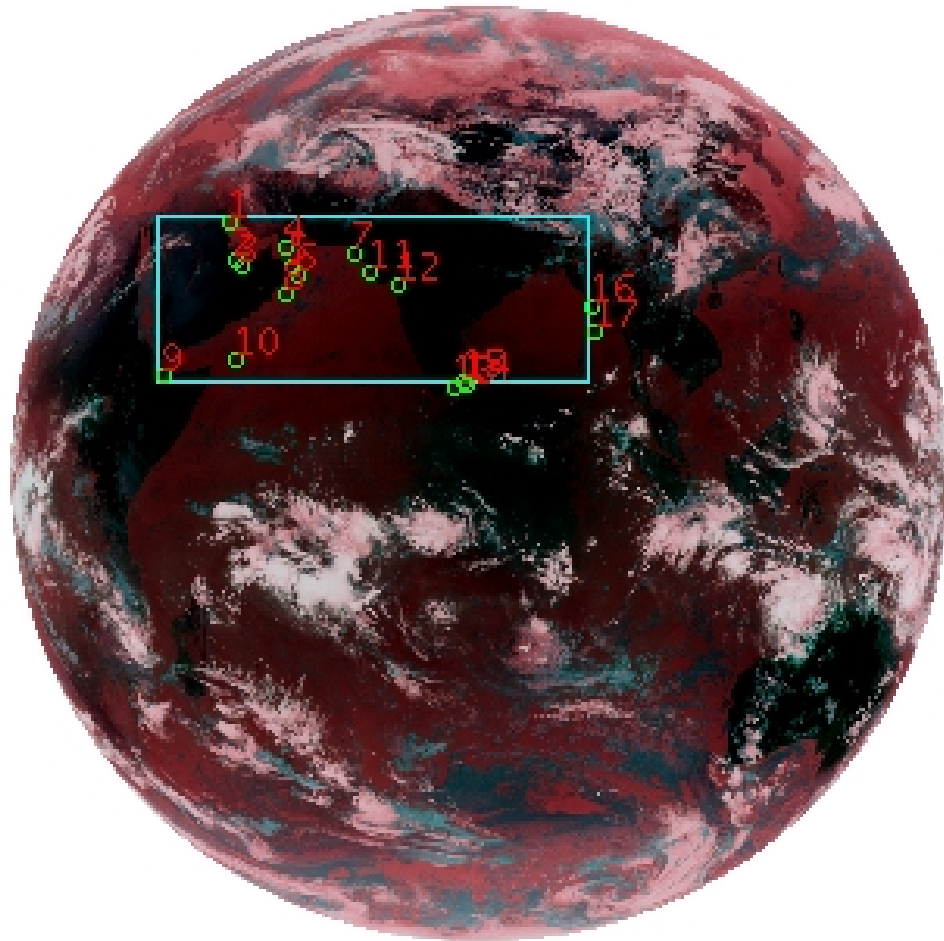


# DQE Report: Location Accuracy of INSAT-3D-IMG STANDARD(FULL DISK) Product 3DIMG\_19MAR2019\_0600

Satellite	INSAT-3D	No Of Bands	6	Product Type	STANDARD
Sensor	IMG	LvlOfProcess	L1B	Selected Band	2-TIR1
DOP/Time	19-03-19/06:00	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 3DIMG19MAR20190600L1BSTD

Image Width: 2805 Image Height: 2816 No Of GCPs: 17

GCP Coverage(%) 17.01 (N-S) 44.55 (E-W)

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	1.553	N	1.496	2.156
Across	-7.842	W	1.700	8.024

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.608	0.505	15.205
Along	5.626	5.857	40.651
Across	4.575	0.752	14.372

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	4.945	2.749	1.21	3.005
Across	5.419	2.374	1.42	2.766

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.04705	-0.01514	0.12326

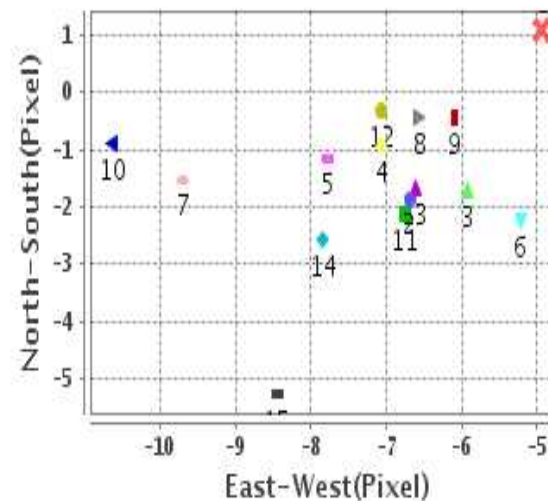
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

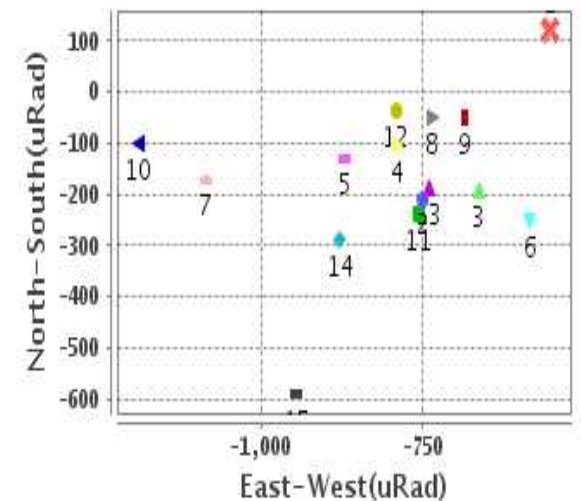
## Radial Error (in IR Pixels)

Mean	8.133
Min	5.880
Max	11.488
CE90	9.937

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3D	<b>Generation Date</b>	19-03-19
<b>Sensor</b>	IMG	<b>DQE Date</b>	20-03-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	19-03-19
<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_19MAR2	<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 : 3DIMG19MAR20190600L1BSTD**

(-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 : 17

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	906.1	153.6	672.2	1151.25	17.01 (N-S)
<b>GCP Pix</b>	1019.9	357.2	478.2	1727.75	44.55 (E-W)

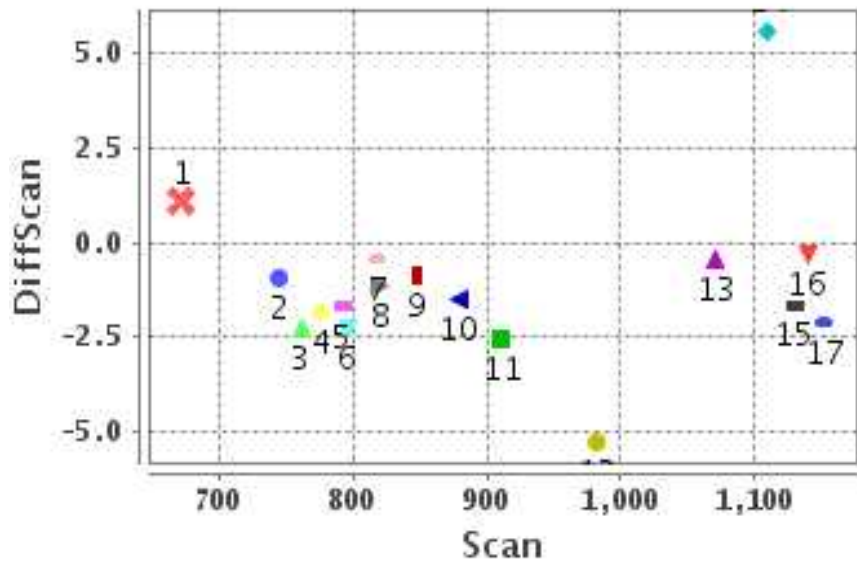
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	672.2	669.2	1.1	-4.94	5.710	S	25.662	W	Accepted
2	776.2	689.0	-1.9	-6.69	9.653	N	38.559	W	Accepted
3	792.8	703.5	-1.7	-5.92	5.391	N	30.245	W	Accepted
4	745.2	829.2	-0.9	-7.06	5.187	N	35.630	W	Accepted
5	796.2	849.2	-2.3	-11.28	11.534	N	56.118	W	Rejected
6	820.2	867.8	-1.1	-7.78	5.754	N	34.144	W	Accepted
7	762.0	1032.0	-2.3	-5.22	12.430	N	25.412	W	Accepted
8	879.2	833.2	-1.5	-9.70	6.917	N	45.427	W	Accepted
9	1109.5	478.2	5.6	-5.98	25.254	S	28.158	W	Rejected
10	1070.5	690.0	-0.4	-6.56	0.290	N	31.404	W	Accepted
11	818.2	1079.8	-0.4	-6.10	2.027	N	23.433	W	Accepted
12	848.0	1156.2	-0.9	-10.64	5.217	N	44.235	W	Accepted
13	1151.2	1322.5	-2.1	-6.75	7.553	N	24.901	W	Accepted

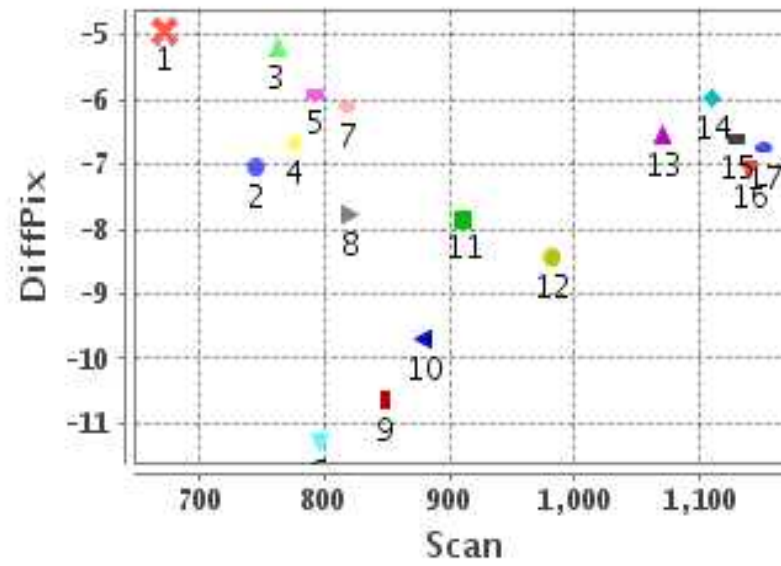
**Identified Control Point details : ( Differences are Reference - Product )**

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
14	1139.5	1351.2	-0.3	-7.06	0.085	S	26.881	W	Accepted
15	1129.2	1349.5	-1.7	-6.61	6.053	N	23.907	W	Accepted
16	911.0	1710.5	-2.6	-7.84	11.453	N	29.695	W	Accepted
17	982.2	1727.8	-5.3	-8.45	21.036	N	30.994	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



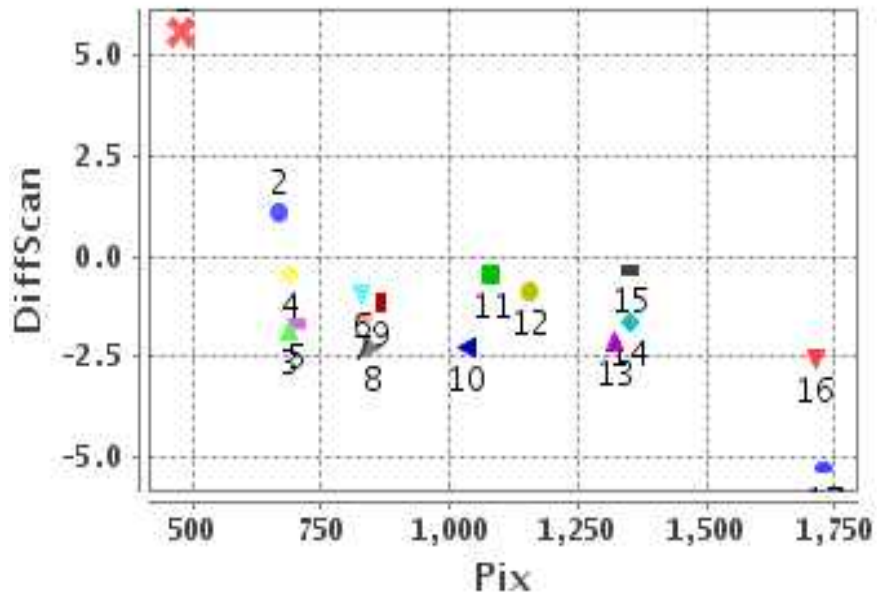
#### Number Of Points

North	13
South	2
East	0
West	15

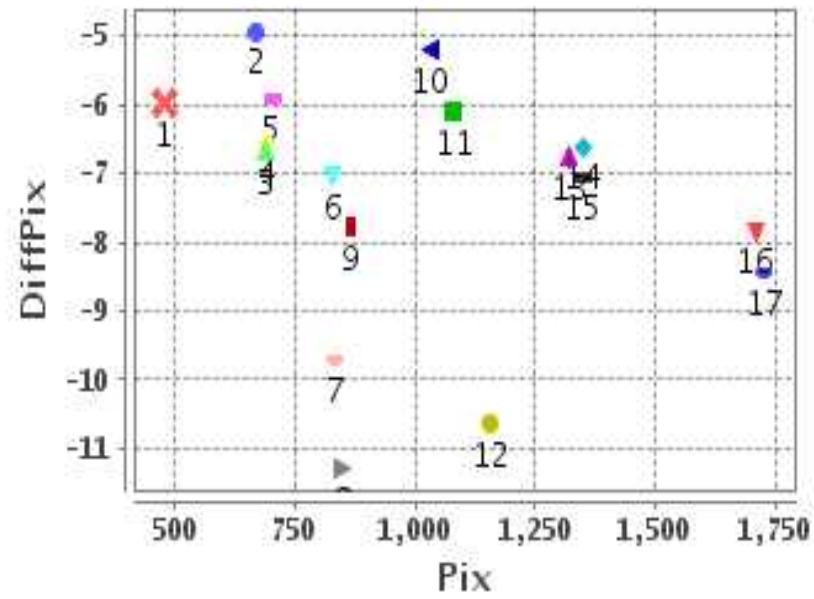
#### Radial Error ( Km )

Mean	8.133
Min	5.880
Max	11.488
CE90	9.937

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	1.553	1.496	2.156	N	1.734	2.232
Across ( Km )	-7.842	1.700	8.024	W	7.732	8.157

## Block-Wise Geo location Error Statistics

### Location Accuracy,Scale,ID

<b>Scan Range-0-937; Pix Range-0-934</b>		
Number of GCPs	6	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	4.53	N
Across(Mean,Dir)	-34.95	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	5.47	36.67
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	2.53	0.34
Across(Mean,Stddev)	2.49	1.28

<b>Scan Range-0-937; Pix Range-934-1869</b>		
Number of GCPs	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	7.785	N
Across(Mean,Dir)	-30.70	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.45	11.26
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.96	0.91
Across(Mean,Stddev)	2.97	1.87

<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	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	0.29	N
Across(Mean,Dir)	-31.41	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-934-1869</b>		
Number of GCPs	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	8.642	N
Across(Mean,Dir)	-26.67	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.05	1.18
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-3.91	0.76
Across(Mean,Stddev)	0.62	0.78

<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