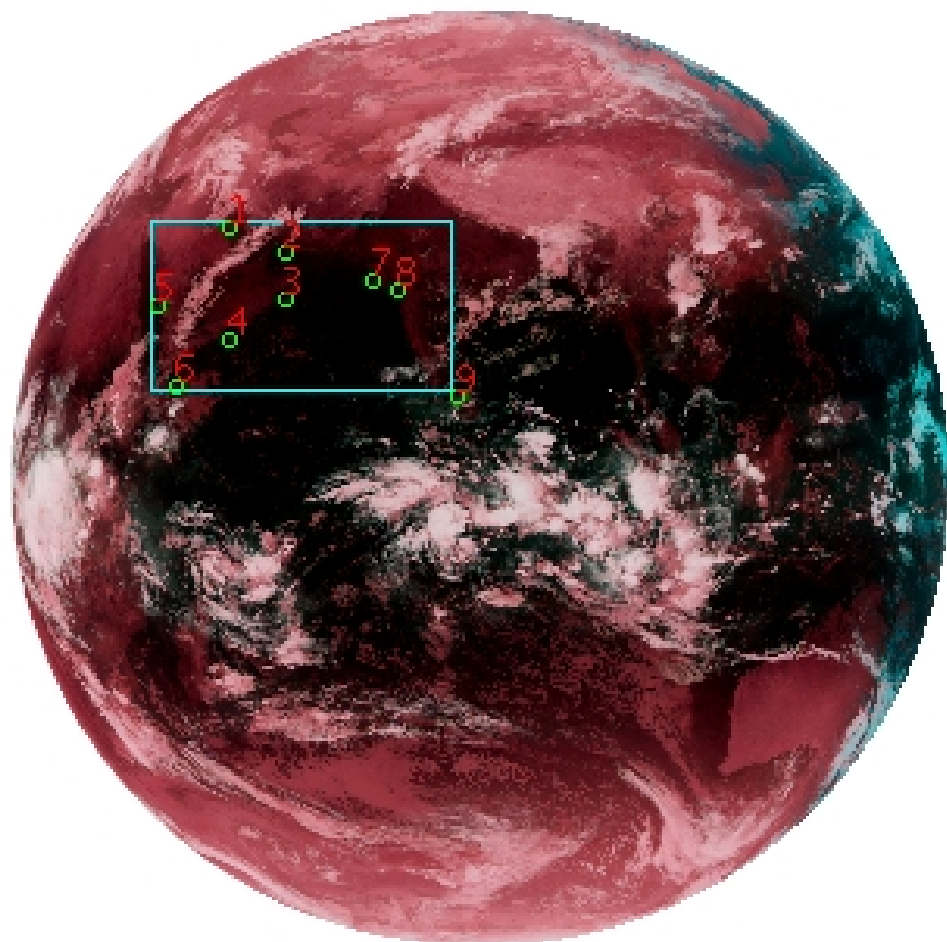


# DQE Report: Location Accuracy of INSAT-3D-IMG STANDARD(FULL DISK) Product 3DIMG\_21APR2019\_2130

Satellite	INSAT-3D	No Of Bands	6	Product Type	STANDARD
Sensor	IMG	LvlOfProcess	L1B	Selected Band	2-TIR1
DOP/Time	21-04-19/21:30	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 3DIMG21APR20192130L1BSTD

Image Width: 2805 Image Height: 2816 No Of GCPs: 9

GCP Coverage(%) 17.20 (N-S) 30.83 (E-W)

Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.443	N	1.560	1.621
Across	-1.280	W	2.024	2.395

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.744	0.530	18.606
Along	5.559	4.048	38.967
Across	4.902	0.869	22.546

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	3.973	1.751	1.47	2.284
Across	4.895	1.933	1.76	2.617

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02503	-0.01612	0.18517

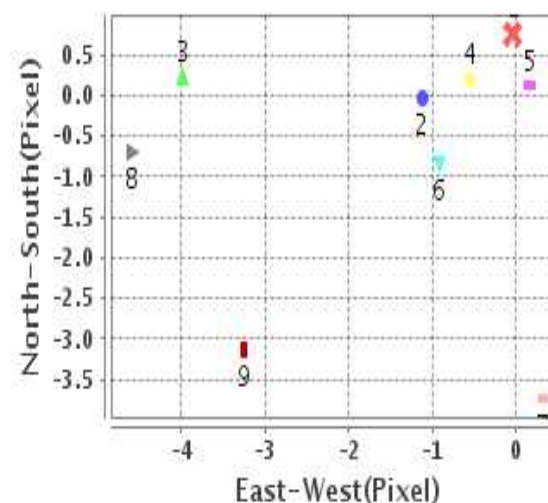
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

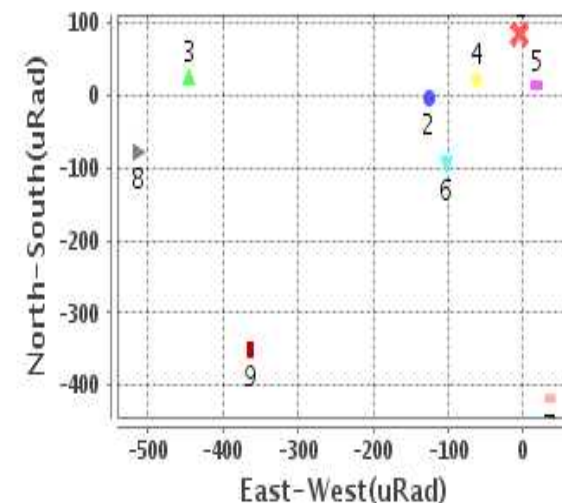
## Radial Error (in IR Pixels)

Mean	2.396
Min	.537
Max	4.615
CE90	4.431

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



Detailed Product Information

Ancillary Info

Satellite	INSAT-3D	Generation Date	22-04-19
Sensor	IMG	DQE Date	24-04-2019
PassType	NONE	Aquisition Date	21-04-19
Imaging Mode	FULL_FRAME	Aquisition Time(GMT)	21:30
Sat Altitude(m)	3.6E7	Nominal Altitude(Km)	3.6E7
Station	BES	Predicted Altitude(Km)	-999.99
Sat Location(deg)	-999.99 E	Nominal Center Lat(deg)	0.0
Format	hdf5-1.8.8	Nominal Center Lon(deg)	82.0
LvlOfProcessing	STANDARD(FULL	Predicted Center Lat(deg)	-999.99
DP JobId	3DIMG_21APR20	Predicted Center Lon(deg)	-999.99
ProductCode	NONE		
Field View(deg)	17.974		

Projection Parameters

Projection	None
Ellipsoid	WGS_84
Datum	WGS_84
Zone	NotAvail
Semi_Major_Axis(Km)	6378.14
Semi_Minor_Axis(Km)	6356.75
Standard_Parallel1(deg)	-999.99
Standard_Parallel2(deg)	-999.99
Projection-Origin_Lon(deg)	-999.99
Projection-Origin_Lat(deg)	-999.99
Projection_False_Easting(Km)	-999.99
Projection_False_Northing(Km)	-999.99

Scene Center Desc

Centre Lat(deg)	0.0
Center Lon(deg)	82.0
Centre Roll(deg)	-999.0
Centre Pitch(deg)	-999.0
Center Yaw(deg)	-999.0
SunElevation(deg)	-999.99
SunAzimuth(deg)	-999.99
SatElevation(deg)	-999.99
SatAzimuth(deg)	-999.99

Scene Corner Desc

NW_Lat(deg)	81.042
NW_Lon(deg)	0.843
SW_Lat(deg)	-81.042
SW_Lon(deg)	0.843
NE_Lat(deg)	81.042
NE_Lon(deg)	163.157
SE_Lat(deg)	-81.042
SE_Lon(deg)	163.157

Band Wise Details

	Res_AL(Km)	Res_AX(Km)	Image Height	Image Width
MIR	4.0	4.0	2816	2805
SWIR	1.0	1.0	11264	11220
TIR1	4.0	4.0	2816	2805
TIR2	4.0	4.0	2816	2805
VIS	1.0	1.0	11264	11220
WV	8.0	8.0	1408	1402

GDQE Computation Base

Projection	MER	Wildpoint Rejection Threshold	2.60	SemiMajorAxis(m)	6378137.00	Mode Of Computation	grid
Ellipsoid	WGS_84		-sigma	SemiMinorAxis(m)	6356752.31	Used Reference Type	REFINSREF
Datum	WGS_84	Unit	pixels	Standardparallel1(deg)	17.0		
Zone	Not Applicable			Standardparallel2(deg)	17.0		

\* -999.99 : Not Applicable/Not Available

## References

**JobId : 3DIMG21APR20192130L1BSTD**

(-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

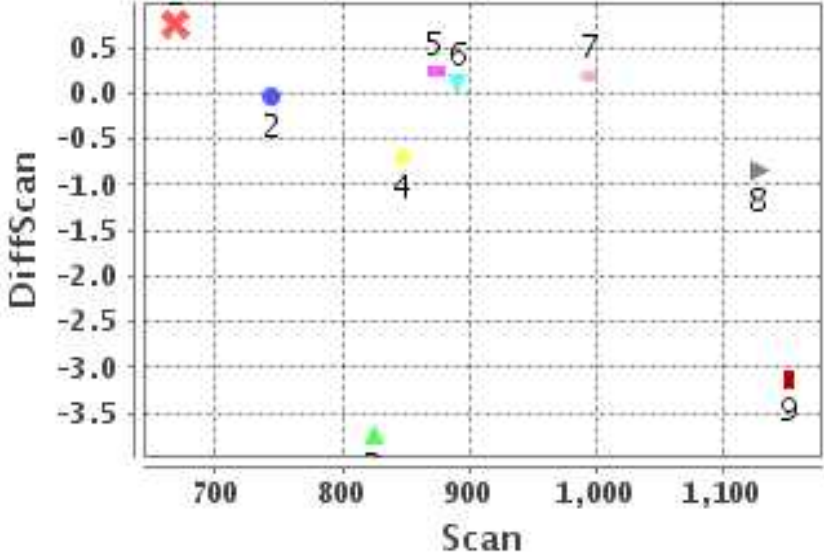
Image Width (pixels) : 2805      Image Height (pixels) : 2816      No of GCPs : 9

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	902.8	153.5	668.0	1152.25	17.20 (N-S)
<b>GCP Pix</b>	830.5	279.6	454.2	1319.00	30.83 (E-W)

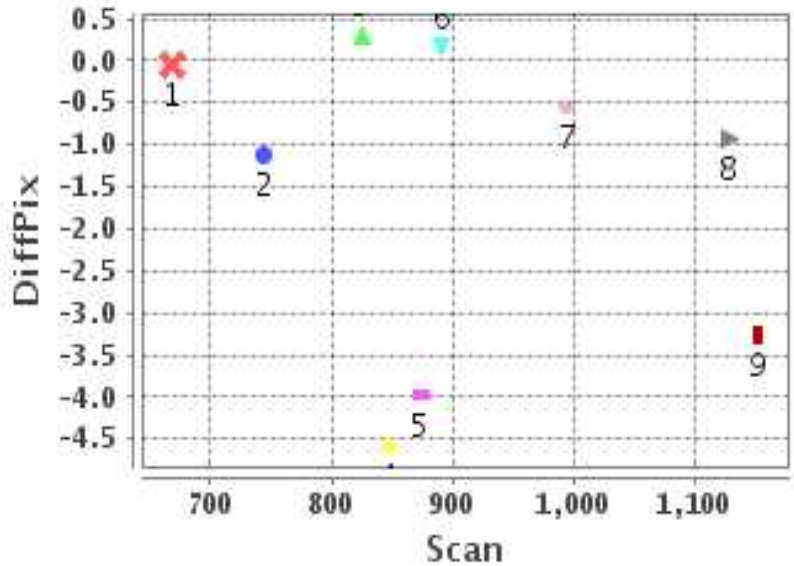
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	668.0	663.5	0.8	-0.05	5.163	S	4.601	E	Accepted
2	744.2	823.2	-0.0	-1.12	1.379	S	4.128	W	Accepted
3	873.2	823.5	0.2	-3.98	1.070	S	15.872	W	Accepted
4	995.2	663.2	0.2	-0.55	1.935	S	0.928	W	Accepted
5	891.2	454.2	0.1	0.17	1.305	S	3.445	E	Accepted
6	1128.5	504.5	-0.8	-0.92	0.950	N	2.649	W	Accepted
7	824.8	1073.2	-3.7	0.31	14.218	N	1.103	E	Accepted
8	847.8	1150.2	-0.7	-4.58	0.220	S	18.457	W	Accepted
9	1152.2	1319.0	-3.1	-3.25	11.842	N	13.188	W	Accepted

Error(Pixels) Vs. GCPScan



Error(Pixels) Vs. GCPScan



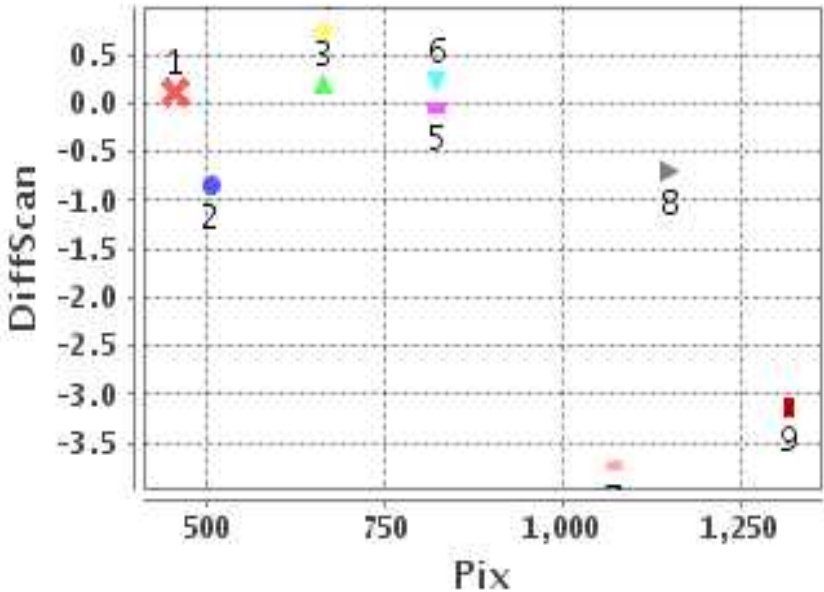
Number Of Points

North	3
South	6
East	3
West	6

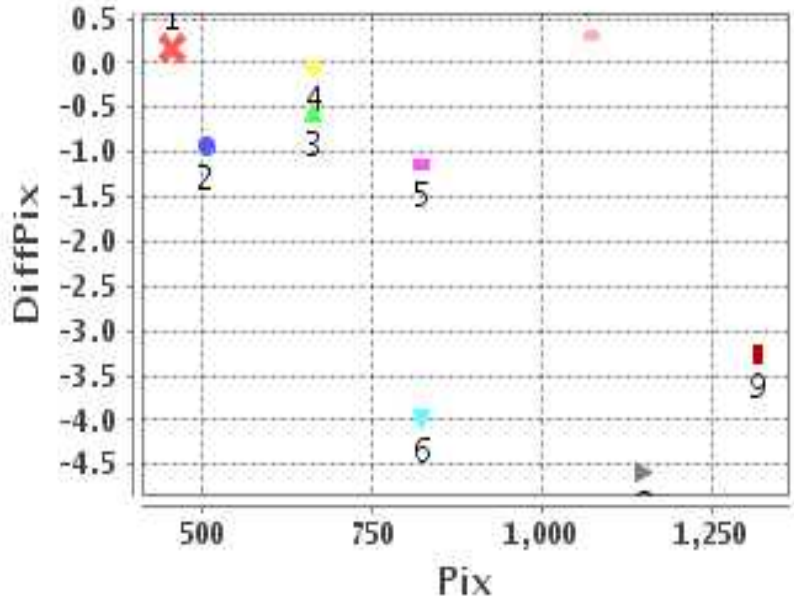
Radial Error ( Km )

Mean	2.396
Min	.537
Max	4.615
CE90	4.431

Error(Pixels) Vs. GCPPix



Error(Pixels) Vs. GCPPix



Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.443	1.560	1.621	N	1.174	1.719
Across ( Km )	-1.280	2.024	2.395	W	1.947	2.538

Block-Wise Geo location Error Statistics

Location Accuracy,Scale,ID

Scan Range-0-937; Pix Range-0-934			
Number of GCPs	4		
Location Error(Km)			
Along(Mean,Dir)	-2.23	S	
Across(Mean,Dir)	-2.99	W	
Scale(Km)			
Average Scale (Mean,%Variation)	5.32	33.08	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	0.66	0.11	
Across(Mean,Stddev)	1.88	1.66	

Scan Range-0-937; Pix Range-934-1869			
Number of GCPs	2		
Location Error(Km)			
Along(Mean,Dir)	7.0	N	
Across(Mean,Dir)	-8.68	W	
Scale(Km)			
Average Scale (Mean,%Variation)	4.31	7.65	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-3.03	0.00	
Across(Mean,Stddev)	4.89	0.00	

Scan Range-0-937; Pix Range-1869-2805			
Number of GCPs	-999		
Location Error(Km)			
Along(Mean,Dir)	-999.99	NotAvail	
Across(Mean,Dir)	-999.99	NotAvail	
Scale(Km)			
Average Scale (Mean,%Variation)	-999.99	-999.9	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-999.99	-999.99	
Across(Mean,Stddev)	-999.99	-999.99	

Scan Range-937-1876; Pix Range-0-934			
Number of GCPs	2		
Location Error(Km)			
Along(Mean,Dir)	-0.495	S	
Across(Mean,Dir)	-1.79	W	
Scale(Km)			
Average Scale (Mean,%Variation)	4.40	10.07	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	1.04	0.00	
Across(Mean,Stddev)	-0.37	0.00	

Scan Range-937-1876; Pix Range-934-1869			
Number of GCPs	1		
Location Error(Km)			
Along(Mean,Dir)	11.847	N	
Across(Mean,Dir)	-13.19	W	
Scale(Km)			
Average Scale (Mean,%Variation)	-999.99	-999.9	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-999.99	-999.99	
Across(Mean,Stddev)	-999.99	-999.99	

Scan Range-937-1876; Pix Range-1869-2805			
Number of GCPs	-999		
Location Error(Km)			
Along(Mean,Dir)	-999.99	NotAvail	
Across(Mean,Dir)	-999.99	NotAvail	
Scale(Km)			
Average Scale (Mean,%Variation)	-999.99	-999.9	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-999.99	-999.99	
Across(Mean,Stddev)	-999.99	-999.99	

Scan Range-1876-2816; Pix Range-0-934			
Number of GCPs	-999		
Location Error(Km)			
Along(Mean,Dir)	-999.99	NotAvail	
Across(Mean,Dir)	-999.99	NotAvail	
Scale(Km)			
Average Scale (Mean,%Variation)	-999.99	-999.9	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-999.99	-999.99	
Across(Mean,Stddev)	-999.99	-999.99	

Scan Range-1876-2816; Pix Range-937-1869			
Number of GCPs	-999		
Location Error(Km)			
Along(Mean,Dir)	-999.99	NotAvail	
Across(Mean,Dir)	-999.99	NotAvail	
Scale(Km)			
Average Scale (Mean,%Variation)	-999.99	-999.9	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-999.99	-999.99	
Across(Mean,Stddev)	-999.99	-999.99	

Scan Range-1876-2816; Pix Range-1869-2805			
Number of GCPs	-999		
Location Error(Km)			
Along(Mean,Dir)	-999.99	NotAvail	
Across(Mean,Dir)	-999.99	NotAvail	
Scale(Km)			
Average Scale (Mean,%Variation)	-999.99	-999.9	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-999.99	-999.99	
Across(Mean,Stddev)	-999.99	-999.99	

\*-999 : no gcp available  
\* -999.99 : values are not computed