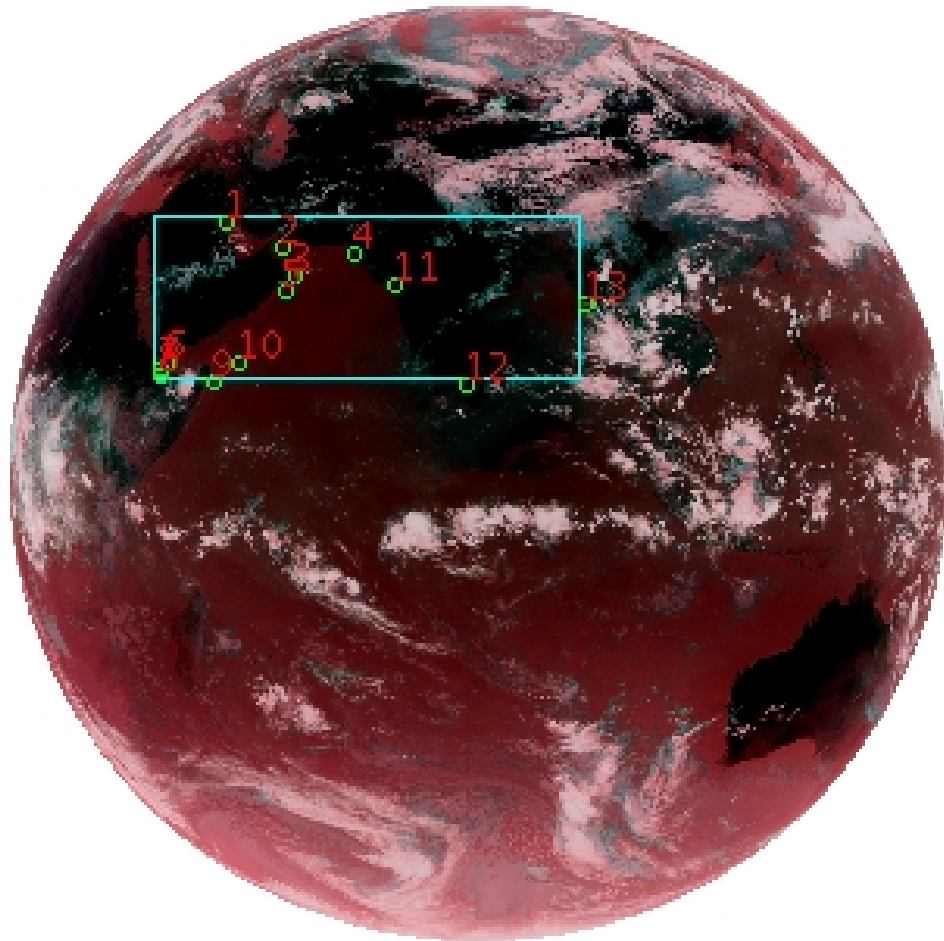


# DQE Report: Location Accuracy of INSAT-3D-IMG STANDARD(FULL DISK) Product 3DIMG\_14MAY2019\_0600

**Satellite** INSAT-3D      **No Of Bands** 6      **Product Type** STANDARD  
**Sensor** IMG      **LvlOfProcess** L1B      **Selected Band** 2-TIR1  
**DOP/Time** 14-05-19/06:00      **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 3DIMG14MAY20190600L1BSTD

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

**GCP Coverage(%)** 16.68      **(N-S)** 43.63      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-0.364	S	1.135	1.192
Across	-2.536	W	1.999	3.229

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.581	0.488	14.529
Along	5.477	4.622	36.916
Across	4.666	0.751	16.655

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.943	0.921	0.83	1.241
Across	5.361	-2.072	1.48	2.548

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01522	-0.00188	0.06668

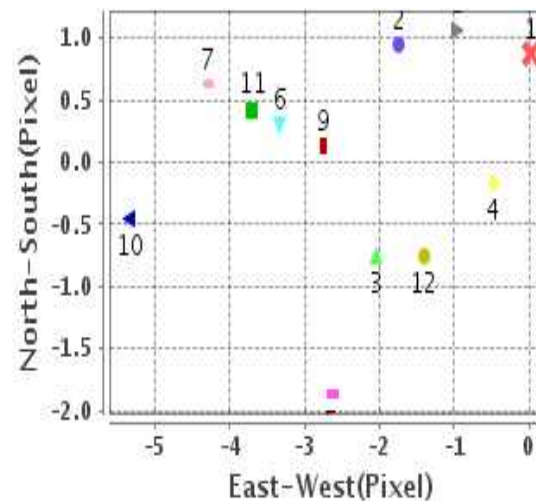
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

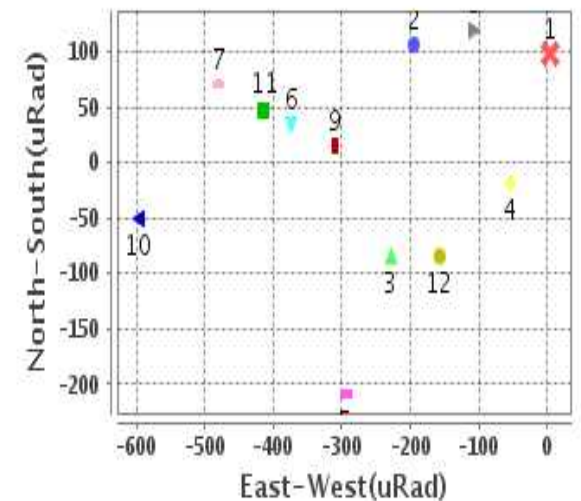
## Radial Error (in IR Pixels)

<b>Mean</b>	3.078
<b>Min</b>	.429
<b>Max</b>	5.971
<b>CE90</b>	3.811

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3D	<b>Generation Date</b>	14-05-19
<b>Sensor</b>	IMG	<b>DQE Date</b>	15-05-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	14-05-19
<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_14MAY2	<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 : 3DIMG14MAY20190600L1BSTD**

(-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

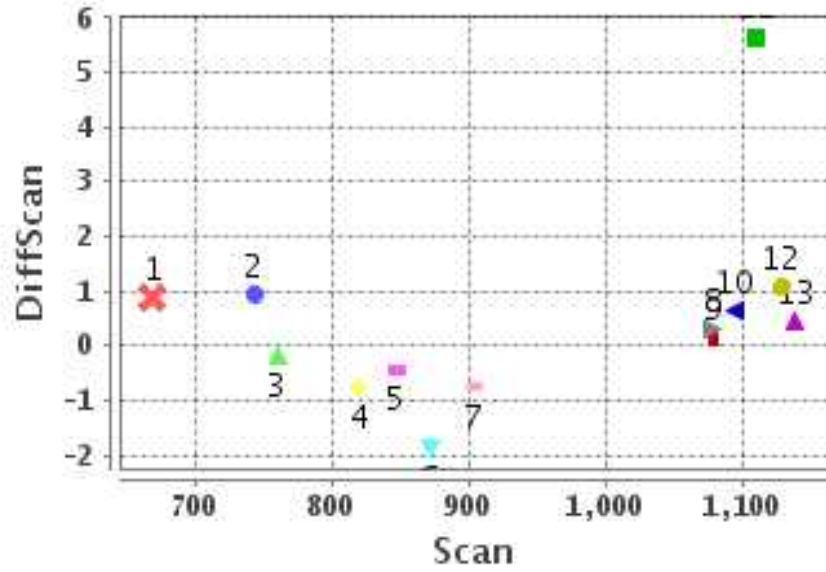
Image Width (pixels) : 2805      Image Height (pixels) : 2816      No of GCPs : 13

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	941.8	161.6	668.8	1138.50	16.68 (N-S)
<b>GCP Pix</b>	859.8	352.8	474.2	1698.00	43.63 (E-W)

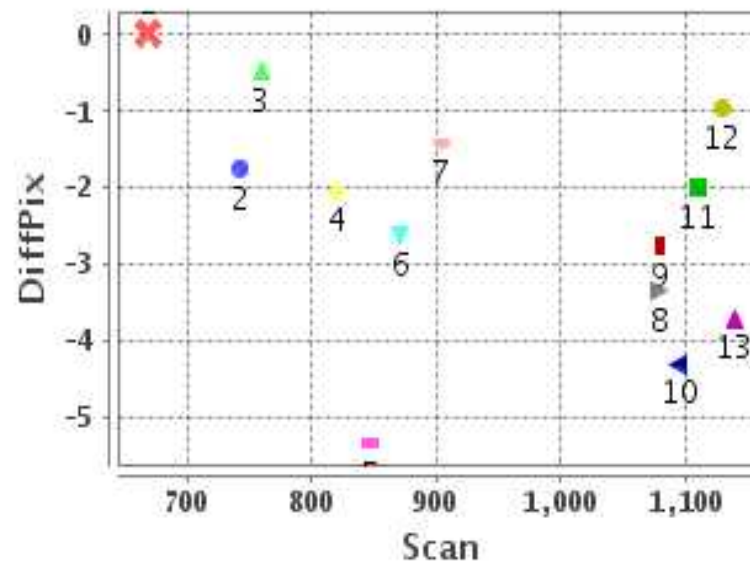
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	668.8	662.0	0.9	0.03	9.730	S	4.337	E	Accepted
2	743.2	824.0	1.0	-1.74	6.085	S	7.722	W	Accepted
3	820.0	862.0	-0.8	-2.04	3.892	N	10.718	W	Accepted
4	760.0	1027.2	-0.2	-0.48	1.447	N	0.920	W	Accepted
5	871.5	834.2	-1.9	-2.63	7.263	N	12.646	W	Accepted
6	1078.5	487.5	0.3	-3.34	3.009	S	14.945	W	Accepted
7	1094.2	476.0	0.6	-4.29	3.500	S	23.627	W	Accepted
8	1109.5	474.2	5.7	-1.98	25.479	S	4.731	W	Rejected
9	1128.5	628.2	1.1	-0.96	5.686	S	2.015	W	Accepted
10	1079.0	696.2	0.1	-2.76	0.615	S	12.472	W	Accepted
11	847.5	1151.0	-0.5	-5.33	0.220	S	22.716	W	Accepted
12	1138.5	1356.5	0.4	-3.70	3.486	S	12.559	W	Accepted
13	904.2	1698.0	-0.8	-1.41	2.242	N	5.730	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



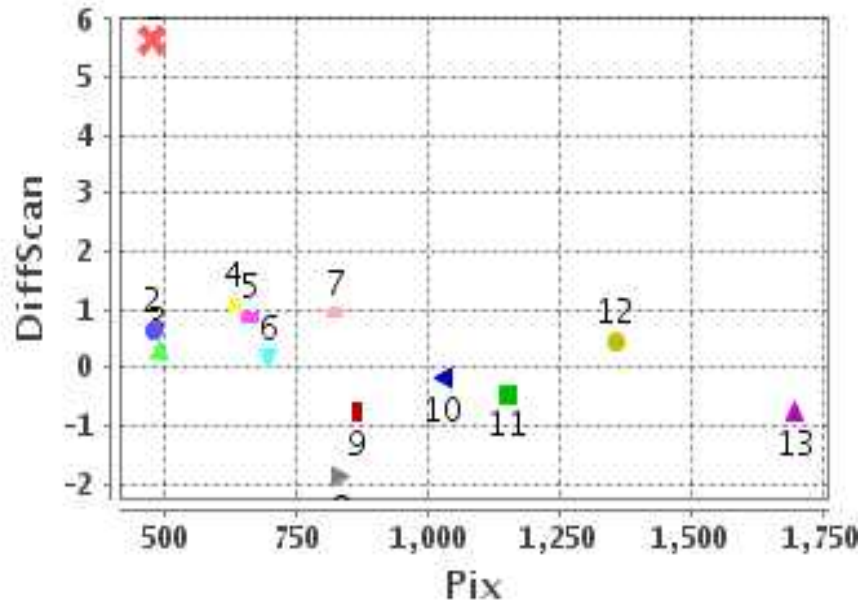
#### Number Of Points

North	4
South	8
East	1
West	11

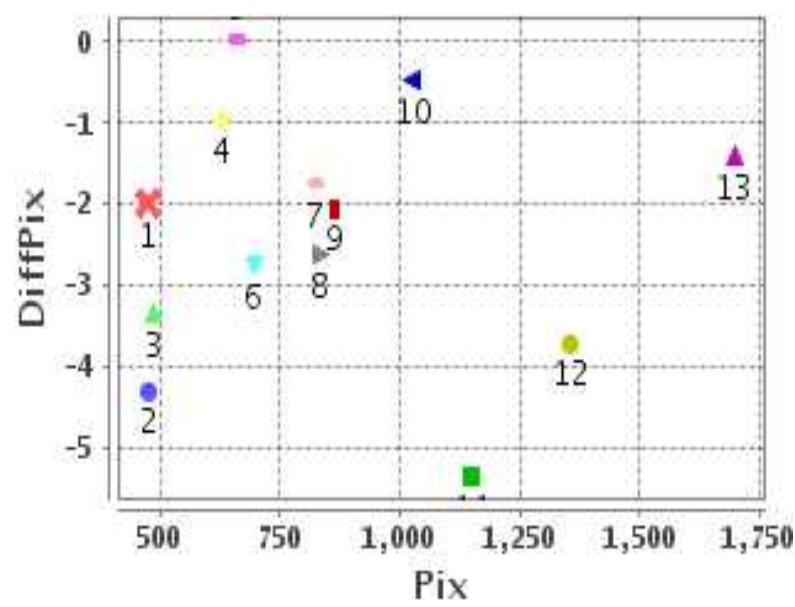
#### Radial Error ( Km )

Mean	3.078
Min	.429
Max	5.971
CE90	3.811

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	-0.364	1.135	1.192	S	1.006	1.245
Across ( Km )	-2.536	1.999	3.229	W	2.864	3.372

## 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)	-1.1675	S
Across(Mean,Dir)	-6.69	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	5.46	36.44
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	1.44	1.16
Across(Mean,Stddev)	2.16	0.37

<b>Scan Range-0-937; Pix Range-934-1869</b>		
Number of GCPs	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	1.15667	N
Across(Mean,Dir)	-9.79	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.38	9.57
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.44	0.15
Across(Mean,Stddev)	2.89	1.96

<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	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-3.205	S
Across(Mean,Dir)	-13.26	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	5.05	26.32
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.31	0.38
Across(Mean,Stddev)	-1.94	1.01

<b>Scan Range-937-1876; Pix Range-934-1869</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-3.49	S
Across(Mean,Dir)	-12.56	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-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