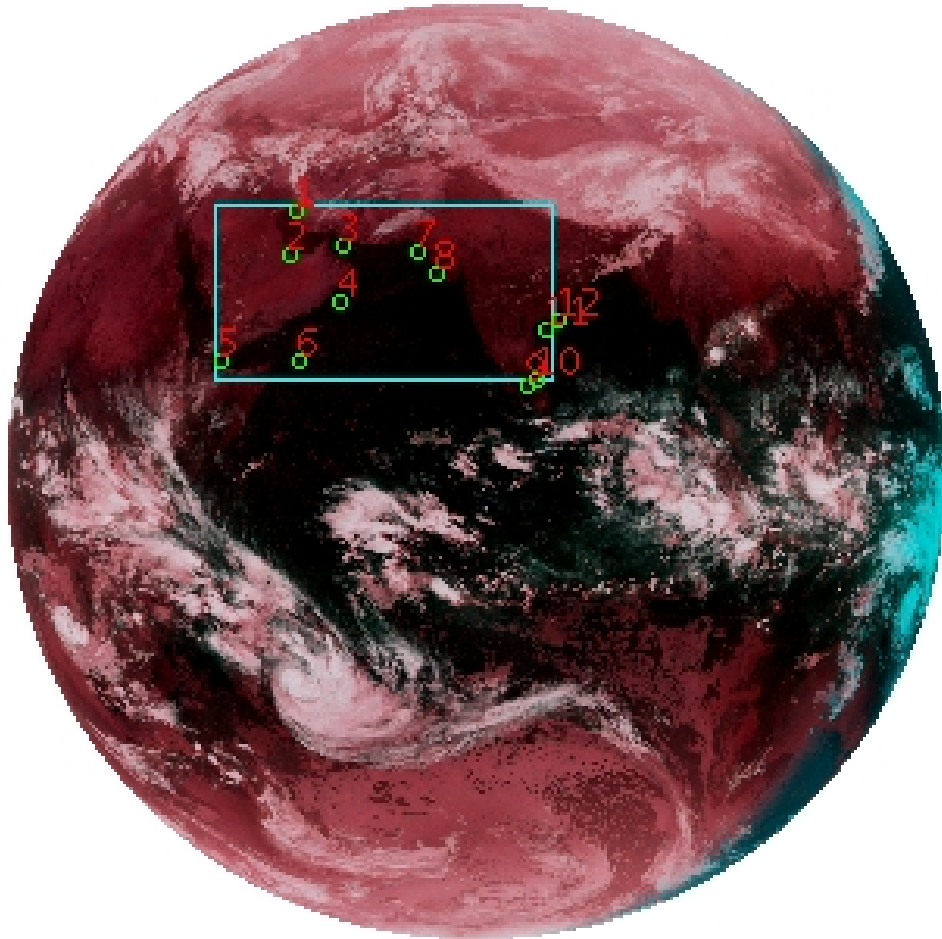


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD(FULL DISK) Product 3RIMG\_05MAR2018\_2145

**Satellite** INSAT-3DR      **No Of Bands** 6      **Product Type** STANDARD  
**Sensor** IMG      **LvlOfProcess** L1B      **Selected Band** 2-TIR1  
**DOP/Time** 05-03-18/21:45      **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 3RIMG05MAR20182145L1BSTD

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

**GCP Coverage(%)**      17.92      **(N-S)** 34.77      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	1.688	N	0.888	1.908
Across	-3.236	W	0.998	3.387

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.419	0.374	10.487
Along	4.598	0.600	14.957
Across	4.512	0.596	12.807

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.099	-0.950	0.69	1.171
Across	2.488	0.256	0.65	0.702

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01757	-0.00716	-0.10642

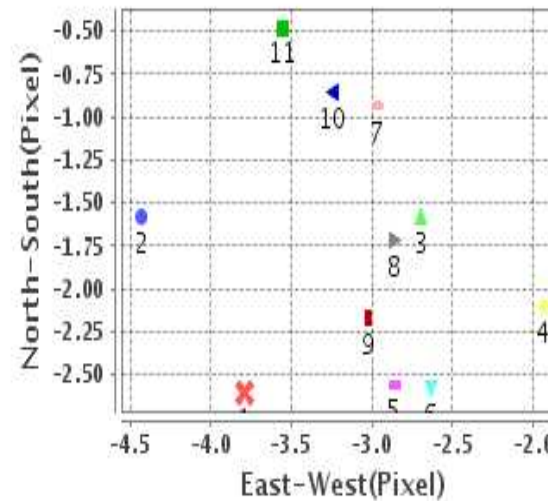
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

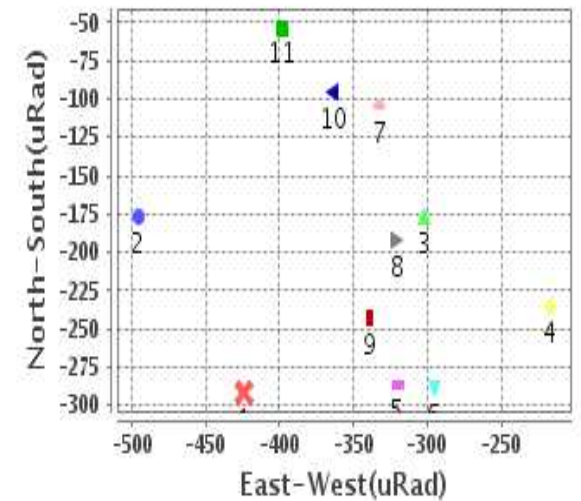
## Radial Error (in IR Pixels)

<b>Mean</b>	3.739
<b>Min</b>	2.463
<b>Max</b>	6.377
<b>CE90</b>	4.485

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	06-03-18
<b>Sensor</b>	IMG	<b>DQE Date</b>	14-03-2018
<b>PassType</b>	NONE	<b>Aquisition Date</b>	05-03-18
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	21:45
<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(FULL)	<b>Predicted Center Lat(deg)</b>	-999.99
<b>DP JobId</b>	3RIMG_05MAR2	<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 : 3RIMG05MAR20182145L1BSTD**

(-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

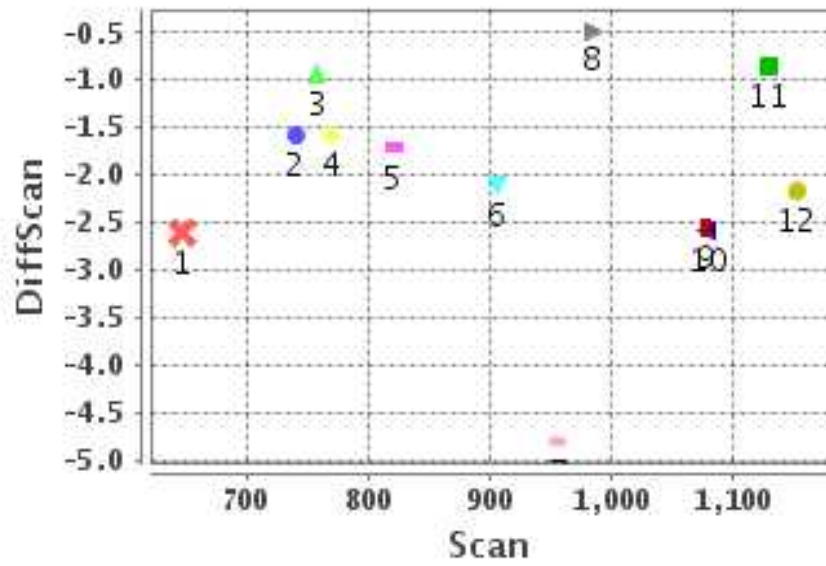
Image Width (pixels) : 2805      Image Height (pixels) : 2816      No of GCPs : 12

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	917.7	163.0	646.5	1151.25	17.92 (N-S)
<b>GCP Pix</b>	1170.6	327.8	648.0	1623.25	34.77 (E-W)

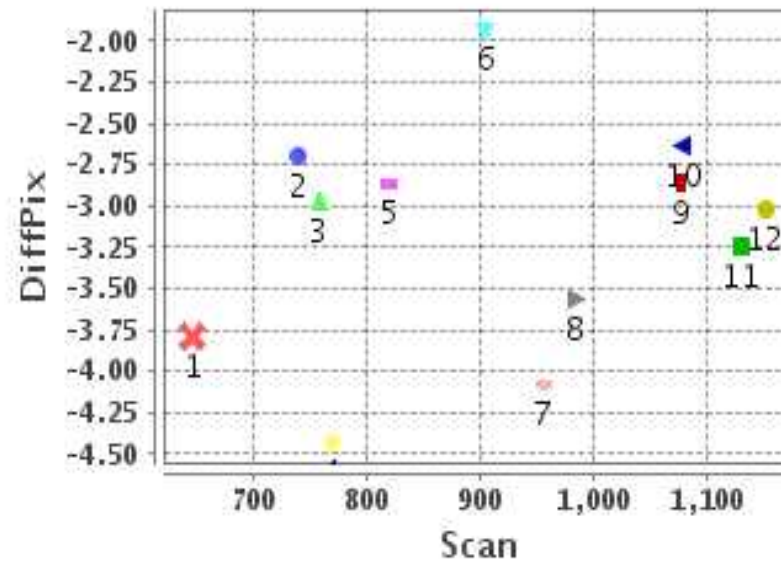
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	646.5	866.2	-2.6	-3.79	13.446	N	21.678	W	Accepted
2	768.5	853.8	-1.6	-4.43	6.206	N	18.594	W	Accepted
3	740.0	1002.5	-1.6	-2.70	7.783	N	11.361	W	Accepted
4	905.0	990.5	-2.1	-1.94	9.424	N	6.715	W	Accepted
5	1076.5	648.0	-2.6	-2.86	8.916	N	15.567	W	Accepted
6	1078.5	880.2	-2.6	-2.64	8.409	N	11.803	W	Accepted
7	757.5	1222.0	-0.9	-2.97	2.857	N	12.634	W	Accepted
8	820.2	1275.2	-1.7	-2.86	6.693	N	10.832	W	Accepted
9	1151.2	1537.0	-2.2	-3.03	8.000	N	11.280	W	Accepted
10	1128.8	1563.8	-0.9	-3.25	0.454	N	9.842	W	Accepted
11	984.0	1584.5	-0.5	-3.56	2.095	N	12.086	W	Accepted
12	955.5	1623.2	-4.8	-4.08	17.970	N	15.233	W	Rejected

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



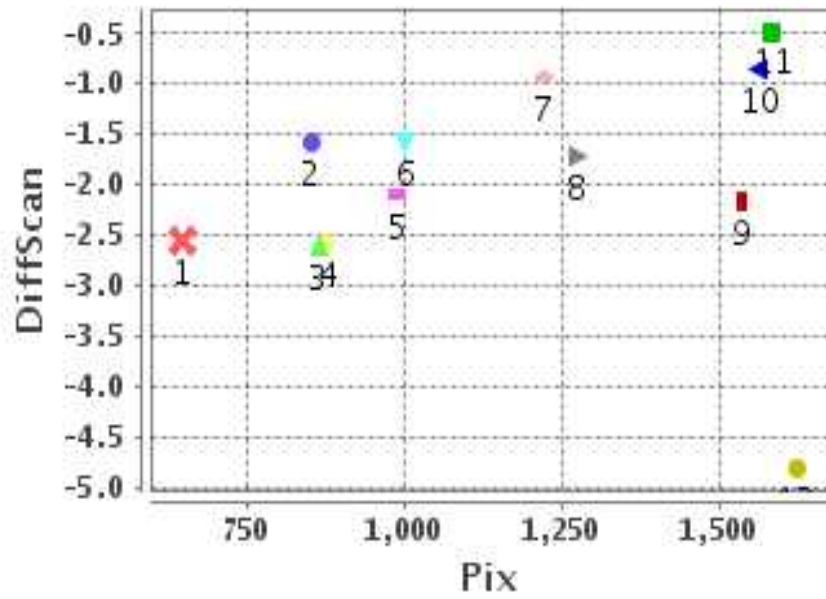
#### Number Of Points

North	11
South	0
East	0
West	11

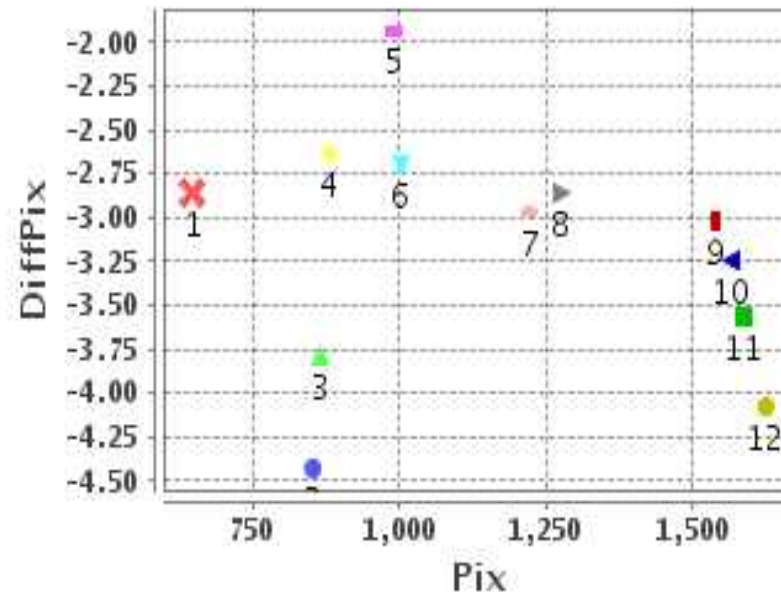
#### Radial Error ( Km )

Mean	3.739
Min	2.463
Max	6.377
CE90	4.485

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	1.688	0.888	1.908	N	1.695	2.000
Across ( Km )	-3.236	0.998	3.387	W	3.111	3.512

## 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)	9.82	N
Across(Mean,Dir)	-20.14	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	5.36	34.10
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-1.02	0.00
Across(Mean,Stddev)	-0.64	0.00

<b>Scan Range-0-937; Pix Range-934-1869</b>		
Number of GCPs	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	6.695	N
Across(Mean,Dir)	-10.39	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.48	11.99
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.00	0.49
Across(Mean,Stddev)	0.90	0.11

<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)	8.665	N
Across(Mean,Dir)	-13.69	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.63	15.75
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.02	0.00
Across(Mean,Stddev)	-0.22	0.00

<b>Scan Range-937-1876; Pix Range-934-1869</b>		
Number of GCPs	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	3.51267	N
Across(Mean,Dir)	-11.07	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.02	0.58
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	1.04	0.66
Across(Mean,Stddev)	0.38	0.16

<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