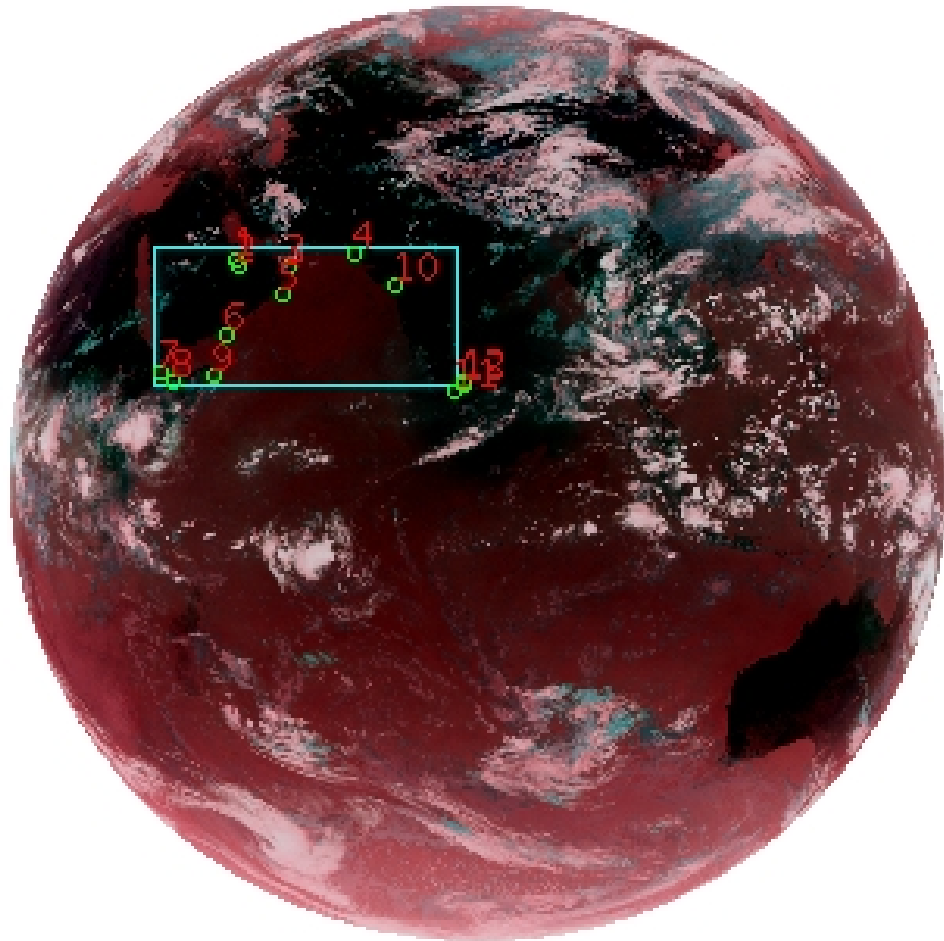


# DQE Report: Location Accuracy of INSAT-3D-IMG STANDARD(FULL DISK) Product 3DIMG\_13MAY2019\_0600

Satellite	INSAT-3D	No Of Bands	6	Product Type	STANDARD
Sensor	IMG	LvlOfProcess	L1B	Selected Band	2-TIR1
DOP/Time	13-05-19/06:00	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 3DIMG13MAY20190600L1BSTD

Image Width: 2805 Image Height: 2816 No Of GCPs: 13

GCP Coverage(%) 13.89 (N-S) 31.27 (E-W)

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	1.320	N	1.143	1.746
Across	-3.257	W	1.726	3.687

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.538	0.377	13.446
Along	4.775	1.823	19.370
Across	4.743	0.866	18.574

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	3.780	0.036	1.09	1.093
Across	4.624	-0.766	1.47	1.656

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02037	-0.01290	0.07387

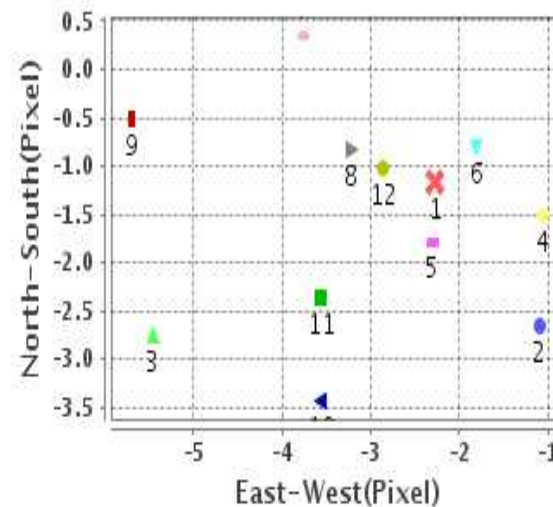
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

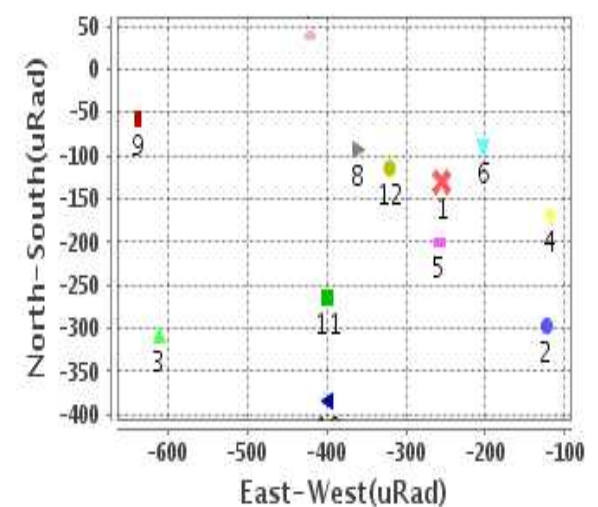
## Radial Error (in IR Pixels)

Mean	3.775
Min	1.758
Max	7.054
CE90	5.418

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3D	<b>Generation Date</b>	13-05-19
<b>Sensor</b>	IMG	<b>DQE Date</b>	15-05-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	13-05-19
<b>Imaging Mode</b>	FULL_FRAME	<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>	STANDARD(FULL)	<b>Predicted Center Lat(deg)</b>	-999.99
<b>DP JobId</b>	3DIMG_13MAY2	<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>	pixels	<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 : 3DIMG13MAY20190600L1BSTD**

(-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

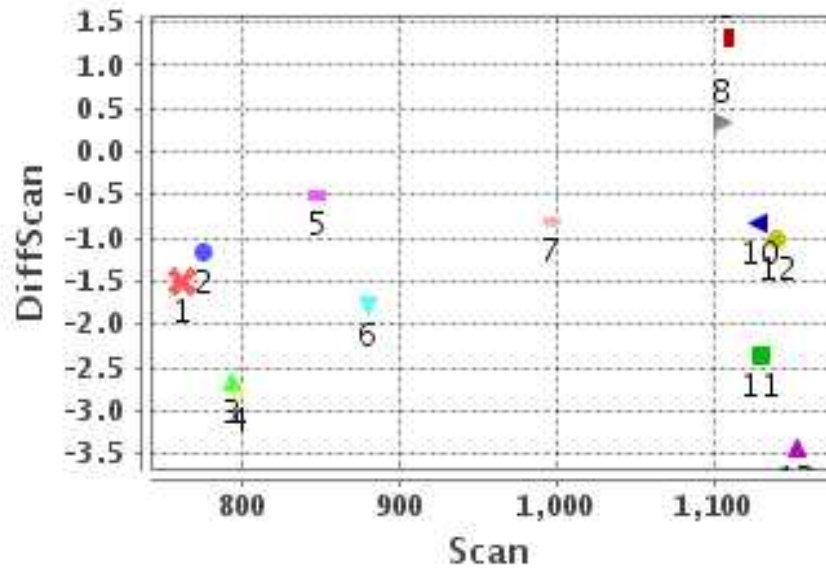
Image Width (pixels) : 2805      Image Height (pixels) : 2816      No of GCPs : 13

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	970.5	156.2	761.2	1152.50	13.89 (N-S)
<b>GCP Pix</b>	885.6	306.0	470.0	1347.00	31.27 (E-W)

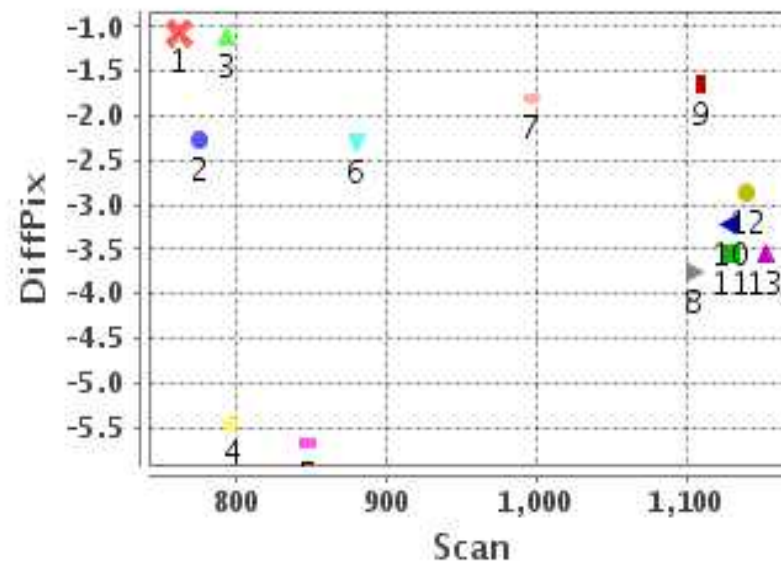
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	775.2	685.5	-1.2	-2.28	5.040	N	10.918	W	Accepted
2	793.8	698.8	-2.7	-1.10	9.784	N	4.245	W	Accepted
3	796.8	843.5	-2.8	-5.45	11.294	N	25.859	W	Accepted
4	761.2	1027.8	-1.5	-1.06	6.599	N	2.428	W	Accepted
5	879.5	825.2	-1.8	-2.30	5.790	N	11.040	W	Accepted
6	996.2	664.5	-0.8	-1.80	2.460	N	7.317	W	Accepted
7	1104.8	470.0	0.4	-3.76	3.677	S	21.358	W	Accepted
8	1128.5	506.8	-0.8	-3.22	2.027	N	13.519	W	Accepted
9	1110.2	626.2	1.3	-1.64	6.820	S	6.579	W	Rejected
10	847.5	1151.2	-0.5	-5.69	0.016	N	23.160	W	Accepted
11	1152.5	1319.2	-3.4	-3.56	12.066	N	13.409	W	Accepted
12	1130.0	1346.5	-2.4	-3.56	9.054	N	11.972	W	Accepted
13	1140.2	1347.0	-1.0	-2.86	2.912	N	11.130	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



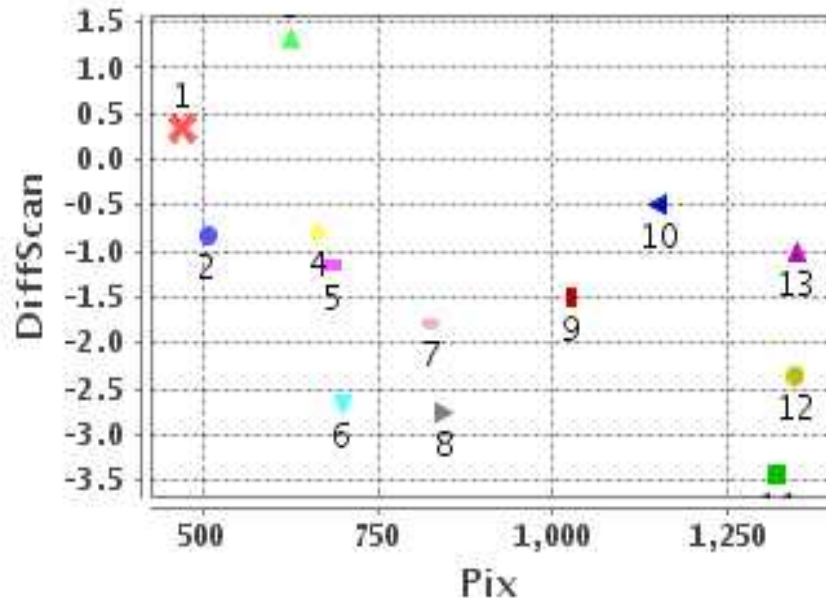
#### Number Of Points

North	11
South	1
East	0
West	12

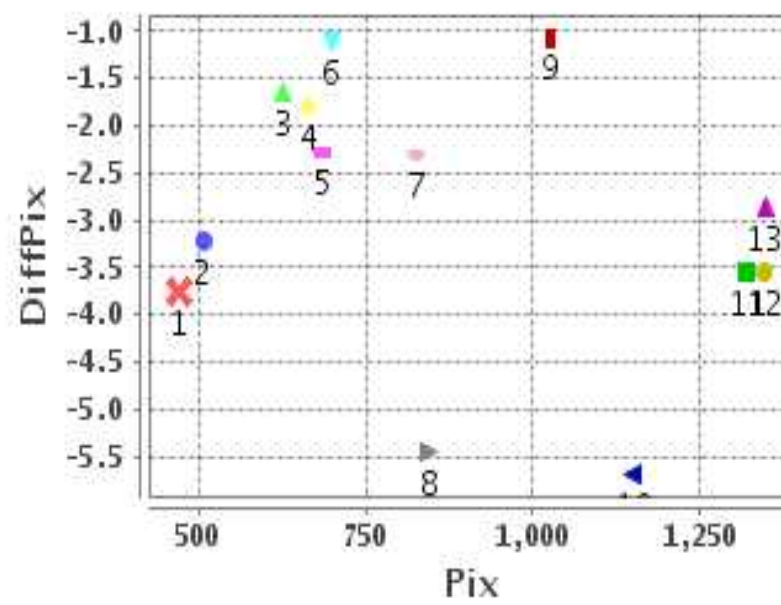
#### Radial Error ( Km )

Mean	3.775
Min	1.758
Max	7.054
CE90	5.418

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	1.320	1.143	1.746	N	1.581	1.824
Across ( Km )	-3.257	1.726	3.687	W	3.321	3.846

## Block-Wise Geo location Error Statistics

### Location Accuracy,Scale,ID

<b>Scan Range-0-937; Pix Range-0-934</b>		
Number of GCPs	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	7.9725	N
Across(Mean,Dir)	-13.02	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	5.34	33.51
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	1.24	0.44
Across(Mean,Stddev)	0.67	1.83

<b>Scan Range-0-937; Pix Range-934-1869</b>		
Number of GCPs	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	3.305	N
Across(Mean,Dir)	-12.80	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.70	17.61
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-1.00	0.00
Across(Mean,Stddev)	4.63	0.00

<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	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	0.266667	N
Across(Mean,Dir)	-14.07	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.97	24.27
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.57	0.59
Across(Mean,Stddev)	-1.24	0.71

<b>Scan Range-937-1876; Pix Range-934-1869</b>		
Number of GCPs	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	8.009	N
Across(Mean,Dir)	-12.17	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.07	1.80
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.14	1.20
Across(Mean,Stddev)	-0.35	0.35

<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	-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