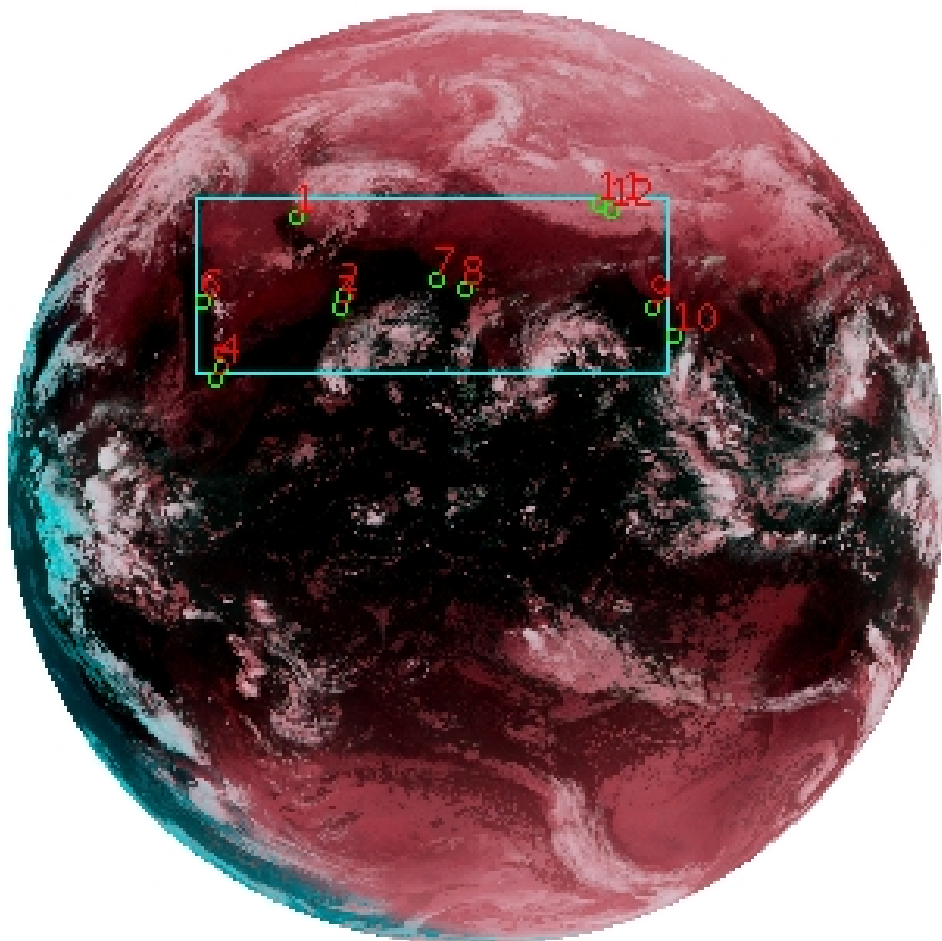


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG\_20NOV2018\_1545

**Satellite** INSAT-3DR      **No Of Bands** 6      **Product Type** STANDARD  
**Sensor** IMG      **LvlOfProcess** L1B      **Selected Band** 2-TIR1  
**DOP/Time** 20-11-18/15:45      **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 3RIMG20NOV20181545L1BSTD

**Image Width:** 2805      **Image Height:** 2816      **No Of GCPs:** 12

**GCP Coverage(%)**      17.94      **(N-S)** 48.40      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.927	N	2.589	2.750
Across	-2.757	W	1.373	3.080

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.440	0.294	11.009
Along	5.901	5.098	47.514
Across	4.599	2.091	14.966

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	6.117	1.821	2.29	2.925
Across	2.991	0.767	0.78	1.097

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01740	-0.00377	-0.15235

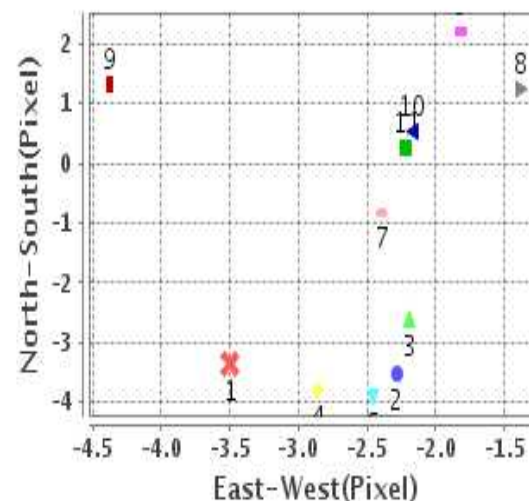
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

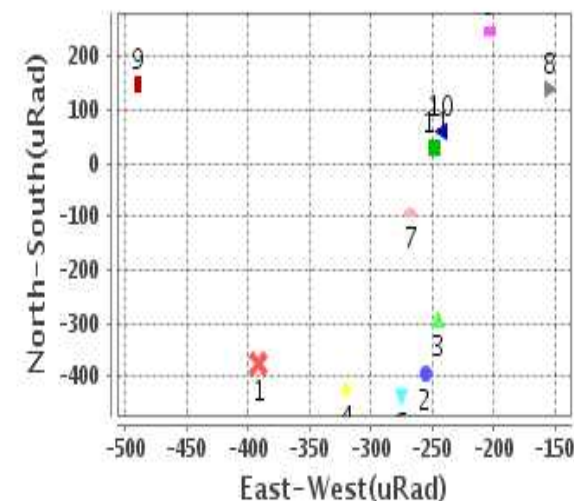
## Radial Error (in IR Pixels)

<b>Mean</b>	3.827
<b>Min</b>	1.945
<b>Max</b>	7.261
<b>CE90</b>	5.106

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	20-11-18
<b>Sensor</b>	IMG	<b>DQE Date</b>	22-11-2018
<b>PassType</b>	NONE	<b>Aquisition Date</b>	20-11-18
<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_20NOV2	<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 : 3RIMG20NOV20181545L1BSTD**

(-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

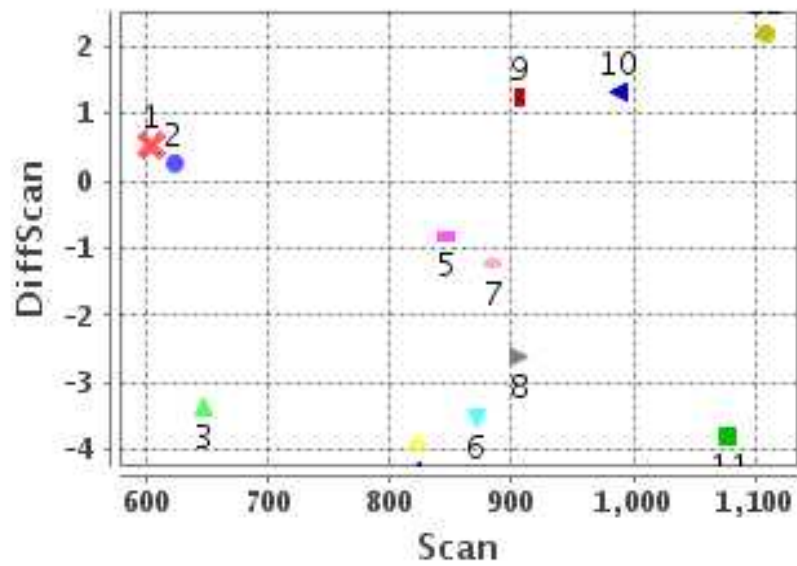
Image Width (pixels) : 2805      Image Height (pixels) : 2816      No of GCPs : 12

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	856.9	157.9	603.2	1108.50	17.94 (N-S)
<b>GCP Pix</b>	1227.7	489.9	596.0	1953.50	48.40 (E-W)

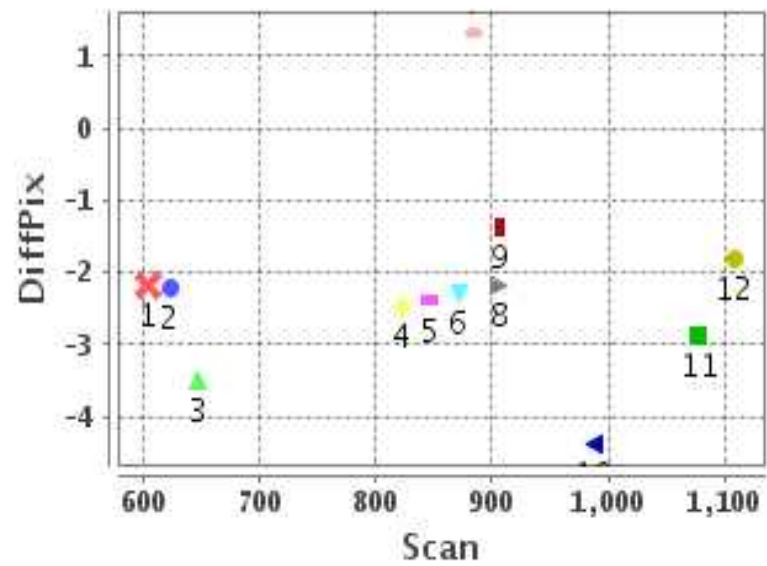
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	647.2	866.0	-3.4	-3.50	18.344	N	22.521	W	Accepted
2	870.8	1003.5	-3.5	-2.28	12.996	N	9.076	W	Accepted
3	905.5	990.8	-2.6	-2.19	9.424	N	6.715	W	Accepted
4	1077.8	648.0	-3.8	-2.86	13.250	N	15.567	W	Accepted
5	1108.5	634.8	2.2	-1.82	11.675	S	3.666	W	Accepted
6	884.8	596.0	-1.2	1.33	2.504	N	7.305	E	Rejected
7	822.5	1275.0	-3.9	-2.46	16.742	N	11.232	W	Accepted
8	846.2	1351.0	-0.8	-2.39	2.948	N	9.716	W	Accepted
9	906.0	1894.5	1.2	-1.38	6.056	S	4.887	W	Accepted
10	987.5	1953.5	1.3	-4.37	8.716	S	18.472	W	Accepted
11	603.2	1741.5	0.5	-2.17	4.335	S	8.313	W	Accepted
12	623.0	1778.0	0.3	-2.21	2.139	S	11.149	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



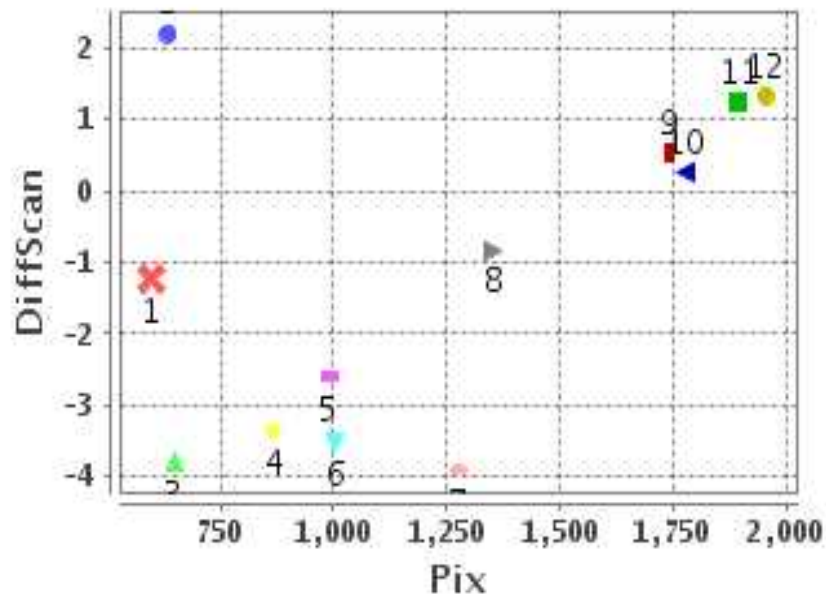
#### Number Of Points

North	6
South	5
East	0
West	11

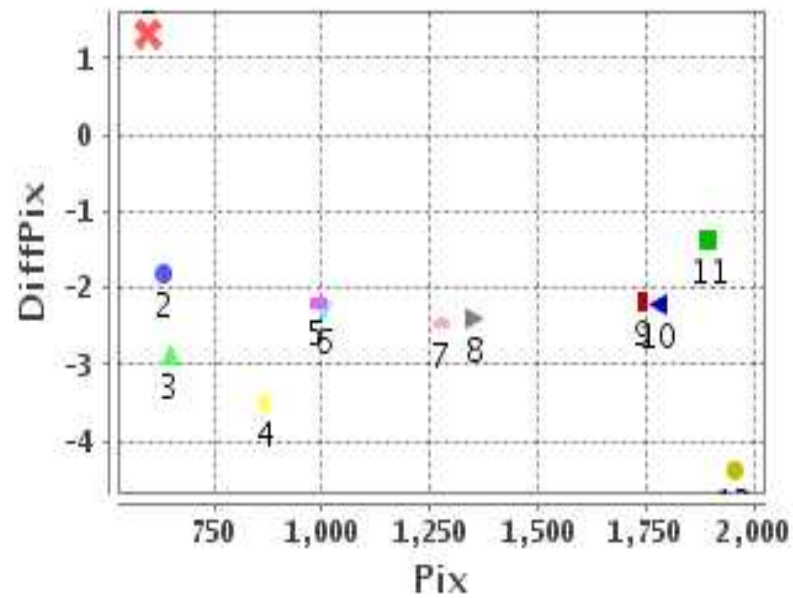
#### Radial Error ( Km )

Mean	3.827
Min	1.945
Max	7.261
CE90	5.106

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.927	2.589	2.750	N	2.493	2.879
Across ( Km )	-2.757	1.373	3.080	W	2.695	3.217

## Block-Wise Geo location Error Statistics

### Location Accuracy,Scale,ID

<b>Scan Range-0-937; Pix Range-0-934</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	18.34	N
Across(Mean,Dir)	-22.52	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-0-937; Pix Range-934-1869</b>		
Number of GCPs	6	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	5.93833	N
Across(Mean,Dir)	-9.37	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.47	11.66
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	2.64	1.60
Across(Mean,Stddev)	0.11	0.11

<b>Scan Range-0-937; Pix Range-1869-2805</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-6.06	S
Across(Mean,Dir)	-4.89	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-0-934</b>		
Number of GCPs	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	0.79	N
Across(Mean,Dir)	-9.62	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.70	17.38
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-6.02	0.00
Across(Mean,Stddev)	1.04	0.00

<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	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-8.71	S
Across(Mean,Dir)	-18.47	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-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