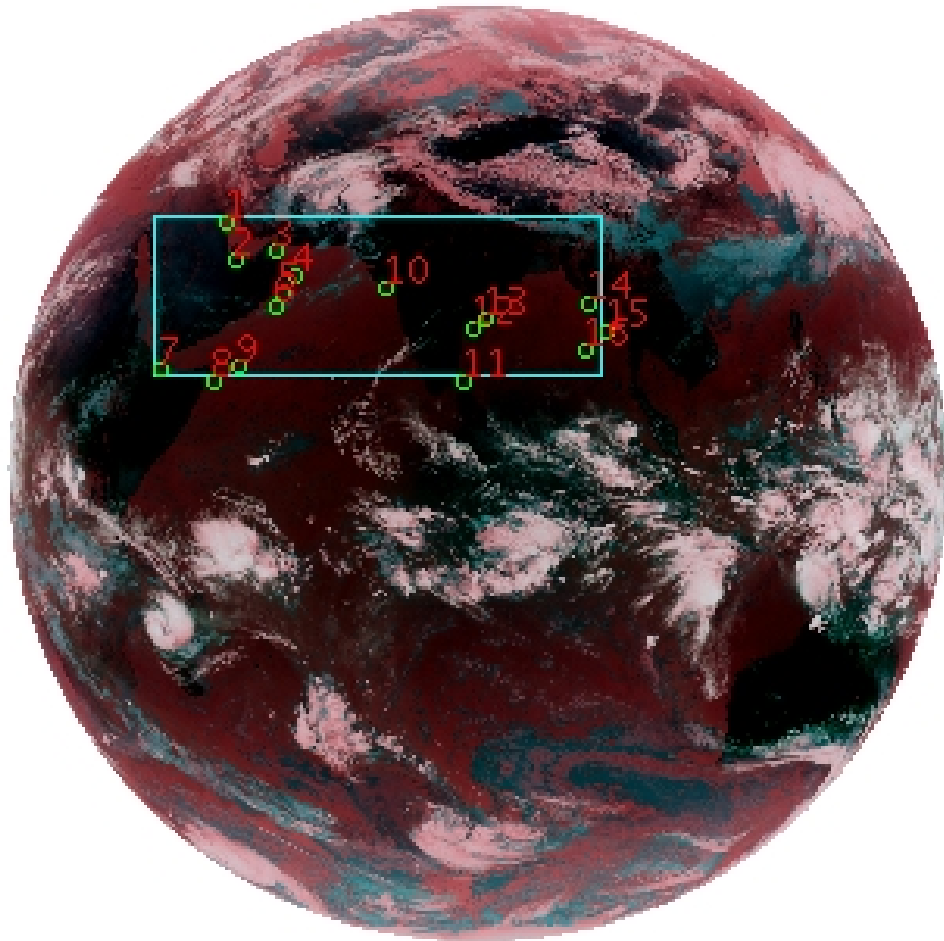


# DQE Report: Location Accuracy of INSAT-3D-IMG STANDARD(FULL DISK) Product 3DIMG\_10MAR2019\_0600

Satellite	INSAT-3D	No Of Bands	6	Product Type	STANDARD
Sensor	IMG	LvlOfProcess	L1B	Selected Band	2-TIR1
DOP/Time	10-03-19/06:00	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 3DIMG10MAR20190600L1BSTD

Image Width: 2805 Image Height: 2816 No Of GCPs: 16

GCP Coverage(%) 16.48 (N-S) 45.70 (E-W)

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.790	N	0.864	1.170
Across	-2.768	W	1.094	2.977

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.400	0.369	10.011
Along	9.057	44.559	126.431
Across	5.199	7.711	29.984

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.954	-0.066	0.88	0.881
Across	3.566	-0.243	0.99	1.014

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01715	-0.00597	0.02199

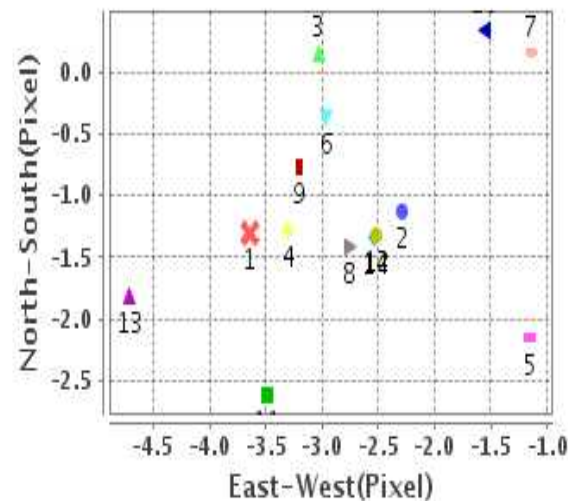
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

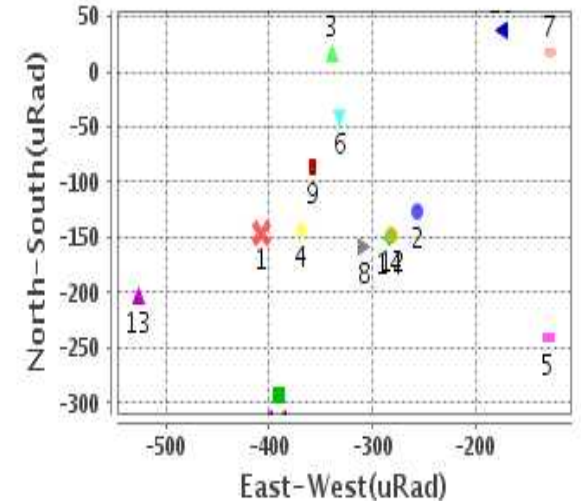
## Radial Error (in IR Pixels)

Mean	3.023
Min	1.207
Max	4.630
CE90	4.090

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3D	<b>Generation Date</b>	10-03-19
<b>Sensor</b>	IMG	<b>DQE Date</b>	11-03-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	10-03-19
<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_10MAR2	<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 : 3DIMG10MAR20190600L1BSTD**

(-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 : 16

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	935.1	135.6	667.5	1131.50	16.48 (N-S)
<b>GCP Pix</b>	1052.9	417.9	474.8	1756.50	45.70 (E-W)

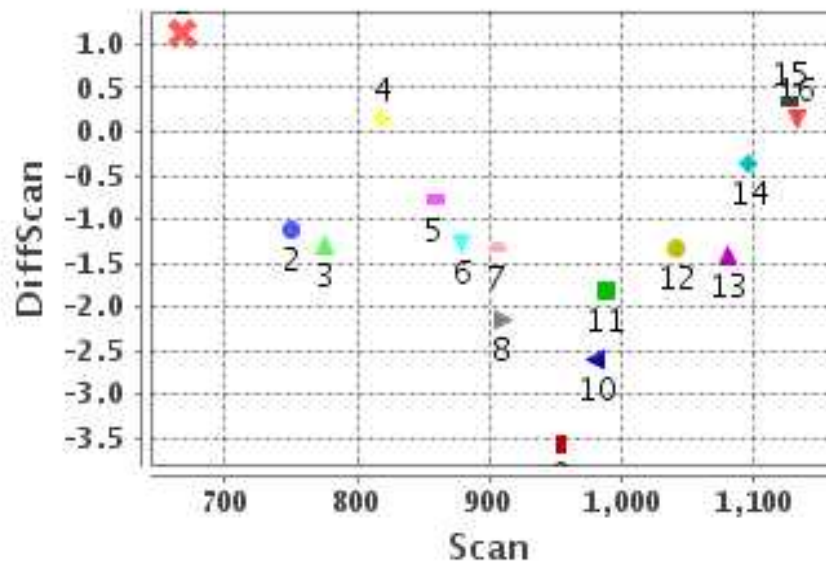
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	667.5	663.0	1.1	0.47	9.277	S	6.509	E	Rejected
2	775.5	686.8	-1.3	-3.64	4.554	N	17.751	W	Accepted
3	750.2	802.5	-1.1	-2.29	5.080	N	10.446	W	Accepted
4	819.0	863.0	0.2	-3.03	0.215	S	14.977	W	Accepted
5	879.0	826.2	-1.3	-3.30	5.790	N	15.300	W	Accepted
6	909.5	801.2	-2.2	-1.15	7.420	N	5.029	W	Accepted
7	1095.2	474.8	-0.4	-2.96	0.826	N	12.535	W	Accepted
8	1131.5	628.2	0.2	-1.14	2.817	S	3.923	W	Accepted
9	1080.5	696.2	-1.4	-2.75	3.943	N	12.472	W	Accepted
10	858.8	1120.5	-0.8	-3.20	0.108	N	12.038	W	Accepted
11	1127.2	1344.5	0.3	-1.56	2.547	S	4.518	W	Accepted
12	980.8	1370.5	-2.6	-3.49	8.194	N	12.217	W	Accepted
13	953.2	1410.5	-3.6	-1.08	13.547	N	2.455	W	Rejected

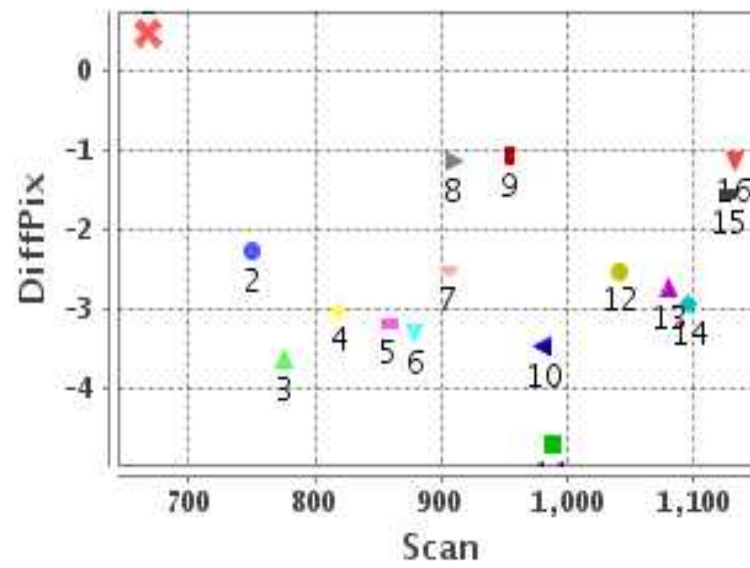
**Identified Control Point details : ( Differences are Reference - Product )**

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
14	905.2	1705.2	-1.3	-2.51	4.432	N	8.753	W	Accepted
15	987.2	1756.5	-1.8	-4.71	6.904	N	17.185	W	Accepted
16	1041.5	1696.5	-1.3	-2.53	2.563	N	7.891	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



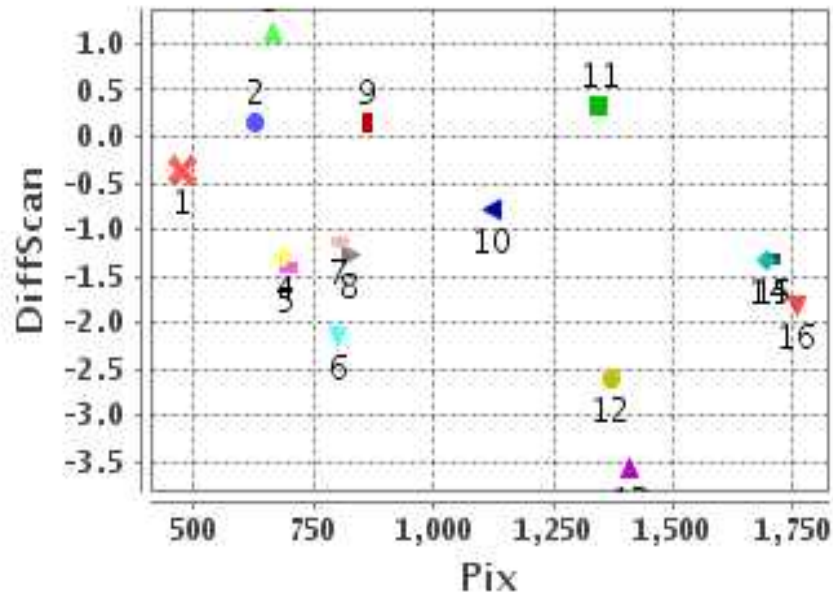
#### Number Of Points

North	11
South	3
East	0
West	14

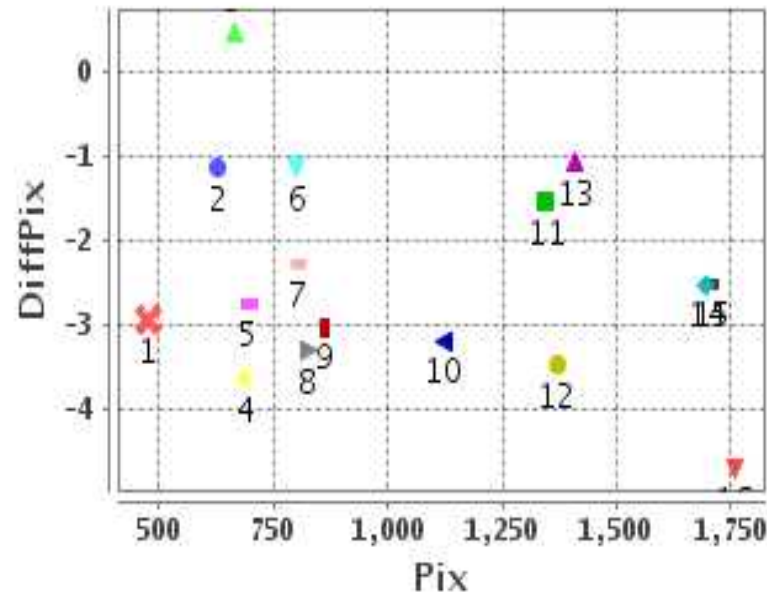
#### Radial Error ( Km )

Mean	3.023
Min	1.207
Max	4.630
CE90	4.090

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.790	0.864	1.170	N	1.073	1.215
Across ( Km )	-2.768	1.094	2.977	W	2.833	3.077

## Block-Wise Geo location Error Statistics

### Location Accuracy,Scale,ID

<b>Scan Range-0-937; Pix Range-0-934</b>		
Number of GCPs	5	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	4.526	N
Across(Mean,Dir)	-12.70	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.96	24.11
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.02	0.83
Across(Mean,Stddev)	-1.20	0.83

<b>Scan Range-0-937; Pix Range-934-1869</b>		
Number of GCPs	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	2.275	N
Across(Mean,Dir)	-10.40	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.16	4.12
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.55	0.00
Across(Mean,Stddev)	-0.69	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)	0.65	N
Across(Mean,Dir)	-9.64	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.99	24.67
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-1.30	0.26
Across(Mean,Stddev)	-1.01	0.81

<b>Scan Range-937-1876; Pix Range-934-1869</b>		
Number of GCPs	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	3.7825	N
Across(Mean,Dir)	-10.45	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.09	2.16
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-1.67	0.93
Across(Mean,Stddev)	2.02	0.89

<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