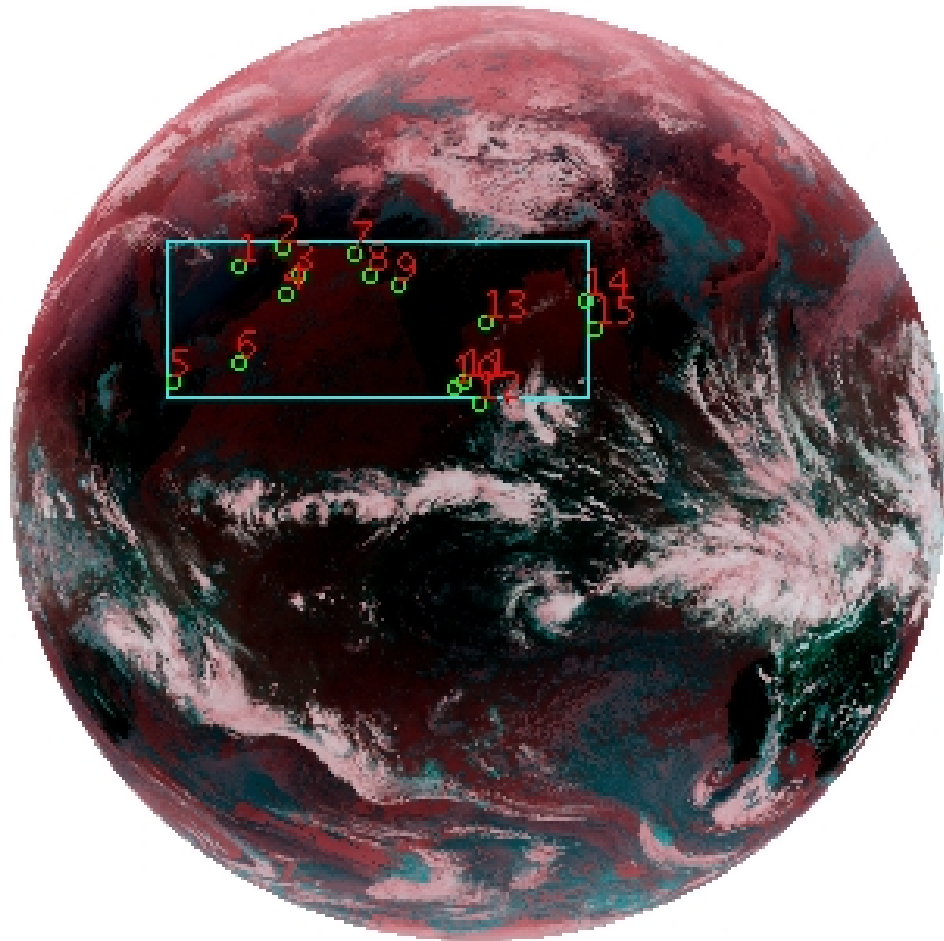


# DQE Report: Location Accuracy of INSAT-3D-IMG STANDARD(FULL DISK) Product 3DIMG\_23JAN2019\_0600

**Satellite** INSAT-3D      **No Of Bands** 6      **Product Type** STANDARD  
**Sensor** IMG      **LvlOfProcess** L1B      **Selected Band** 2-TIR1  
**DOP/Time** 23-01-19/06:00      **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 3DIMG23JAN20190600L1BSTD

**Image Width:** 2805      **Image Height:** 2816      **No Of GCPs:** 15

**GCP Coverage(%)**      15.91      **(N-S)** 43.40      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.396	N	1.853	1.895
Across	-4.399	W	1.251	4.573

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.398	0.290	9.941
Along	4.660	2.461	16.490
Across	4.478	0.415	11.949

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	6.300	0.609	1.72	1.820
Across	4.923	1.239	1.28	1.782

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02821	-0.00605	0.08813

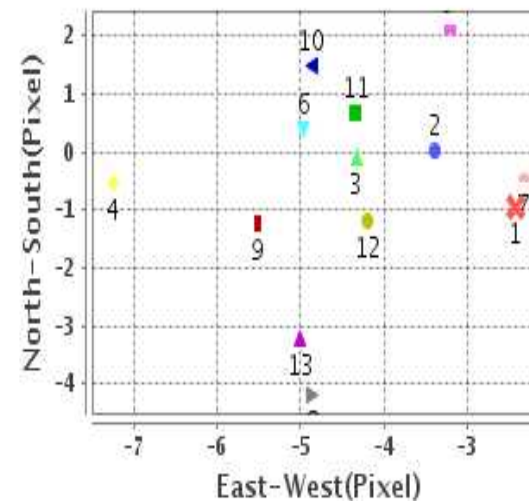
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

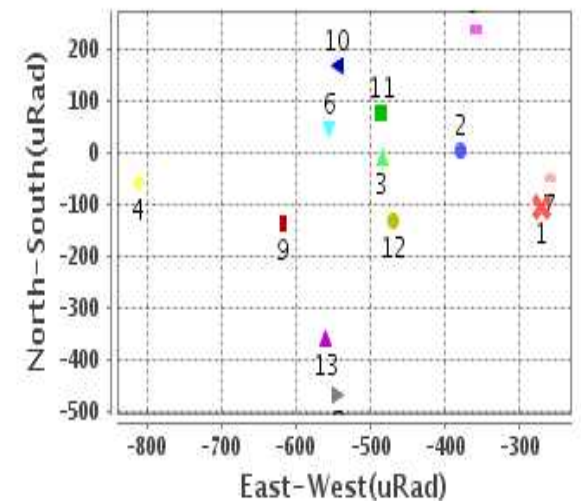
## Radial Error (in IR Pixels)

<b>Mean</b>	4.766
<b>Min</b>	2.769
<b>Max</b>	7.709
<b>CE90</b>	5.500

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3D	<b>Generation Date</b>	23-01-19
<b>Sensor</b>	IMG	<b>DQE Date</b>	24-01-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	23-01-19
<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_23JAN20	<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 : 3DIMG23JAN20190600L1BSTD**

(-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 : 15

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	944.4	149.0	744.2	1192.25	15.91 (N-S)
<b>GCP Pix</b>	1105.7	358.5	506.8	1724.25	43.40 (E-W)

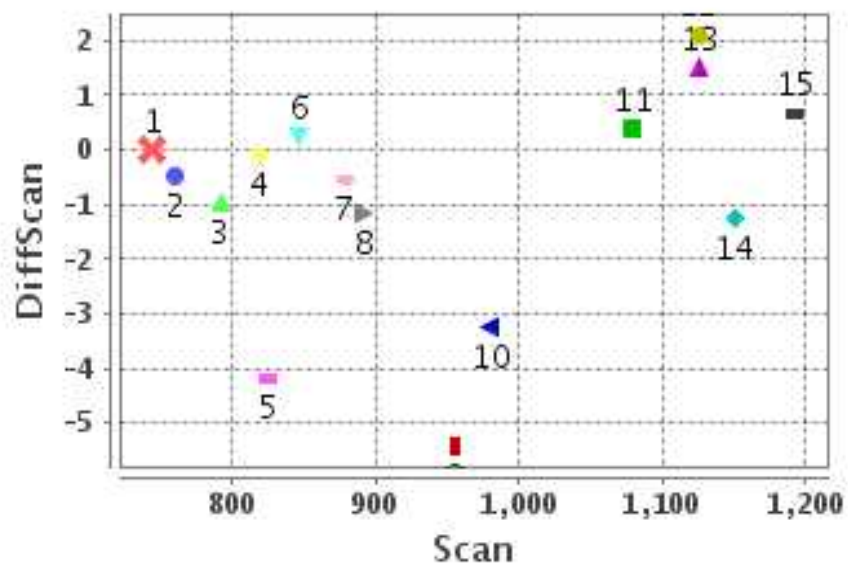
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	792.0	700.0	-1.0	-2.42	5.391	N	14.272	W	Accepted
2	744.2	825.5	0.0	-3.38	0.448	S	13.712	W	Accepted
3	819.2	864.2	-0.1	-4.33	0.215	S	19.458	W	Accepted
4	878.2	830.8	-0.5	-7.24	2.407	N	30.741	W	Accepted
5	1125.5	506.8	2.1	-3.21	10.669	S	11.389	W	Accepted
6	1078.8	698.5	0.4	-4.96	3.865	S	20.769	W	Accepted
7	760.2	1029.0	-0.5	-2.32	1.690	N	10.947	W	Accepted
8	825.2	1078.5	-4.2	-4.85	18.550	N	20.815	W	Accepted
9	846.8	1153.2	0.2	-7.64	3.389	S	31.457	W	Rejected
10	1150.2	1321.2	-1.2	-5.50	3.711	N	20.642	W	Accepted
11	1126.2	1347.8	1.5	-4.86	7.520	S	16.453	W	Accepted
12	1192.2	1394.2	0.7	-4.33	3.476	S	15.746	W	Accepted
13	955.0	1411.8	-5.4	-2.27	22.853	N	6.492	W	Rejected

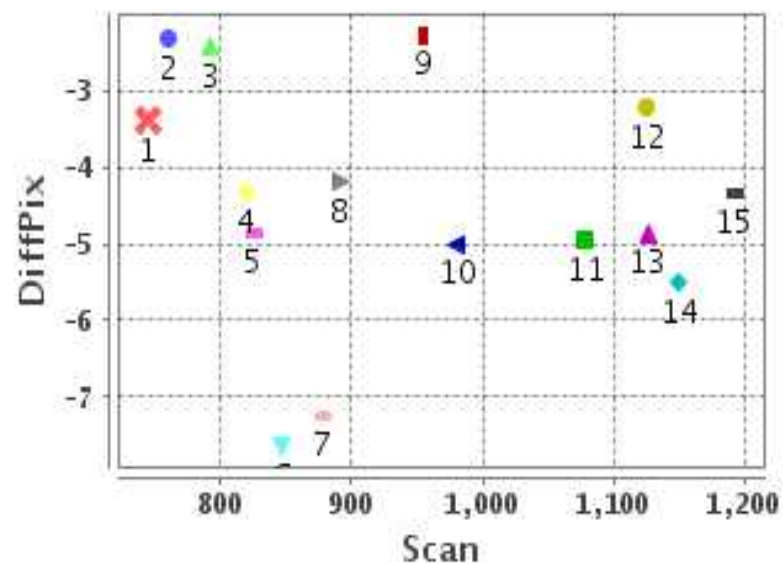
**Identified Control Point details : ( Differences are Reference - Product )**

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
14	891.5	1699.5	-1.2	-4.19	3.047	N	15.358	W	Accepted
15	980.2	1724.2	-3.2	-5.00	12.005	N	18.438	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



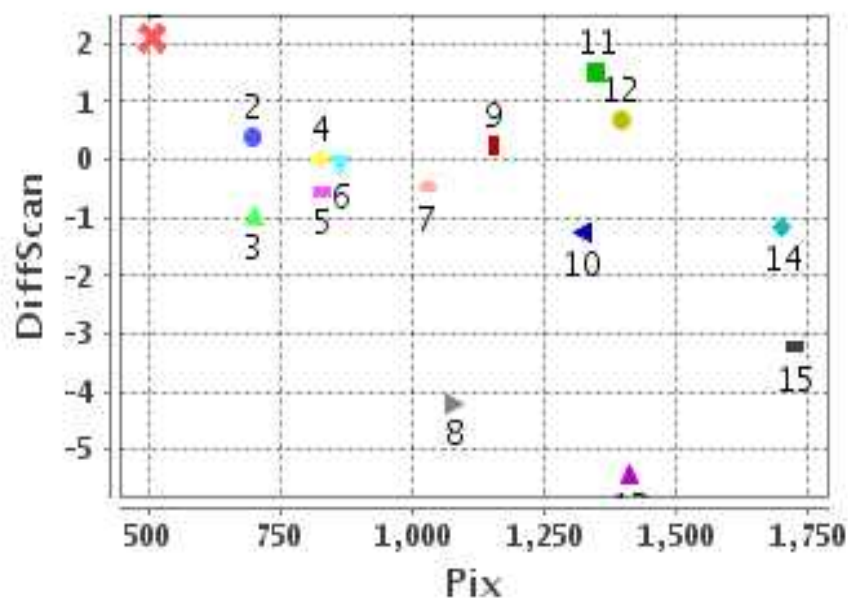
#### Number Of Points

North	7
South	6
East	0
West	13

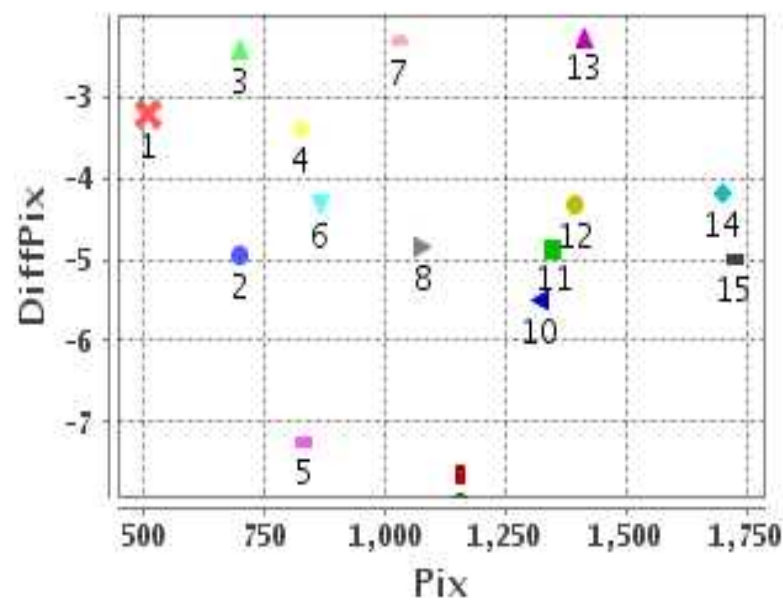
#### Radial Error ( Km )

Mean	4.766
Min	2.769
Max	7.709
CE90	5.500

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.396	1.853	1.895	N	1.448	1.972
Across ( Km )	-4.399	1.251	4.573	W	4.211	4.694

## 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)	1.785	N
Across(Mean,Dir)	-19.55	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	5.00	24.97
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.54	0.35
Across(Mean,Stddev)	2.57	1.64

<b>Scan Range-0-937; Pix Range-934-1869</b>		
Number of GCPs	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	7.76333	N
Across(Mean,Dir)	-15.71	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.41	10.30
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	2.22	1.51
Across(Mean,Stddev)	2.20	0.33

<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	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-7.27	S
Across(Mean,Dir)	-16.08	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.86	21.60
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-1.72	0.00
Across(Mean,Stddev)	1.75	0.00

<b>Scan Range-937-1876; Pix Range-934-1869</b>		
Number of GCPs	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	1.18075	N
Across(Mean,Dir)	-17.82	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	3.99	0.31
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-3.54	1.15
Across(Mean,Stddev)	-0.77	0.29

<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