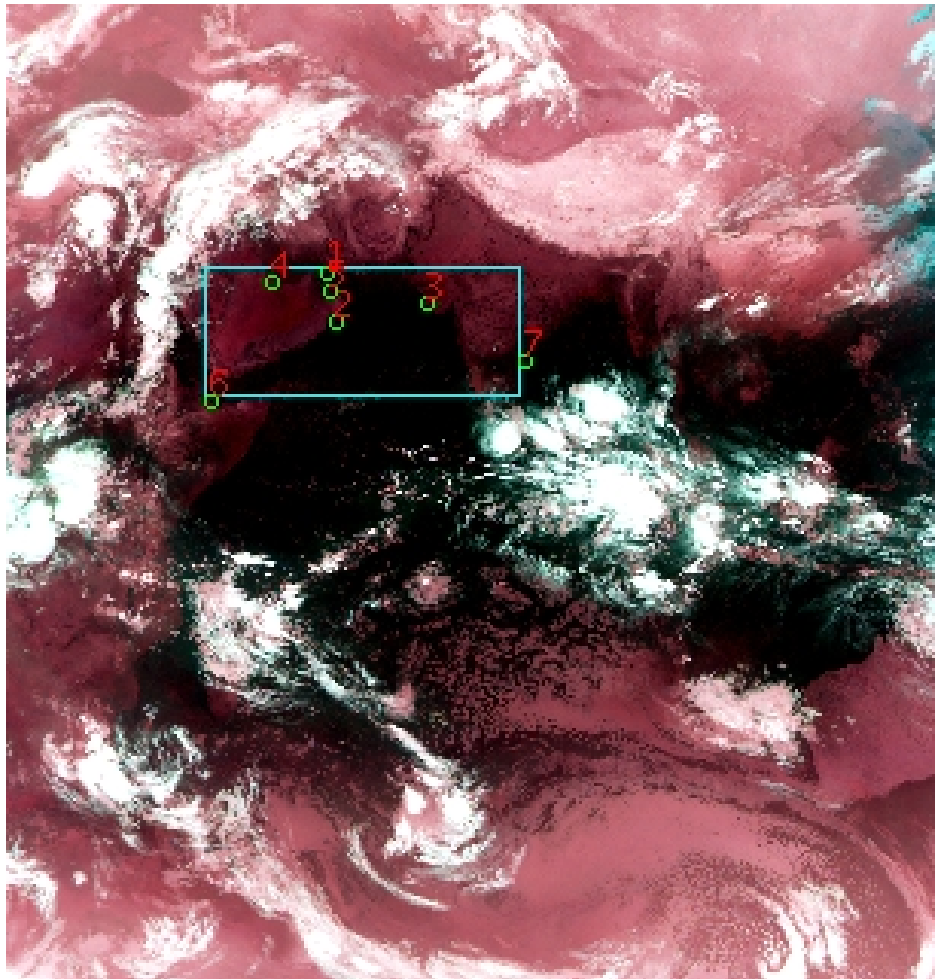


# DQE Report: Location Accuracy of INSAT-3D-IMG SECTOR Product 3DIMG\_11APR2017\_2130\_SGP

**Satellite** INSAT-3D      **No Of Bands** 6      **Product Type** SECTOR  
**Sensor** IMG      **LvlOfProcess** L1C      **Selected Band** 2-TIR1  
**DOP/Time** 11-04-17/21:30      **Station ID** BES      **Field View(deg)** 0.0  
**Res(Y,X) [Km]** (4.0,4.0)      **Res(Y,X) [uRad]** (112.0,112.0)

(50.0N,20.0W)

(50.0N,130.0E)



(-50.0S,20.0W)

(-50.0S,130.0E)

GCP Distribution overview for 3DIMG11APR20172130L1CSGP

**Image Width:** 3062      **Image Height:** 3207      **No Of GCPs:** 7

**GCP Coverage(%)** 13.14      **(N-S)** 33.50      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-2.283	S	0.925	2.463
Across	0.809	E	2.477	2.606

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.011	0.069	0.282
Along	5.308	3.589	32.706
Across	5.014	3.920	25.341

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.719	-0.372	1.00	1.068
Across	5.805	-1.999	2.59	3.270

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
0.01382	0.01056	0.10116

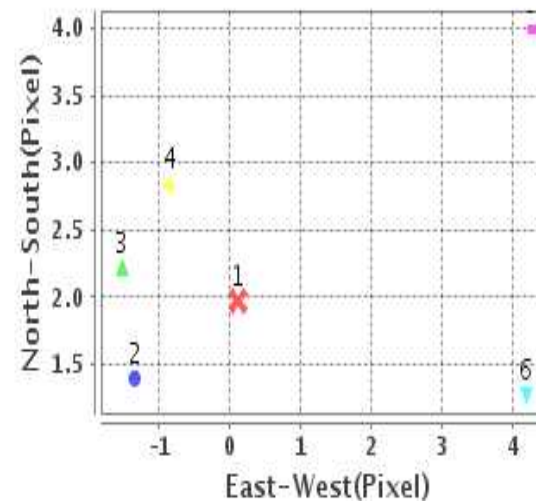
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

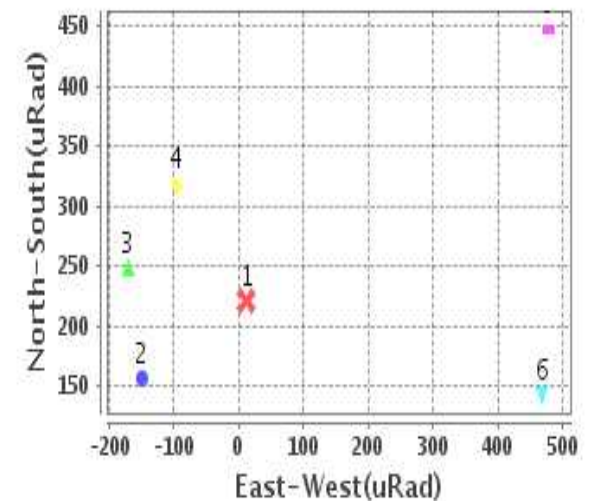
## Radial Error (in IR Pixels)

<b>Mean</b>	3.301
<b>Min</b>	1.940
<b>Max</b>	5.854
<b>CE90</b>	4.378

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3D	<b>Generation Date</b>	12-04-17
<b>Sensor</b>	IMG	<b>DQE Date</b>	19-04-2017
<b>PassType</b>	NONE	<b>Aquisition Date</b>	11-04-17
<b>Imaging Mode</b>	NONE	<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>	SECTOR	<b>Predicted Center Lat(deg)</b>	-999.99
<b>DP JobId</b>	3DIMG_11APR20	<b>Predicted Center Lon(deg)</b>	-999.99
<b>ProductCode</b>	NONE		
<b>Field View(deg)</b>	0.0		

### Projection Parameters

<b>Projection</b>	MER
<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>	0.0
<b>Standard_Parallel2(deg)</b>	-999.0
<b>Projection_Origin_Lon(deg)</b>	75.0
<b>Projection_Origin_Lat(deg)</b>	0.0
<b>Projection_False_Easting(Km)</b>	0.0
<b>Projection_False_Northing(Km)</b>	0.0

### Scene Center Desc

<b>Centre Lat(deg)</b>	0.0
<b>Center Lon(deg)</b>	75.0
<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>	50.0
<b>NW_Lon(deg)</b>	20.0
<b>SW_Lat(deg)</b>	-50.0
<b>SW_Lon(deg)</b>	20.0
<b>NE_Lat(deg)</b>	50.0
<b>NE_Lon(deg)</b>	130.0
<b>SE_Lat(deg)</b>	-50.0
<b>SE_Lon(deg)</b>	130.0

### Band Wise Details

	Res_AL(Km)	Res_AX(Km)	Image Height	Image Width
<b>MIR</b>	4.0	4.0	3207	3062
<b>SWIR</b>	4.0	4.0	3207	3062
<b>TIR1</b>	4.0	4.0	3207	3062
<b>TIR2</b>	4.0	4.0	3207	3062
<b>VIS</b>	4.0	4.0	3207	3062
<b>WV</b>	4.0	4.0	3207	3062

## 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>	corner
<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>	0.0		
<b>Zone</b>	Not Applicable			<b>Standardparallel2(deg)</b>	-999.0		

\* -999.99 : Not Applicable/Not Available

## References

**JobId : 3DIMG11APR20172130L1CSGP**

(-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

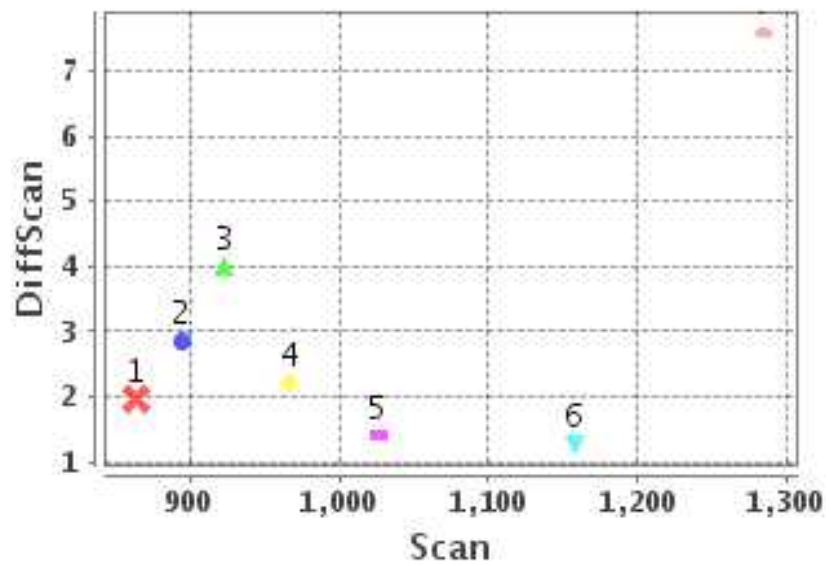
Image Width (pixels) : 3062      Image Height (pixels) : 3207      No of GCPs : 7

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	1016.8	142.2	864.0	1285.25	13.14 (N-S)
<b>GCP Pix</b>	1101.5	309.6	657.8	1683.50	33.50 (E-W)

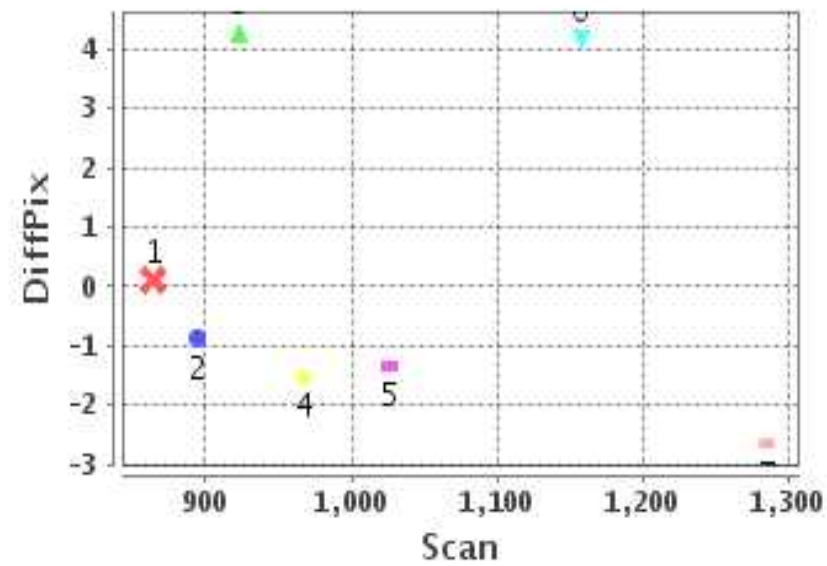
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	864.0	1038.5	2.0	0.11	7.891	S	0.435	E	Accepted
2	1026.2	1063.2	1.4	-1.34	5.602	S	5.367	W	Accepted
3	967.0	1362.5	2.2	-1.52	8.880	S	6.099	W	Accepted
4	894.5	858.8	2.8	-0.86	11.349	S	3.426	W	Accepted
5	923.0	1046.5	4.0	4.28	15.972	S	17.122	E	Accepted
6	1285.2	657.8	7.6	-2.65	30.388	S	10.617	W	Rejected
7	1157.8	1683.5	1.3	4.19	5.092	S	16.756	E	Accepted

## Error(Pixels) Vs. GCPScan



## Error(Pixels) Vs. GCPScan



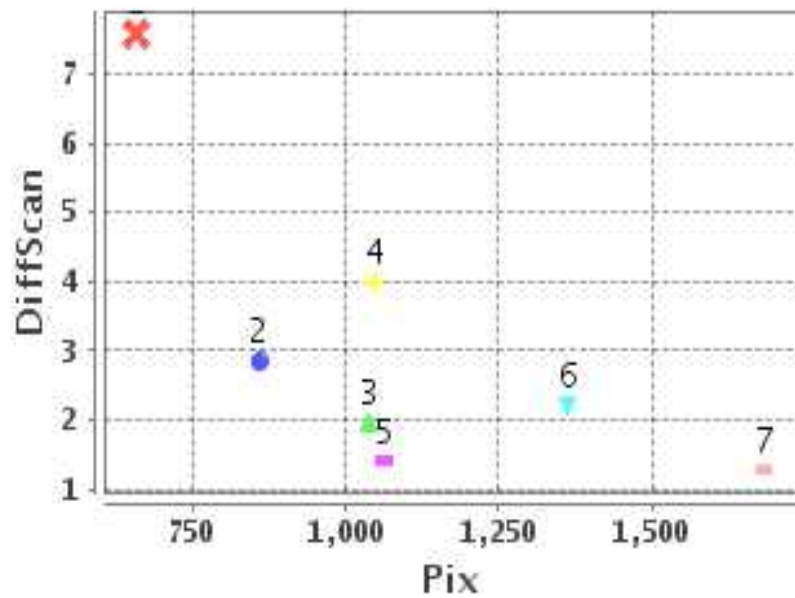
### Number Of Points

North	0
South	6
East	3
West	3

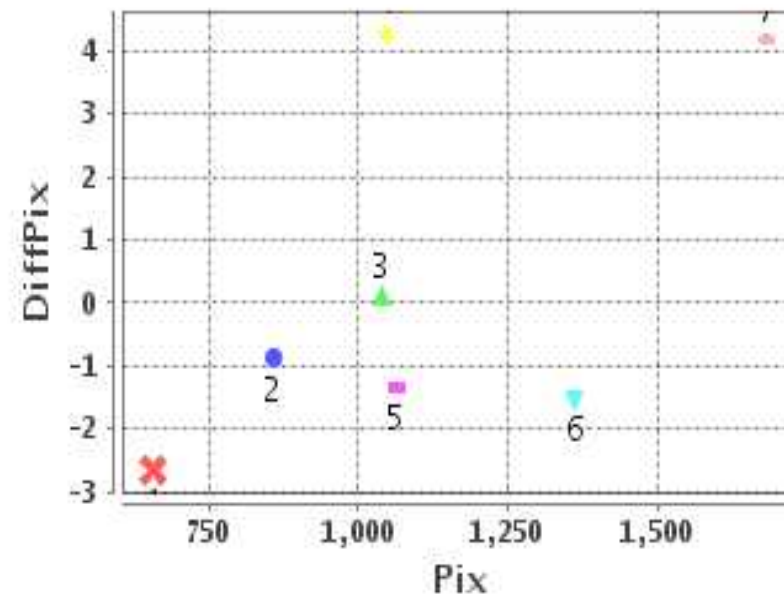
### Radial Error ( Km )

Mean	3.301
Min	1.940
Max	5.854
CE90	4.378

## Error(Pixels) Vs. GCPPix



## Error(Pixels) Vs. GCPPix



### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	-2.283	0.925	2.463	S	2.023	2.637
Across ( Km )	0.809	2.477	2.606	E	2.117	2.854

## Block-Wise Geo location Error Statistics

### Location Accuracy,Scale,ID

Scan Range-0-1068; Pix Range-0-1019		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-11.34	S
Across(Mean,Dir)	-3.43	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

Scan Range-0-1068; Pix Range-1019-2040		
Number of GCPs	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-9.585	S
Across(Mean,Dir)	1.52	E
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	3.99	0.25
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.57	1.08
Across(Mean,Stddev)	-0.36	2.69

Scan Range-0-1068; Pix Range-2040-3062		
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

Scan Range-1068-2137; Pix Range-0-1019		
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

Scan Range-1068-2137; Pix Range-1019-2040		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-5.09	S
Across(Mean,Dir)	16.76	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

Scan Range-1068-2137; Pix Range-2040-3062		
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

Scan Range-2137-3207; Pix Range-0-1019		
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

Scan Range-2137-3207; Pix Range-1068-2040		
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

Scan Range-2137-3207; Pix Range-2040-3062		
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