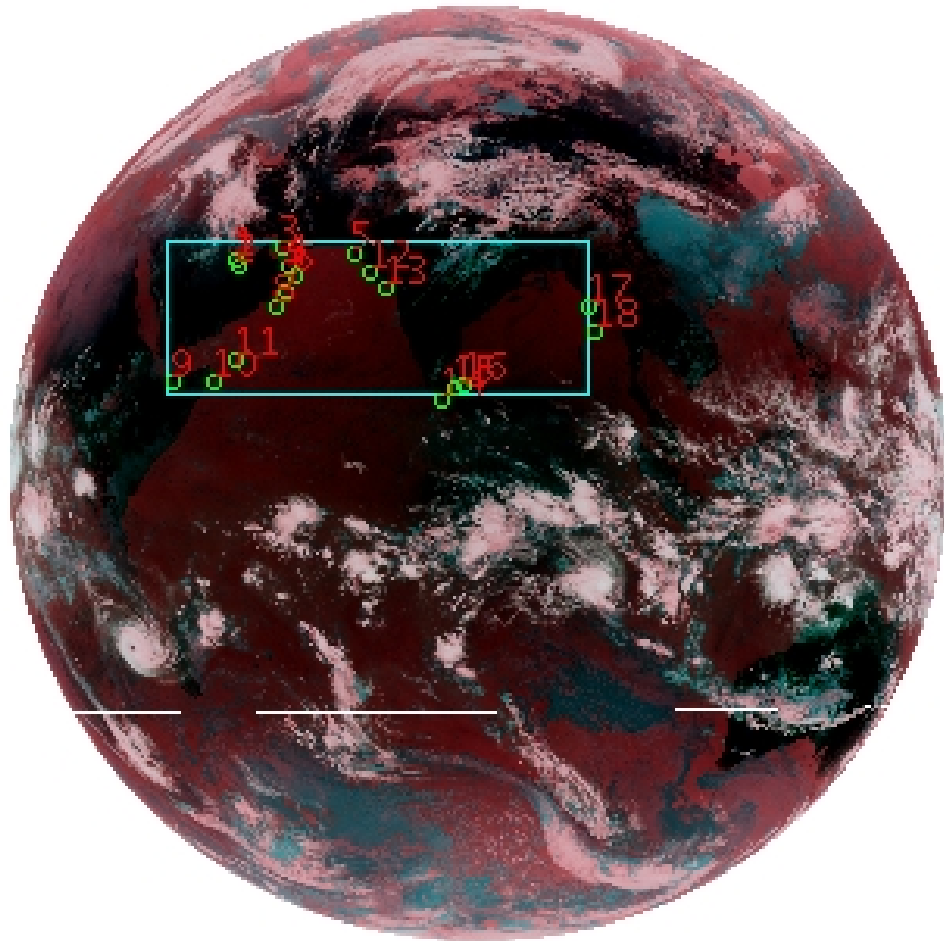


# DQE Report: Location Accuracy of INSAT-3D-IMG STANDARD(FULL DISK) Product 3DIMG\_14MAR2019\_0600

Satellite	INSAT-3D	No Of Bands	6	Product Type	STANDARD
Sensor	IMG	LvlOfProcess	L1B	Selected Band	2-TIR1
DOP/Time	14-03-19/06:00	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 3DIMG14MAR20190600L1BSTD

Image Width: 2805 Image Height: 2816 No Of GCPs: 18

GCP Coverage(%) 15.67 (N-S) 43.48 (E-W)

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	1.355	N	1.617	2.110
Across	-2.181	W	1.136	2.459

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.457	0.404	11.416
Along	5.285	8.306	32.114
Across	4.615	1.382	15.375

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	5.496	-0.224	1.47	1.482
Across	4.043	1.472	1.14	1.859

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01501	-0.01248	0.07997

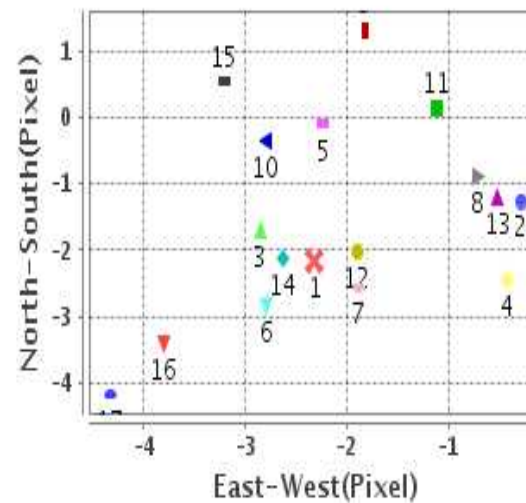
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

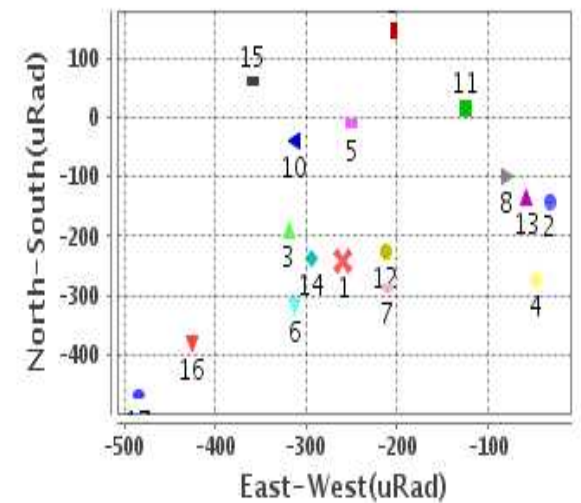
## Radial Error (in IR Pixels)

Mean	2.967
Min	.775
Max	5.270
CE90	4.347

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3D	<b>Generation Date</b>	14-03-19
<b>Sensor</b>	IMG	<b>DQE Date</b>	15-03-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	14-03-19
<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_14MAR2	<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 : 3DIMG14MAR20190600L1BSTD**

(-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 : 18

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	936.2	151.8	746.0	1187.25	15.67 (N-S)
<b>GCP Pix</b>	998.2	346.0	504.2	1723.75	43.48 (E-W)

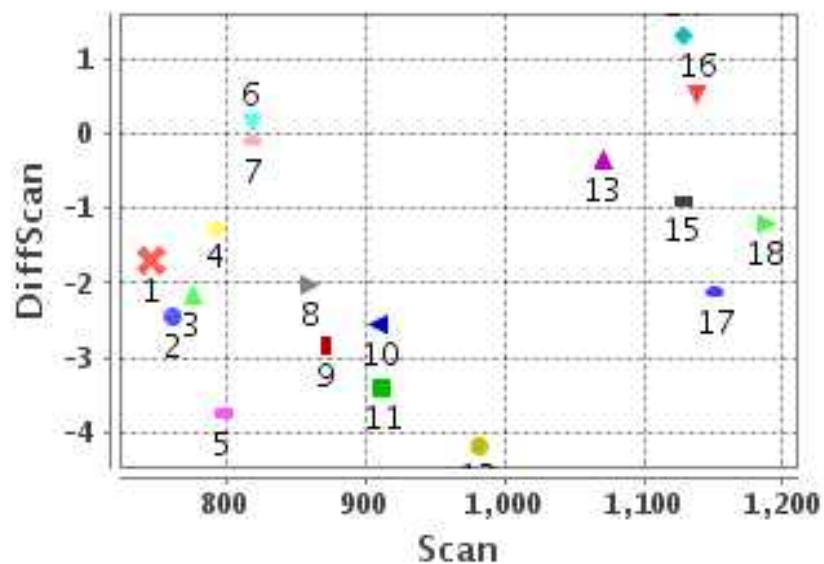
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	776.2	685.5	-2.2	-2.32	9.702	N	13.270	W	Accepted
2	792.2	698.0	-1.3	-0.29	4.474	N	2.958	W	Accepted
3	746.0	825.0	-1.7	-2.85	8.713	N	16.685	W	Accepted
4	797.8	844.5	-3.8	-6.59	15.912	N	32.913	W	Rejected
5	762.2	1027.2	-2.5	-0.43	11.021	N	2.828	W	Accepted
6	819.2	862.2	-0.1	-2.24	0.215	S	9.431	W	Accepted
7	872.5	834.5	-2.8	-2.79	11.545	N	12.203	W	Accepted
8	910.0	802.0	-2.6	-1.88	11.428	N	11.196	W	Accepted
9	1128.5	504.2	-0.9	-0.71	1.175	N	2.870	W	Accepted
10	1128.2	629.2	1.3	-1.82	5.686	S	6.674	W	Accepted
11	1070.5	686.2	-0.3	-2.80	0.064	N	12.680	W	Accepted
12	818.8	1074.2	0.2	-1.12	4.127	S	3.688	W	Accepted
13	860.0	1119.2	-2.0	-1.90	9.159	N	7.557	W	Accepted

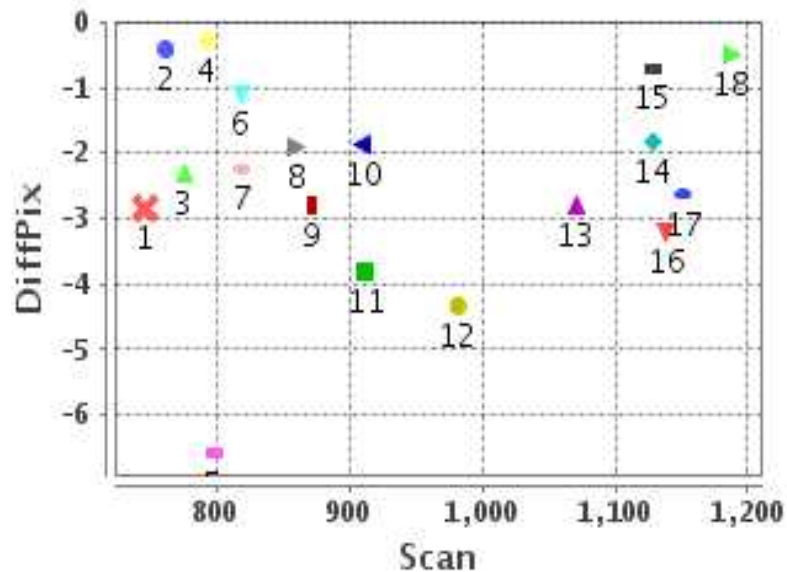
**Identified Control Point details : ( Differences are Reference - Product )**

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
14	1187.2	1278.2	-1.2	-0.51	4.047	N	1.126	W	Accepted
15	1151.2	1318.5	-2.1	-2.63	7.553	N	8.484	W	Accepted
16	1138.8	1347.5	0.5	-3.21	4.828	S	10.465	W	Accepted
17	911.8	1706.5	-3.4	-3.81	11.919	N	12.658	W	Accepted
18	981.2	1723.8	-4.2	-4.33	16.177	N	13.513	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



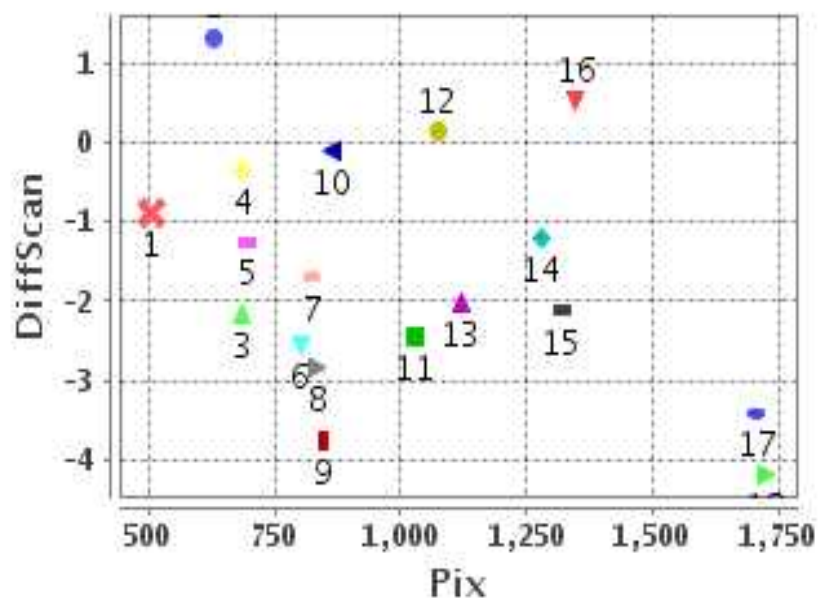
#### Number Of Points

North	13
South	4
East	0
West	17

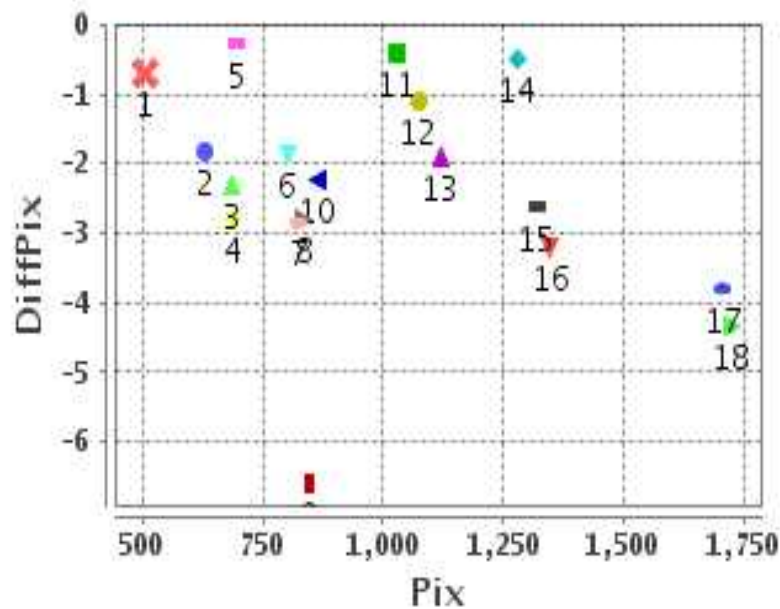
#### Radial Error ( Km )

Mean	2.967
Min	.775
Max	5.270
CE90	4.347

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	1.355	1.617	2.110	N	1.925	2.175
Across ( Km )	-2.181	1.136	2.459	W	2.310	2.533

## 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)	7.605	N
Across(Mean,Dir)	-10.96	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	5.12	27.89
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.09	0.99
Across(Mean,Stddev)	-0.31	0.93

<b>Scan Range-0-937; Pix Range-934-1869</b>		
Number of GCPs	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	6.9925	N
Across(Mean,Dir)	-6.68	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.52	13.10
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.70	1.47
Across(Mean,Stddev)	1.85	1.13

<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)	-1.48	S
Across(Mean,Dir)	-7.41	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.73	18.19
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.56	1.10
Across(Mean,Stddev)	1.60	0.49

<b>Scan Range-937-1876; Pix Range-934-1869</b>		
Number of GCPs	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	5.73875	N
Across(Mean,Dir)	-8.40	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	3.90	2.40
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-3.24	1.10
Across(Mean,Stddev)	2.88	0.71

<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