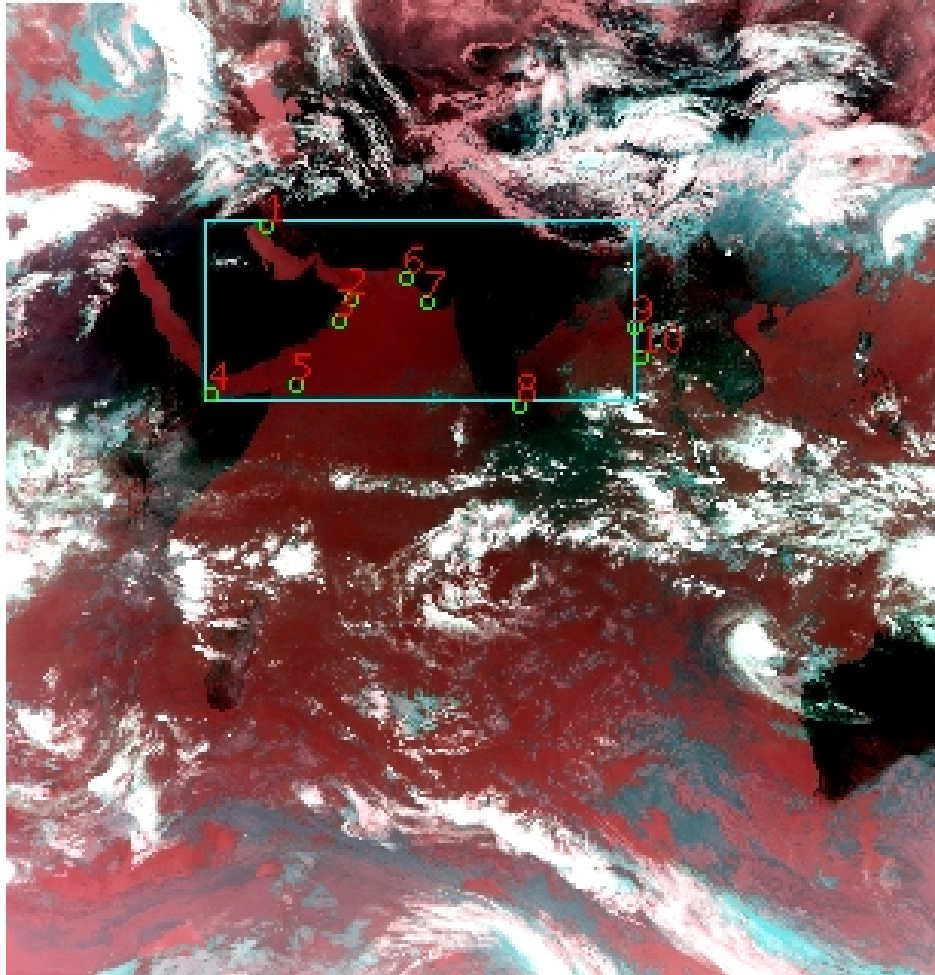


# DQE Report: Location Accuracy of INSAT-3D-IMG SECTOR Product 3DIMG\_09APR2017\_0600\_SGP

Satellite	INSAT-3D	No Of Bands	6	Product Type	SECTOR
Sensor	IMG	LvlOfProcess	L1C	Selected Band	2-TIR1
DOP/Time	09-04-17/06:00	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 3DIMG09APR20170600L1CSGP

Image Width: 3062 Image Height: 3207 No Of GCPs: 10

GCP Coverage(%) 18.49 (N-S) 46.06 (E-W)

### Location Error(E)

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

### Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.505	N	0.983	1.105
Across	-2.508	W	1.595	2.972

### Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.006	0.020	0.156
Along	4.014	0.189	0.342
Across	3.997	0.123	0.074

### Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.814	1.073	0.98	1.452
Across	4.703	-2.246	1.52	2.710

### Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01391	-0.00407	0.03270

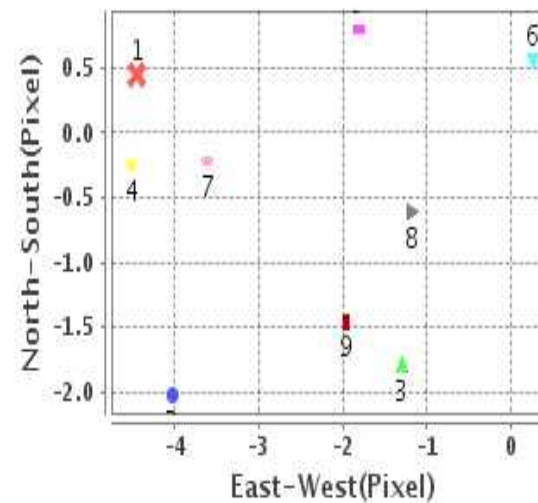
### Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

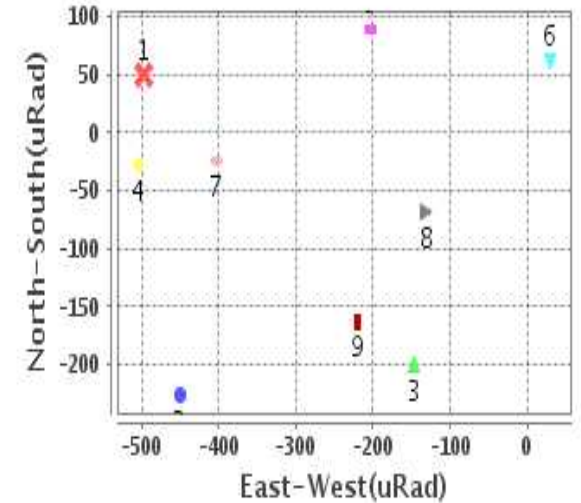
### Radial Error (in IR Pixels)

Mean	2.851
Min	.606
Max	4.512
CE90	4.501

### Location Error For GCPs(Pixel)



### Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3D	<b>Generation Date</b>	09-04-17
<b>Sensor</b>	IMG	<b>DQE Date</b>	11-04-2017
<b>PassType</b>	NONE	<b>Aquisition Date</b>	09-04-17
<b>Imaging Mode</b>	NONE	<b>Aquisition Time(GMT)</b>	06:00
<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_09APR20	<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 : 3DIMG09APR20170600L1CSGP**

(-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

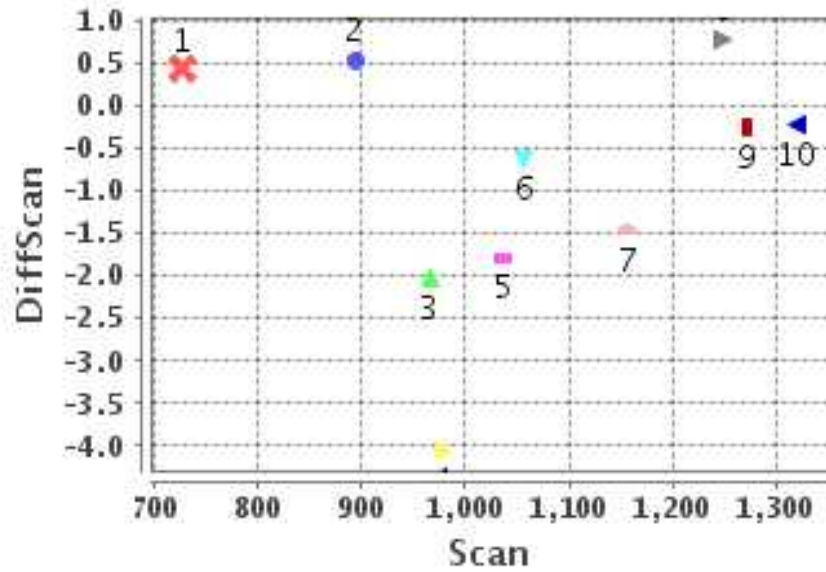
Image Width (pixels) : 3062      Image Height (pixels) : 3207      No of GCPs : 10

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	1065.5	176.5	726.5	1319.50	18.49 (N-S)
<b>GCP Pix</b>	1305.2	461.6	654.5	2065.00	46.06 (E-W)

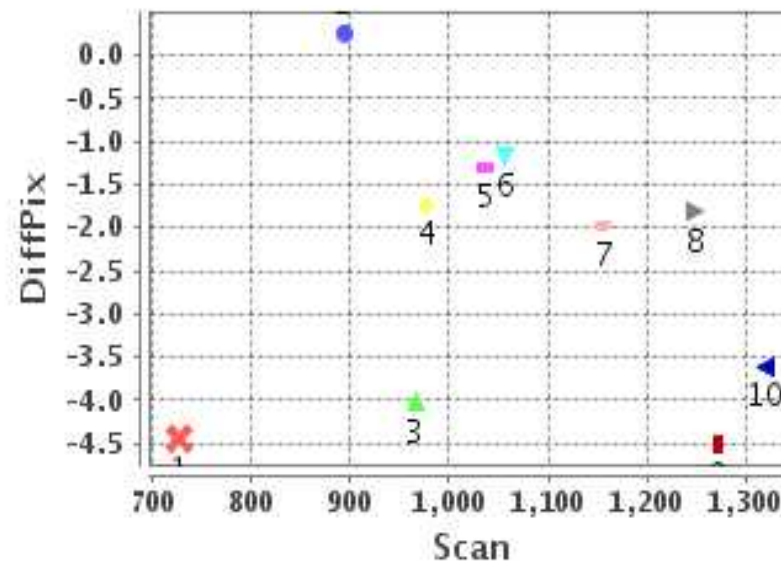
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	726.5	839.5	0.4	-4.44	1.793	S	17.770	W	Accepted
2	966.2	1110.5	-2.0	-4.02	8.080	N	16.087	W	Accepted
3	1036.5	1075.5	-1.8	-1.30	7.140	N	5.218	W	Accepted
4	1270.8	654.5	-0.2	-4.50	0.985	N	18.019	W	Accepted
5	1249.2	932.5	0.8	-1.81	3.180	S	7.242	W	Accepted
6	894.2	1297.2	0.5	0.26	2.187	S	1.042	E	Accepted
7	977.2	1363.0	-4.0	-1.73	16.178	N	6.940	W	Rejected
8	1319.5	1669.5	-0.2	-3.60	0.876	N	14.417	W	Accepted
9	1057.5	2045.2	-0.6	-1.17	2.464	N	4.693	W	Accepted
10	1157.0	2065.0	-1.5	-1.97	5.811	N	7.884	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



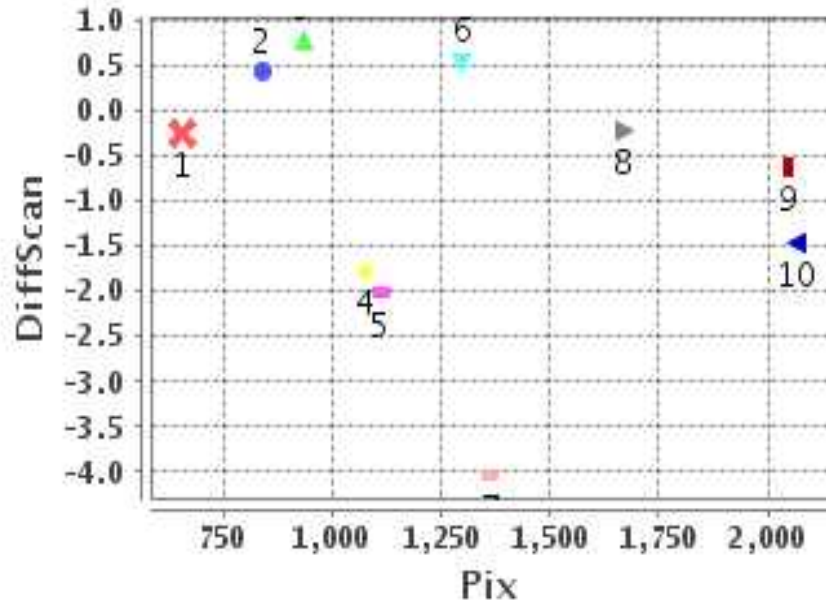
#### Number Of Points

North	6
South	3
East	1
West	8

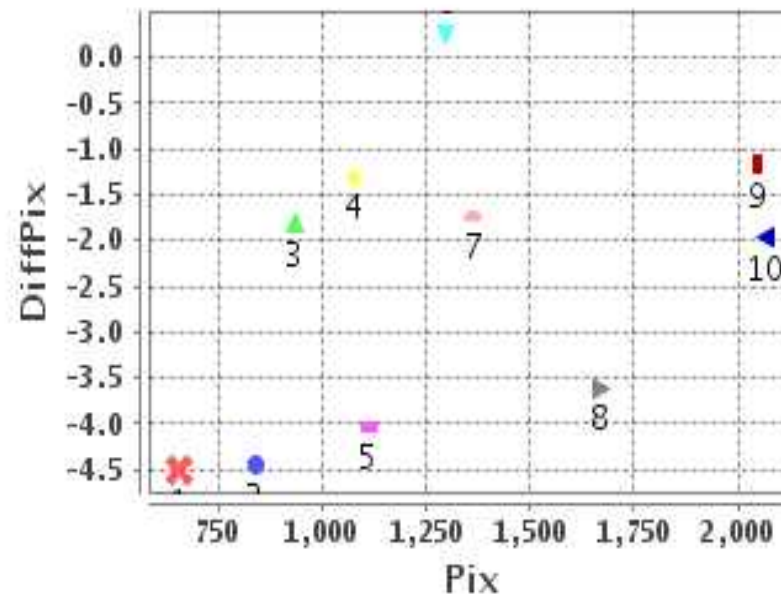
#### Radial Error ( Km )

Mean	2.851
Min	.606
Max	4.512
CE90	4.501

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.505	0.983	1.105	N	0.930	1.170
Across ( Km )	-2.508	1.595	2.972	W	2.721	3.151

## Block-Wise Geo location Error Statistics

### Location Accuracy,Scale,ID

<p><b>Scan Range-0-1068; Pix Range-0-1019</b></p> <p>Number of GCPs            1</p> <p><b>Location Error(Km)</b></p> <p>Along(Mean,Dir)            -1.79            S</p> <p>Across(Mean,Dir)           -17.77           W</p> <p><b>Scale(Km)</b></p> <p>Average Scale (Mean,%Variation)   -999.99   -999.9</p> <p><b>Internal Distortion(Pixel)</b></p> <p>Along(Mean,Stddev)   -999.99   -999.99</p> <p>Across(Mean,Stddev)   -999.99   -999.99</p>	<p><b>Scan Range-0-1068; Pix Range-1019-2040</b></p> <p>Number of GCPs            3</p> <p><b>Location Error(Km)</b></p> <p>Along(Mean,Dir)            4.34333           N</p> <p>Across(Mean,Dir)           -6.75            W</p> <p><b>Scale(Km)</b></p> <p>Average Scale (Mean,%Variation)   4.01            0.14</p> <p><b>Internal Distortion(Pixel)</b></p> <p>Along(Mean,Stddev)    2.45            0.12</p> <p>Across(Mean,Stddev)   0.58            2.14</p>	<p><b>Scan Range-0-1068; Pix Range-2040-3062</b></p> <p>Number of GCPs            1</p> <p><b>Location Error(Km)</b></p> <p>Along(Mean,Dir)            2.46            N</p> <p>Across(Mean,Dir)           -4.69            W</p> <p><b>Scale(Km)</b></p> <p>Average Scale (Mean,%Variation)   -999.99   -999.9</p> <p><b>Internal Distortion(Pixel)</b></p> <p>Along(Mean,Stddev)   -999.99   -999.99</p> <p>Across(Mean,Stddev)   -999.99   -999.99</p>
<p><b>Scan Range-1068-2137; Pix Range-0-1019</b></p> <p>Number of GCPs            2</p> <p><b>Location Error(Km)</b></p> <p>Along(Mean,Dir)            -1.1            S</p> <p>Across(Mean,Dir)           -12.64           W</p> <p><b>Scale(Km)</b></p> <p>Average Scale (Mean,%Variation)   4.04            0.94</p> <p><b>Internal Distortion(Pixel)</b></p> <p>Along(Mean,Stddev)    1.04            0.00</p> <p>Across(Mean,Stddev)   -2.69            0.00</p>	<p><b>Scan Range-1068-2137; Pix Range-1019-2040</b></p> <p>Number of GCPs            1</p> <p><b>Location Error(Km)</b></p> <p>Along(Mean,Dir)            0.88            N</p> <p>Across(Mean,Dir)           -14.42           W</p> <p><b>Scale(Km)</b></p> <p>Average Scale (Mean,%Variation)   -999.99   -999.9</p> <p><b>Internal Distortion(Pixel)</b></p> <p>Along(Mean,Stddev)   -999.99   -999.99</p> <p>Across(Mean,Stddev)   -999.99   -999.99</p>	<p><b>Scan Range-1068-2137; Pix Range-2040-3062</b></p> <p>Number of GCPs            1</p> <p><b>Location Error(Km)</b></p> <p>Along(Mean,Dir)            5.81            N</p> <p>Across(Mean,Dir)           -7.88            W</p> <p><b>Scale(Km)</b></p> <p>Average Scale (Mean,%Variation)   -999.99   -999.9</p> <p><b>Internal Distortion(Pixel)</b></p> <p>Along(Mean,Stddev)   -999.99   -999.99</p> <p>Across(Mean,Stddev)   -999.99   -999.99</p>
<p><b>Scan Range-2137-3207; Pix Range-0-1019</b></p> <p>Number of GCPs            -999</p> <p><b>Location Error(Km)</b></p> <p>Along(Mean,Dir)            -999.99           NotAvail</p> <p>Across(Mean,Dir)           -999.99           NotAvail</p> <p><b>Scale(Km)</b></p> <p>Average Scale (Mean,%Variation)   -999.99   -999.9</p> <p><b>Internal Distortion(Pixel)</b></p> <p>Along(Mean,Stddev)   -999.99   -999.99</p> <p>Across(Mean,Stddev)   -999.99   -999.99</p>	<p><b>Scan Range-2137-3207; Pix Range-1068-2040</b></p> <p>Number of GCPs            -999</p> <p><b>Location Error(Km)</b></p> <p>Along(Mean,Dir)            -999.99           NotAvail</p> <p>Across(Mean,Dir)           -999.99           NotAvail</p> <p><b>Scale(Km)</b></p> <p>Average Scale (Mean,%Variation)   -999.99   -999.9</p> <p><b>Internal Distortion(Pixel)</b></p> <p>Along(Mean,Stddev)   -999.99   -999.99</p> <p>Across(Mean,Stddev)   -999.99   -999.99</p>	<p><b>Scan Range-2137-3207; Pix Range-2040-3062</b></p> <p>Number of GCPs            -999</p> <p><b>Location Error(Km)</b></p> <p>Along(Mean,Dir)            -999.99           NotAvail</p> <p>Across(Mean,Dir)           -999.99           NotAvail</p> <p><b>Scale(Km)</b></p> <p>Average Scale (Mean,%Variation)   -999.99   -999.9</p> <p><b>Internal Distortion(Pixel)</b></p> <p>Along(Mean,Stddev)   -999.99   -999.99</p> <p>Across(Mean,Stddev)   -999.99   -999.99</p>

\*-999 : no gcp available

\* -999.99 : values are not computed