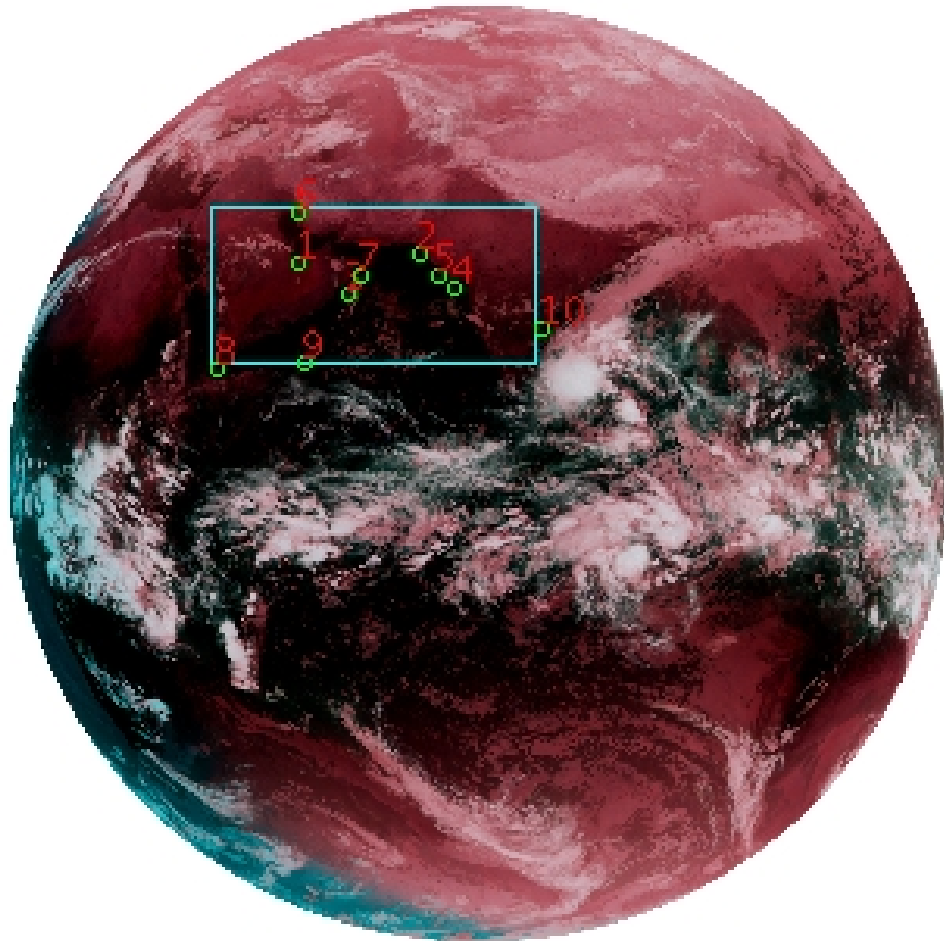


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG\_14DEC2018\_1545

**Satellite** INSAT-3DR      **No Of Bands** 6      **Product Type** STANDARD  
**Sensor** IMG      **LvlOfProcess** L1B      **Selected Band** 2-TIR1  
**DOP/Time** 14-12-18/15:45      **Station ID** BES      **Field View(deg)** 18.006  
**Res(Y,X) [Km]** (4.0,4.0)      **Res(Y,X) [uRad]** (112.0,112.0)

(81.042N,-7.157W)

(81.042N,155.157E)



(-81.042S,-7.157W)

(-81.042S,155.157E)

GCP Distribution overview for 3RIMG14DEC20181545L1BSTD

**Image Width:** 2805      **Image Height:** 2816      **No Of GCPs:** 10

**GCP Coverage(%)** 15.77      **(N-S)** 33.48      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	1.841	N	1.331	2.272
Across	-2.864	W	1.220	3.114

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.472	0.372	11.796
Along	6.990	12.204	74.744
Across	5.794	6.725	44.842

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	3.216	-0.742	1.01	1.252
Across	2.856	-1.278	0.77	1.494

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01289	-0.01146	-0.00658

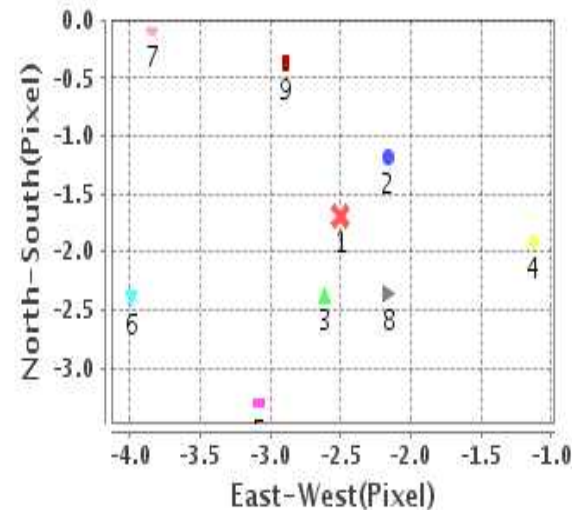
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

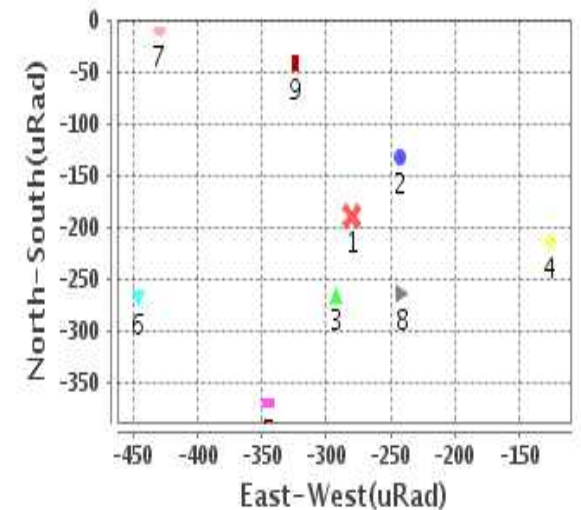
## Radial Error (in IR Pixels)

<b>Mean</b>	3.632
<b>Min</b>	2.160
<b>Max</b>	6.364
<b>CE90</b>	5.005

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	14-12-18
<b>Sensor</b>	IMG	<b>DQE Date</b>	18-12-2018
<b>PassType</b>	NONE	<b>Aquisition Date</b>	14-12-18
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	15:45
<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>	74.0
<b>LvlOfProcessing</b>	STANDARD	<b>Predicted Center Lat(deg)</b>	-999.99
<b>DP JobId</b>	3RIMG_14DEC20	<b>Predicted Center Lon(deg)</b>	-999.99
<b>ProductCode</b>	NONE		
<b>Field View(deg)</b>	18.006		

### 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>	74.0
<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>	-7.157
<b>SW_Lat(deg)</b>	-81.042
<b>SW_Lon(deg)</b>	-7.157
<b>NE_Lat(deg)</b>	81.042
<b>NE_Lon(deg)</b>	155.157
<b>SE_Lat(deg)</b>	-81.042
<b>SE_Lon(deg)</b>	155.157

### 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 : 3RIMG14DEC20181545L1BSTD**

(-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

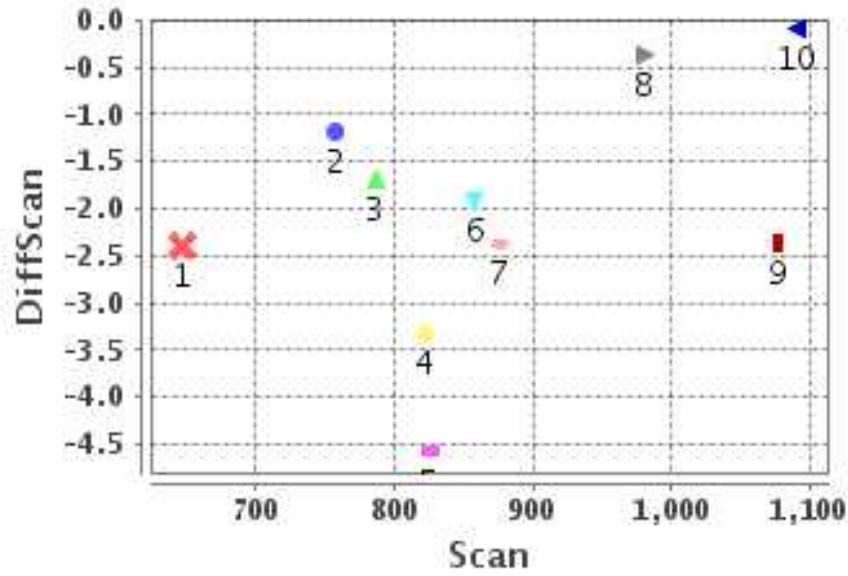
Image Width (pixels) : 2805      Image Height (pixels) : 2816      No of GCPs : 10

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	871.9	133.4	646.2	1090.25	15.77 (N-S)
<b>GCP Pix</b>	1071.0	263.0	635.2	1574.25	33.48 (E-W)

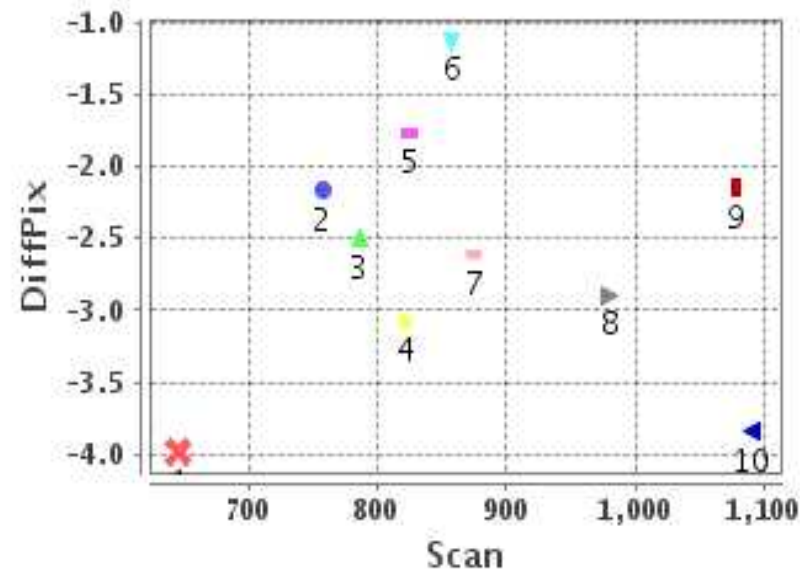
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	786.0	869.5	-1.7	-2.50	8.625	N	10.856	W	Accepted
2	757.8	1221.2	-1.2	-2.16	2.857	N	8.152	W	Accepted
3	875.5	1014.5	-2.4	-2.61	8.701	N	10.509	W	Accepted
4	858.0	1321.2	-1.9	-1.13	9.159	N	3.741	W	Accepted
5	822.0	1275.5	-3.3	-3.08	16.265	N	11.675	W	Accepted
6	646.2	866.5	-2.4	-3.98	13.701	N	21.456	W	Accepted
7	825.5	1048.2	-4.6	-1.77	19.363	N	9.165	W	Rejected
8	1090.2	635.2	-0.1	-3.84	0.481	S	17.238	W	Accepted
9	1077.8	883.2	-2.4	-2.15	6.966	N	8.435	W	Accepted
10	980.2	1574.2	-0.4	-2.89	0.493	N	11.056	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



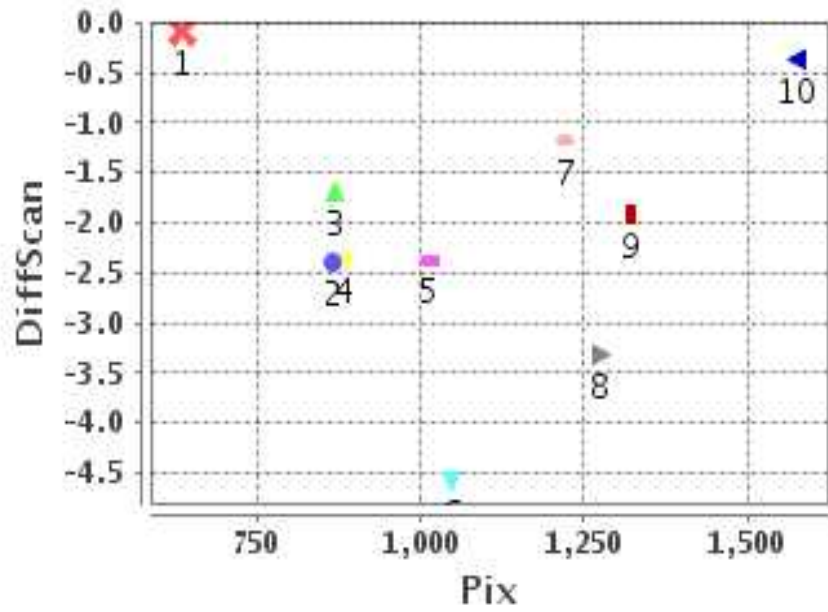
#### Number Of Points

North	8
South	1
East	0
West	9

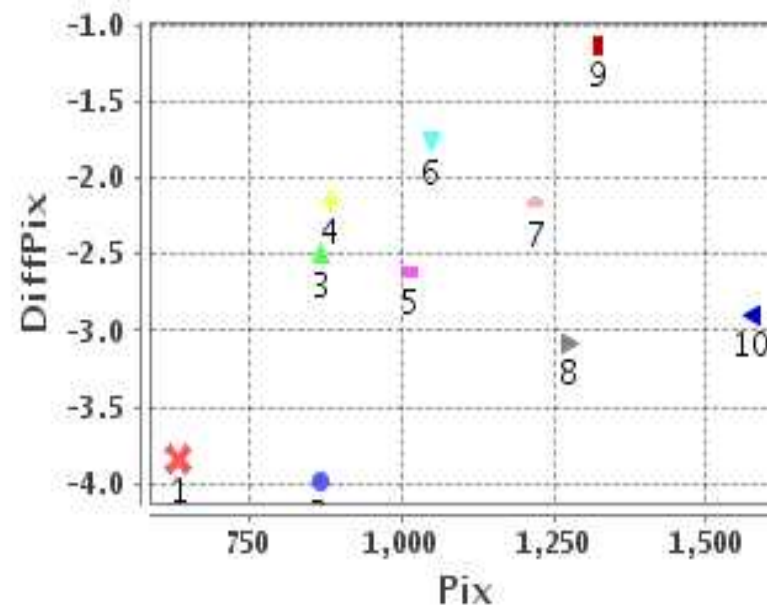
#### Radial Error ( Km )

Mean	3.632
Min	2.160
Max	6.364
CE90	5.005

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	1.841	1.331	2.272	N	1.934	2.410
Across ( Km )	-2.864	1.220	3.114	W	2.704	3.286

## Block-Wise Geo location Error Statistics

### Location Accuracy,Scale,ID

<b>Scan Range-0-937; Pix Range-0-934</b>		
Number of GCPs	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	11.165	N
Across(Mean,Dir)	-16.16	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	5.48	36.97
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.71	0.00
Across(Mean,Stddev)	-1.48	0.00

<b>Scan Range-0-937; Pix Range-934-1869</b>		
Number of GCPs	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	9.2475	N
Across(Mean,Dir)	-8.52	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.42	10.45
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	1.35	0.58
Across(Mean,Stddev)	-0.49	0.80

<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	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	3.24	N
Across(Mean,Dir)	-12.84	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.63	15.67
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-2.27	0.00
Across(Mean,Stddev)	-1.69	0.00

<b>Scan Range-937-1876; Pix Range-934-1869</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	0.49	N
Across(Mean,Dir)	-11.06	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-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