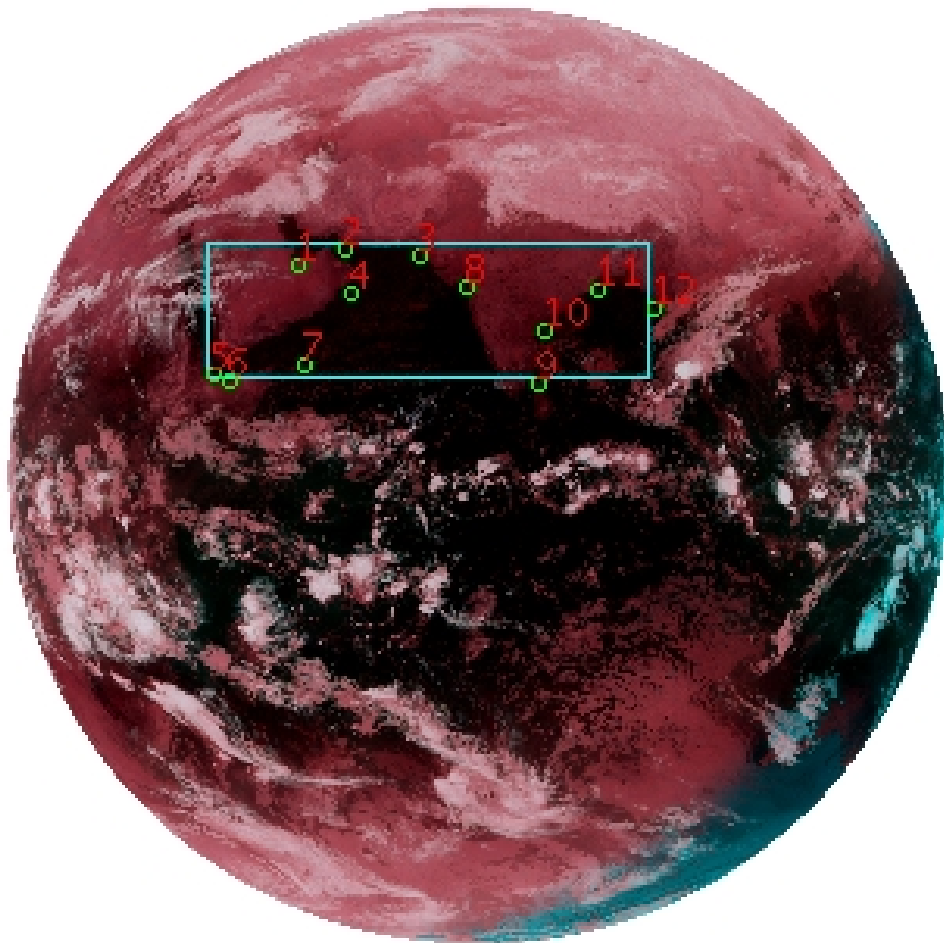


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG\_05JAN2019\_2145

**Satellite** INSAT-3DR      **No Of Bands** 6      **Product Type** STANDARD  
**Sensor** IMG      **LvlOfProcess** L1B      **Selected Band** 2-TIR1  
**DOP/Time** 05-01-19/21:45      **Station ID** BES      **Field View(deg)** 17.99  
**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 3RIMG05JAN20192145L1BSTD

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

**GCP Coverage(%)**      13.74      **(N-S)** 45.24      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	1.838	N	0.884	2.040
Across	-3.308	W	0.874	3.422

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.315	0.219	7.873
Along	4.435	0.253	10.869
Across	4.345	0.171	8.613

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.585	-0.116	0.82	0.831
Across	2.419	0.369	0.83	0.913

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02034	-0.01138	-0.01061

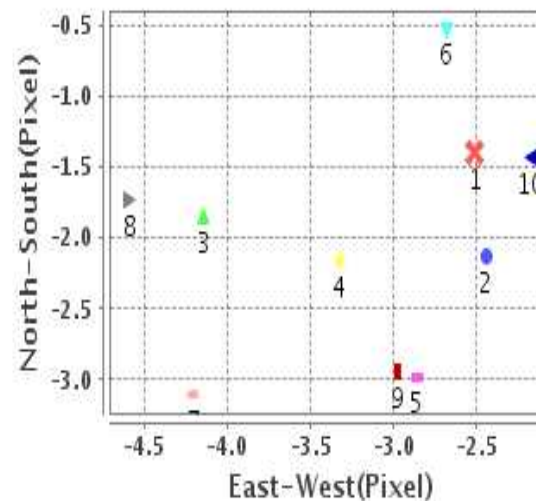
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

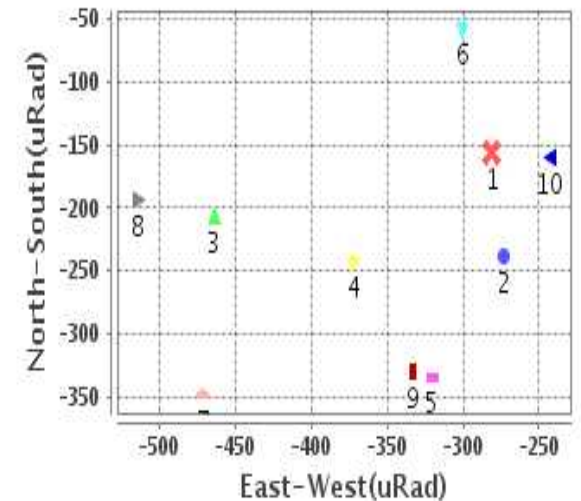
## Radial Error (in IR Pixels)

<b>Mean</b>	3.866
<b>Min</b>	2.346
<b>Max</b>	5.364
<b>CE90</b>	4.891

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	06-01-19
<b>Sensor</b>	IMG	<b>DQE Date</b>	11-01-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	05-01-19
<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	<b>Predicted Center Lat(deg)</b>	-999.99
<b>DP JobId</b>	3RIMG_05JAN20	<b>Predicted Center Lon(deg)</b>	-999.99
<b>ProductCode</b>	NONE		
<b>Field View(deg)</b>	17.99		

### 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 : 3RIMG05JAN20192145L1BSTD**

(-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

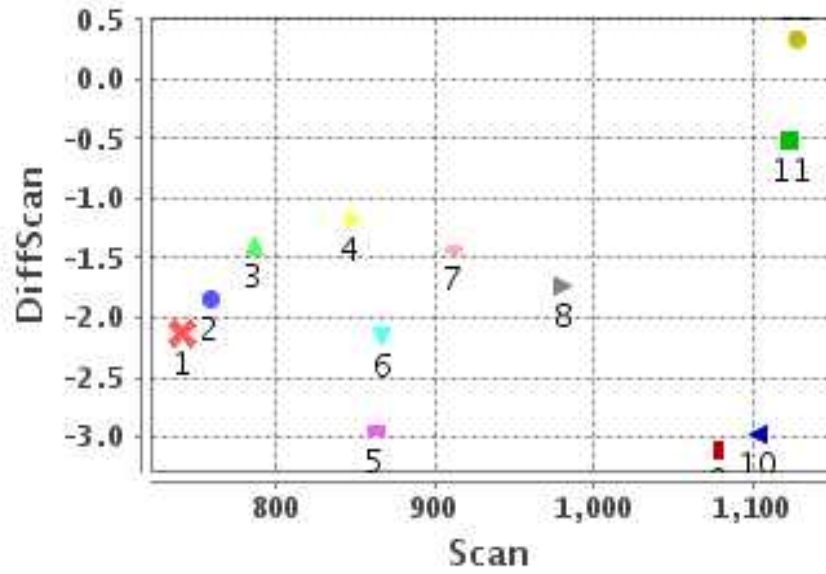
Image Width (pixels) : 2805      Image Height (pixels) : 2816      No of GCPs : 12

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	932.2	139.5	740.5	1127.50	13.74 (N-S)
<b>GCP Pix</b>	1203.2	404.1	628.2	1897.25	45.24 (E-W)

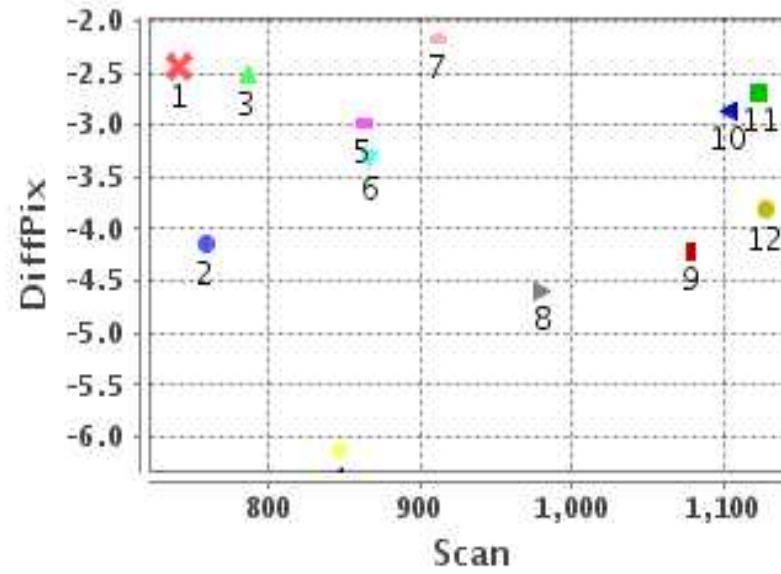
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	785.8	869.5	-1.4	-2.51	3.750	N	9.791	W	Accepted
2	740.5	1002.2	-2.1	-2.44	8.028	N	11.361	W	Accepted
3	758.2	1223.2	-1.8	-4.14	7.766	N	17.958	W	Accepted
4	867.0	1023.5	-2.2	-3.32	9.757	N	13.711	W	Accepted
5	1103.5	628.2	-3.0	-2.86	10.991	N	14.348	W	Accepted
6	1124.0	672.2	-0.5	-2.68	2.251	N	11.389	W	Accepted
7	1078.5	885.2	-3.1	-4.21	11.297	N	18.240	W	Accepted
8	846.5	1354.5	-1.2	-6.12	3.421	N	23.160	W	Rejected
9	1127.5	1564.2	0.3	-3.81	3.622	S	14.324	W	Rejected
10	980.5	1583.2	-1.7	-4.59	4.436	N	17.541	W	Accepted
11	862.2	1734.8	-3.0	-2.98	12.220	N	9.105	W	Accepted
12	911.8	1897.2	-1.4	-2.17	3.031	N	8.882	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



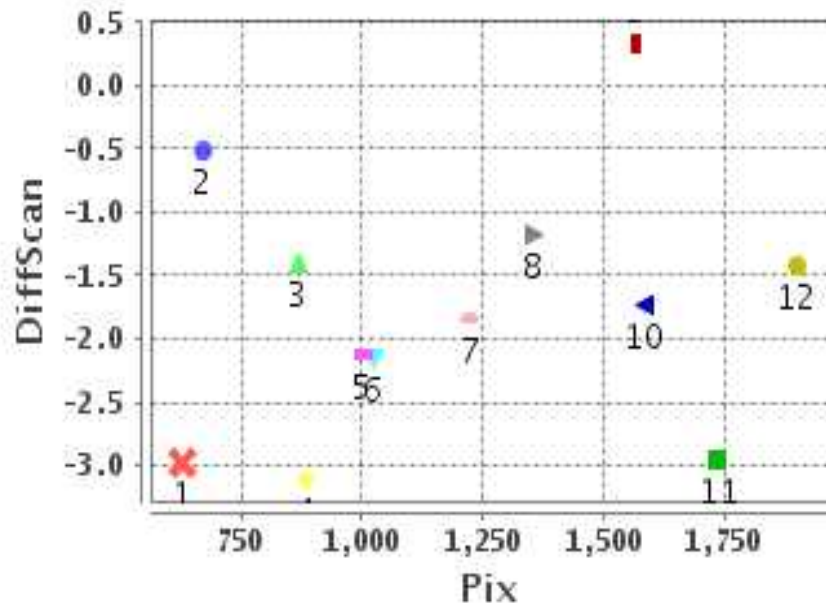
#### Number Of Points

North	10
South	0
East	0
West	10

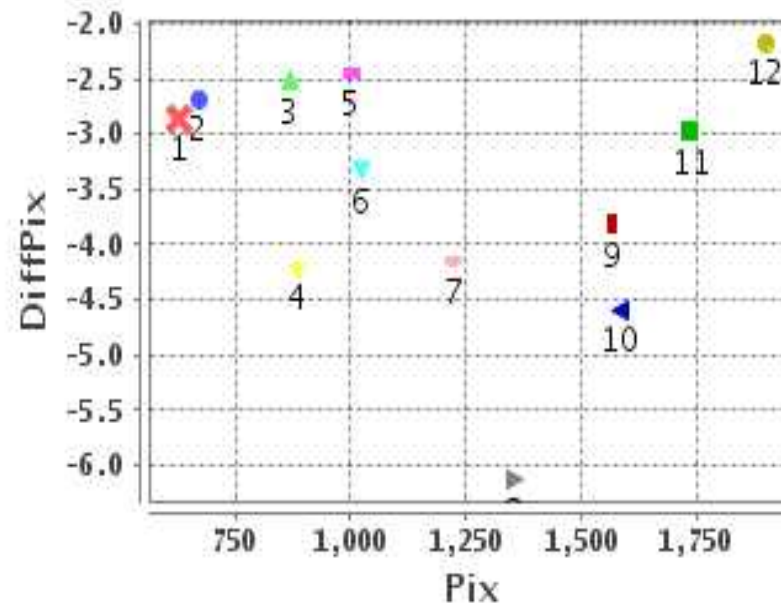
#### Radial Error ( Km )

Mean	3.866
Min	2.346
Max	5.364
CE90	4.891

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	1.838	0.884	2.040	N	1.894	2.142
Across ( Km )	-3.308	0.874	3.422	W	3.271	3.530

## 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) 3.75 N Across(Mean,Dir) -9.79 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 4 <b>Location Error(Km)</b> Along(Mean,Dir) 9.44 N Across(Mean,Dir) -13.03 W <b>Scale(Km)</b> Average Scale (Mean,%Variation) 4.41 10.24 <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev) 0.19 0.47 Across(Mean,Stddev) 1.04 0.49	<b>Scan Range-0-937; Pix Range-1869-2805</b> Number of GCPs 1 <b>Location Error(Km)</b> Along(Mean,Dir) 3.03 N Across(Mean,Dir) -8.88 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 3 <b>Location Error(Km)</b> Along(Mean,Dir) 8.18 N Across(Mean,Dir) -14.66 W <b>Scale(Km)</b> Average Scale (Mean,%Variation) 4.70 17.58 <b>Internal Distortion(Pixel)</b> Along(Mean,Stddev) -1.36 1.23 Across(Mean,Stddev) 0.58 0.76	<b>Scan Range-937-1876; Pix Range-934-1869</b> Number of GCPs 1 <b>Location Error(Km)</b> Along(Mean,Dir) 4.44 N Across(Mean,Dir) -17.54 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