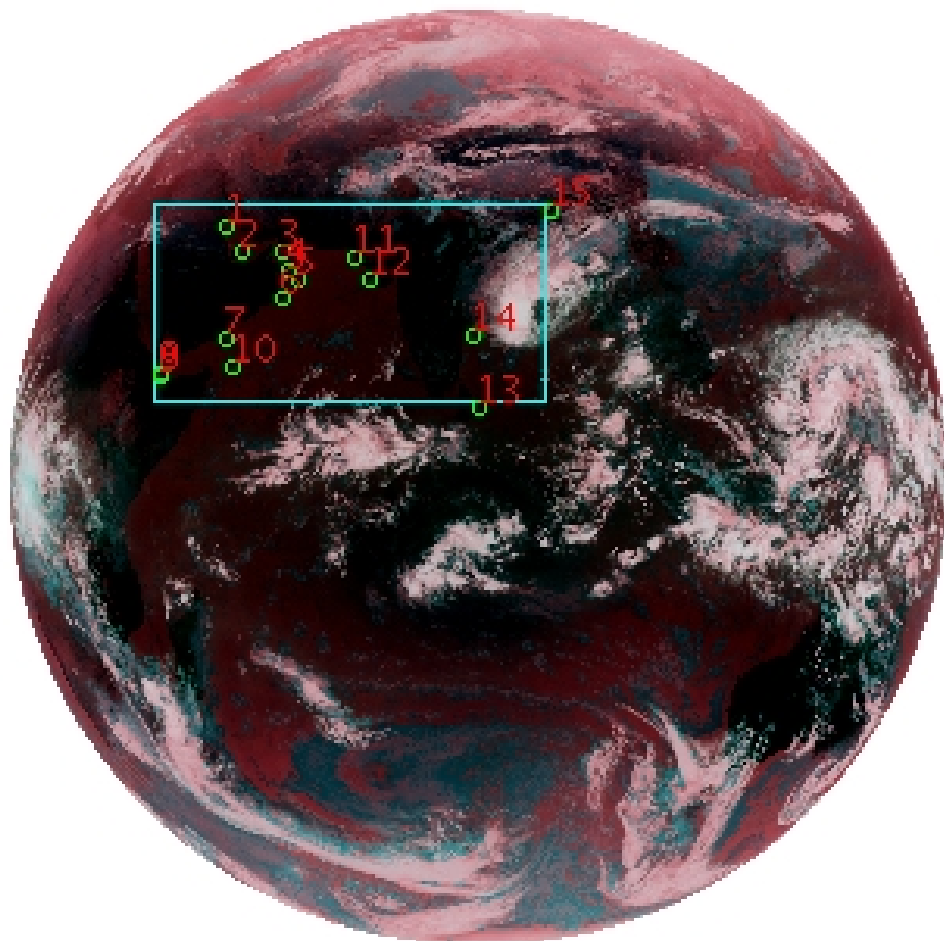


# DQE Report: Location Accuracy of INSAT-3D-IMG STANDARD(FULL DISK) Product 3DIMG\_16NOV2017\_0600

Satellite	INSAT-3D	No Of Bands	6	Product Type	STANDARD
Sensor	IMG	LvlOfProcess	L1B	Selected Band	2-TIR1
DOP/Time	16-11-17/06:00	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 3DIMG16NOV20170600L1BSTD

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

GCP Coverage(%) 20.13 (N-S) 40.10 (E-W)

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.763	N	2.030	2.169
Across	-3.126	W	1.616	3.520

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.642	0.478	16.055
Along	4.751	0.910	18.764
Across	4.814	0.721	20.349

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	6.191	-0.506	1.83	1.903
Across	4.058	-1.523	1.29	1.994

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01602	-0.01781	0.20948

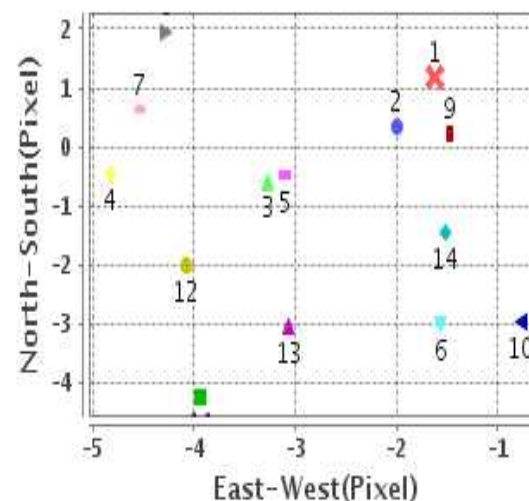
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

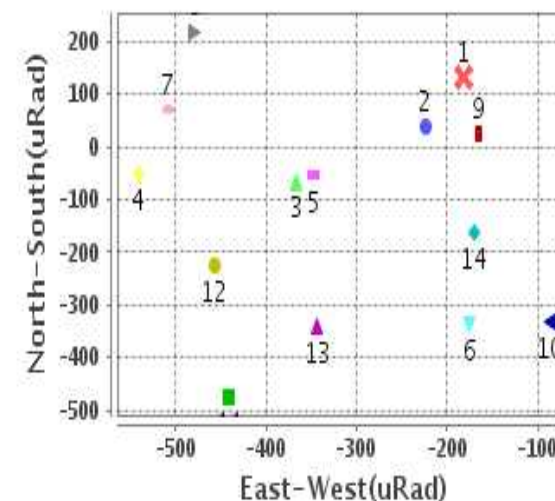
## Radial Error (in IR Pixels)

Mean	3.874
Min	1.474
Max	6.334
CE90	5.495

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3D	<b>Generation Date</b>	16-11-17
<b>Sensor</b>	IMG	<b>DQE Date</b>	17-11-2017
<b>PassType</b>	NONE	<b>Aquisition Date</b>	16-11-17
<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_16NOV2	<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 : 3DIMG16NOV20170600L1BSTD**

(-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>	888.0	169.4	628.2	1195.00	20.13 (N-S)
<b>GCP Pix</b>	899.4	323.6	470.5	1595.25	40.10 (E-W)

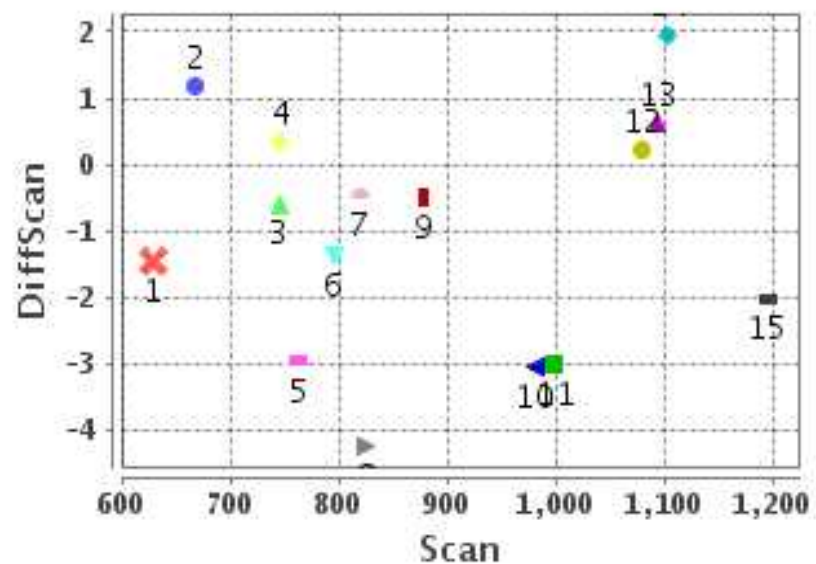
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	667.5	665.0	1.2	-1.62	9.530	S	5.648	W	Accepted
2	746.0	707.0	0.3	-2.00	1.183	S	10.628	W	Accepted
3	744.8	825.5	-0.6	-3.27	0.042	N	13.268	W	Accepted
4	795.2	845.5	-1.4	-7.47	7.155	N	34.600	W	Rejected
5	819.5	864.2	-0.5	-4.83	0.502	N	21.898	W	Accepted
6	878.2	826.0	-0.5	-3.10	1.045	N	14.457	W	Accepted
7	998.5	664.2	-3.0	-1.56	11.020	N	8.382	W	Accepted
8	1094.2	476.2	0.6	-4.54	3.500	S	23.627	W	Accepted
9	1103.2	470.5	2.0	-4.28	8.448	S	20.293	W	Accepted
10	1079.8	682.5	0.2	-1.48	4.180	S	4.160	W	Accepted
11	762.8	1027.5	-3.0	-0.77	11.021	N	3.272	W	Accepted
12	825.2	1077.5	-4.2	-3.94	18.789	N	16.999	W	Accepted
13	1195.0	1394.0	-2.0	-4.08	8.046	N	15.746	W	Accepted

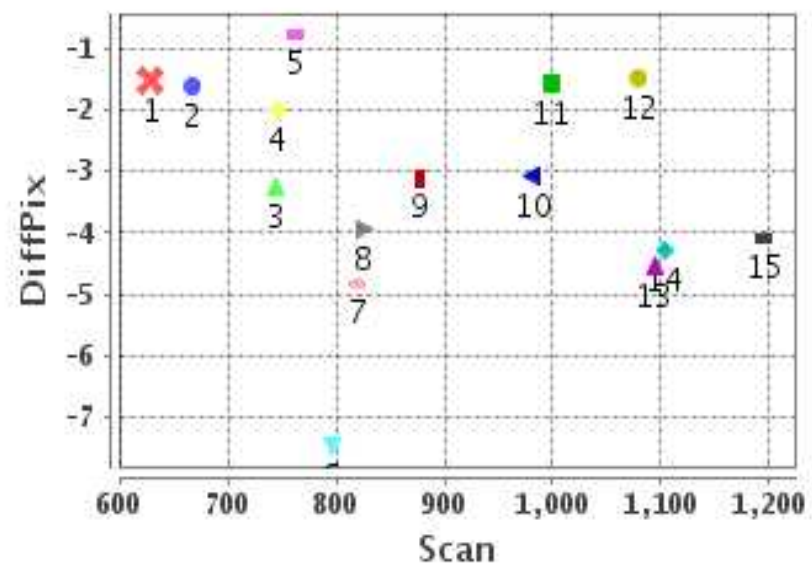
**Identified Control Point details : ( Differences are Reference - Product )**

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
14	981.2	1370.2	-3.1	-3.06	12.364	N	11.552	W	Accepted
15	628.2	1595.2	-1.5	-1.52	6.733	N	5.155	W	Accepted

## Error(Pixels) Vs. GCPScan



## Error(Pixels) Vs. GCPScan



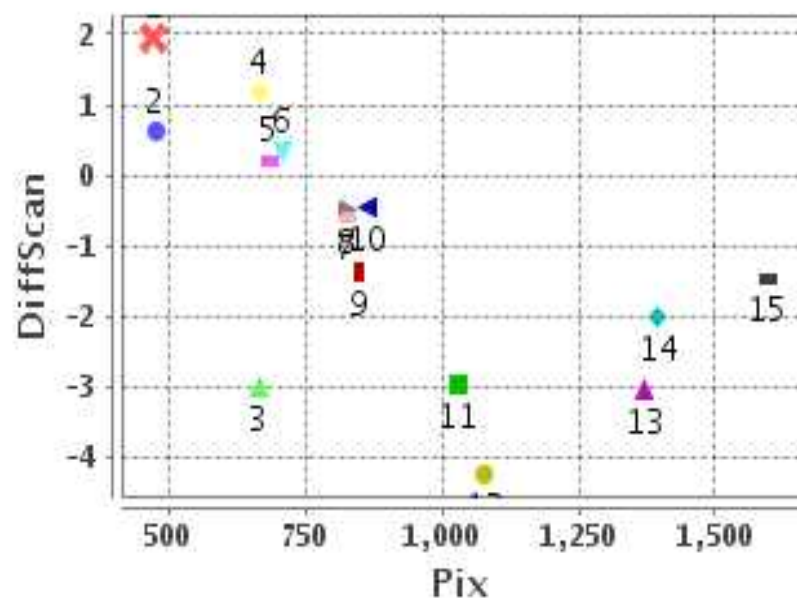
### Number Of Points

North	9
South	5
East	0
West	14

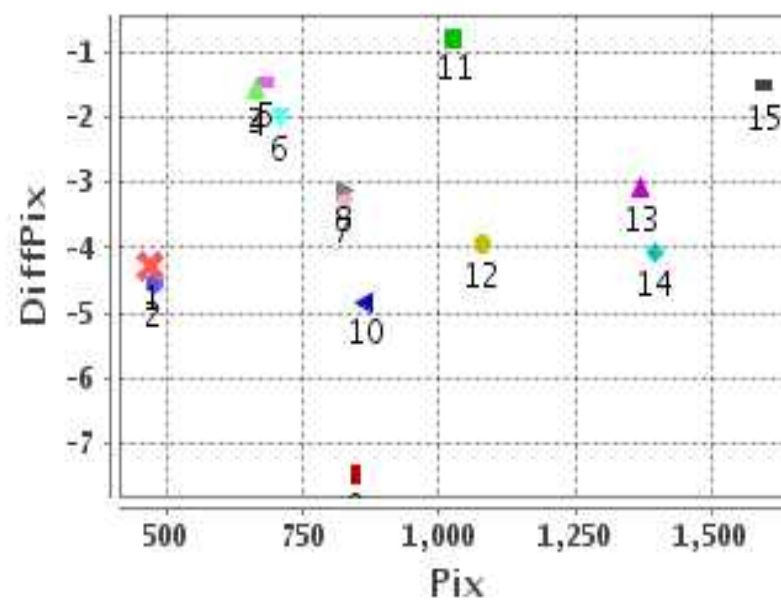
### Radial Error ( Km )

Mean	3.874
Min	1.474
Max	6.334
CE90	5.495

## Error(Pixels) Vs. GCPPix



## Error(Pixels) Vs. GCPPix



### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.763	2.030	2.169	N	1.835	2.251
Across ( Km )	-3.126	1.616	3.520	W	3.264	3.645

## 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)	-1.826	S
Across(Mean,Dir)	-13.18	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	5.57	39.22
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	1.48	0.37
Across(Mean,Stddev)	1.68	1.01

<b>Scan Range-0-937; Pix Range-934-1869</b>		
Number of GCPs	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	12.18	N
Across(Mean,Dir)	-8.48	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.59	14.83
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	2.13	0.64
Across(Mean,Stddev)	1.96	1.21

<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	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-1.2775	S
Across(Mean,Dir)	-14.12	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.90	22.60
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-3.94	0.75
Across(Mean,Stddev)	-1.75	1.42

<b>Scan Range-937-1876; Pix Range-934-1869</b>		
Number of GCPs	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	10.2085	N
Across(Mean,Dir)	-13.65	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.08	2.04
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-1.05	0.00
Across(Mean,Stddev)	1.02	0.00

<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