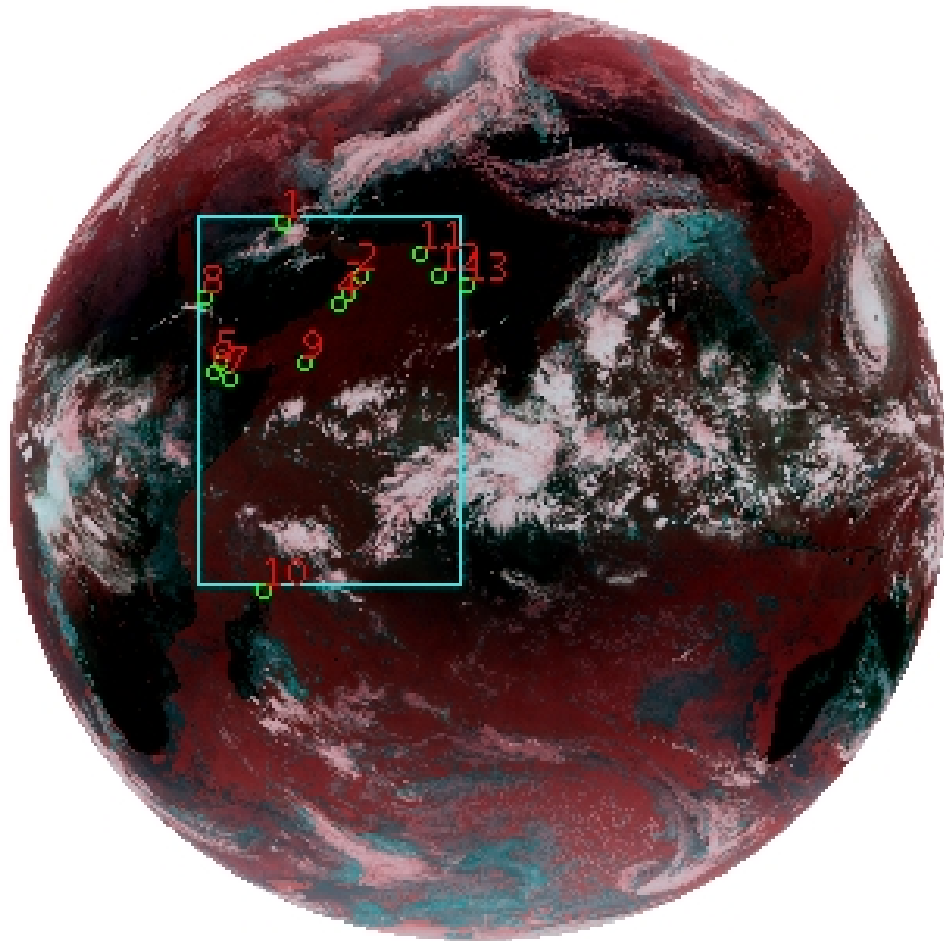


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG\_28OCT2018\_0615

**Satellite** INSAT-3DR      **No Of Bands** 6      **Product Type** STANDARD  
**Sensor** IMG      **LvlOfProcess** L1B      **Selected Band** 2-TIR1  
**DOP/Time** 28-10-18/06:15      **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 3RIMG28OCT20180615L1BSTD

**Image Width:** 2805      **Image Height:** 2816      **No Of GCPs:** 13

**GCP Coverage(%)** 37.75      **(N-S)** 26.90      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	2.280	N	0.930	2.462
Across	-2.445	W	1.277	2.759

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.393	0.350	9.827
Along	4.808	2.467	20.189
Across	4.637	1.262	15.931

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	3.342	0.048	0.89	0.891
Across	3.883	0.996	1.07	1.463

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01366	-0.01457	0.00095

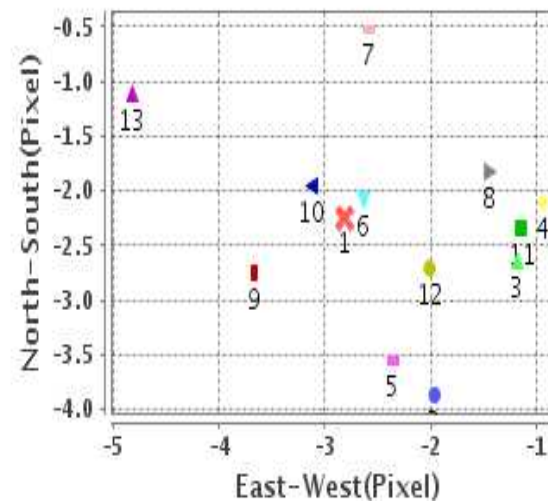
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

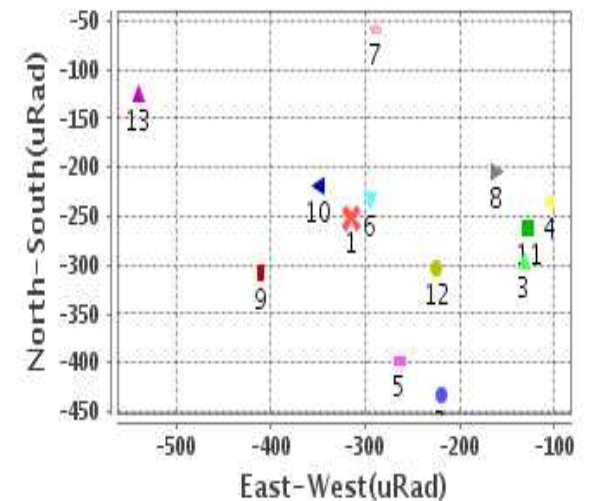
## Radial Error (in IR Pixels)

<b>Mean</b>	3.546
<b>Min</b>	2.197
<b>Max</b>	5.613
<b>CE90</b>	4.355

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	28-10-18
<b>Sensor</b>	IMG	<b>DQE Date</b>	29-10-2018
<b>PassType</b>	NONE	<b>Aquisition Date</b>	28-10-18
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	06:15
<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_28OCT20	<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>	meters	<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 : 3RIMG28OCT20180615L1BSTD**

(-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

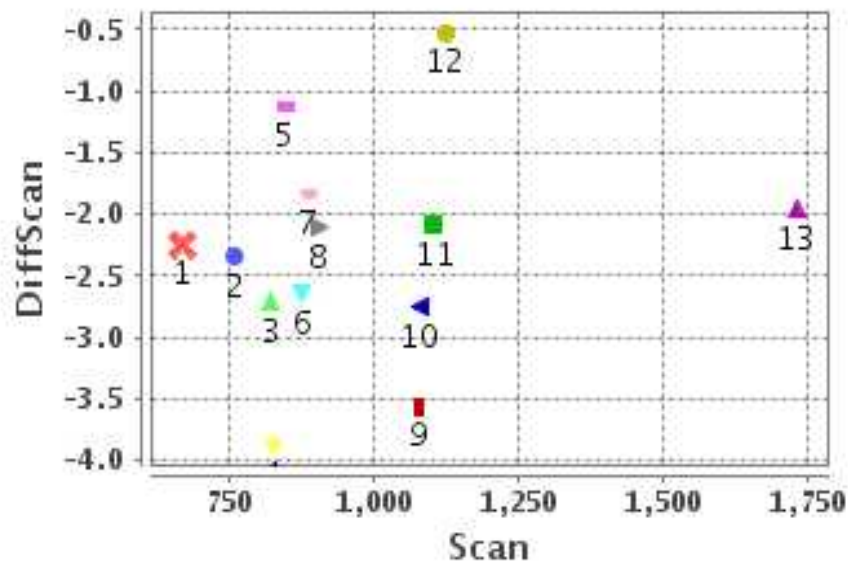
Image Width (pixels) : 2805      Image Height (pixels) : 2816      No of GCPs : 13

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	976.7	256.7	667.0	1730.00	37.75 (N-S)
<b>GCP Pix</b>	916.6	246.9	598.8	1353.25	26.90 (E-W)

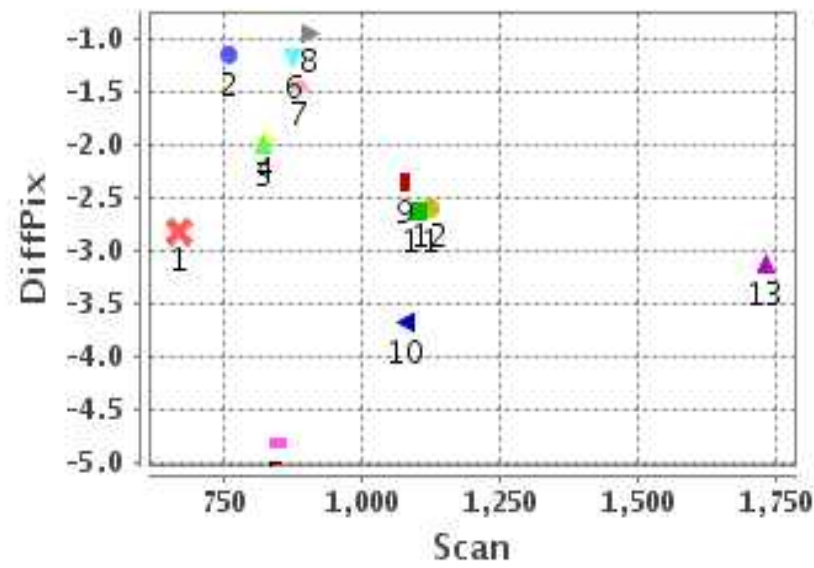
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	667.0	820.2	-2.2	-2.81	13.729	N	17.765	W	Accepted
2	824.8	1048.5	-3.9	-1.96	15.269	N	7.878	W	Accepted
3	875.8	1012.5	-2.6	-1.18	8.936	N	3.365	W	Accepted
4	905.0	989.5	-2.1	-0.94	9.424	N	2.456	W	Accepted
5	1077.5	647.5	-3.6	-2.36	13.250	N	11.307	W	Accepted
6	1102.5	628.0	-2.1	-2.63	7.122	N	14.570	W	Accepted
7	1124.0	672.2	-0.5	-2.59	2.251	N	10.946	W	Accepted
8	885.2	598.8	-1.8	-1.44	7.487	N	5.695	W	Accepted
9	1078.2	884.8	-2.8	-3.67	9.763	N	13.759	W	Accepted
10	1730.0	765.8	-2.0	-3.12	7.962	N	9.411	W	Accepted
11	758.8	1220.2	-2.3	-1.14	7.766	N	4.115	W	Accepted
12	821.2	1274.5	-2.7	-2.01	12.409	N	7.194	W	Accepted
13	846.5	1353.2	-1.1	-4.82	3.185	N	18.679	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



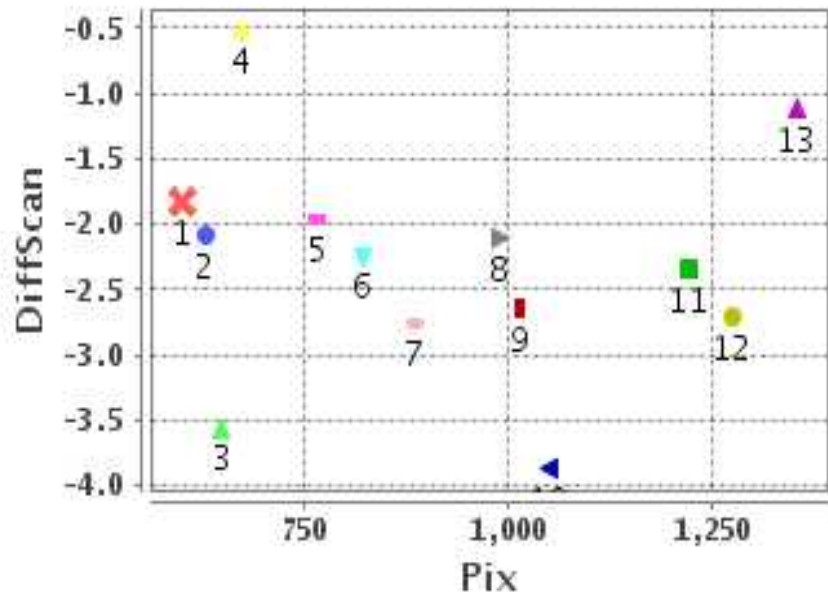
#### Number Of Points

North	13
South	0
East	0
West	13

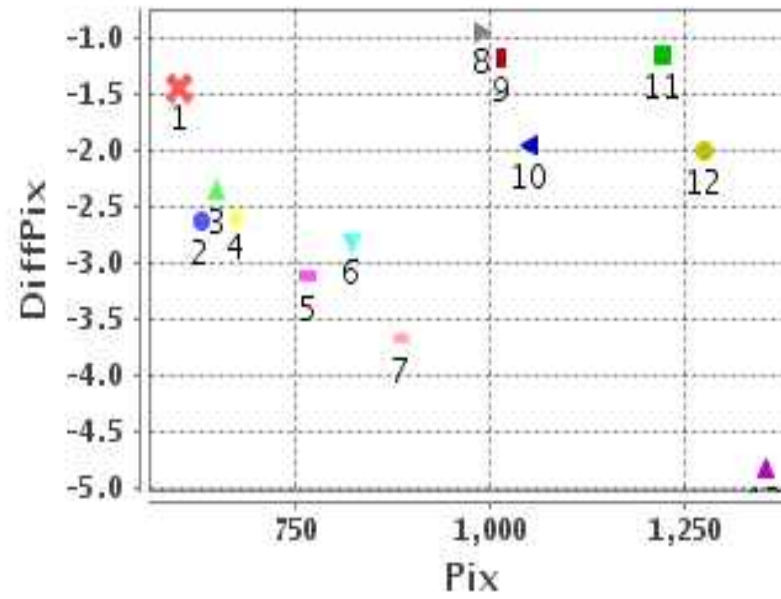
#### Radial Error ( Km )

Mean	3.546
Min	2.197
Max	5.613
CE90	4.355

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	2.280	0.930	2.462	N	2.314	2.557
Across ( Km )	-2.445	1.277	2.759	W	2.535	2.866

## 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)	10.61	N
Across(Mean,Dir)	-11.72	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.42	10.39
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.42	0.00
Across(Mean,Stddev)	1.37	0.00

<b>Scan Range-0-937; Pix Range-934-1869</b>		
Number of GCPs	6	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	9.5	N
Across(Mean,Dir)	-7.28	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.27	6.78
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.15	0.89
Across(Mean,Stddev)	1.28	1.35

<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	5	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	8.07	N
Across(Mean,Dir)	-12.00	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.39	9.67
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-1.73	0.81
Across(Mean,Stddev)	0.30	0.51

<b>Scan Range-937-1876; Pix Range-934-1869</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-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