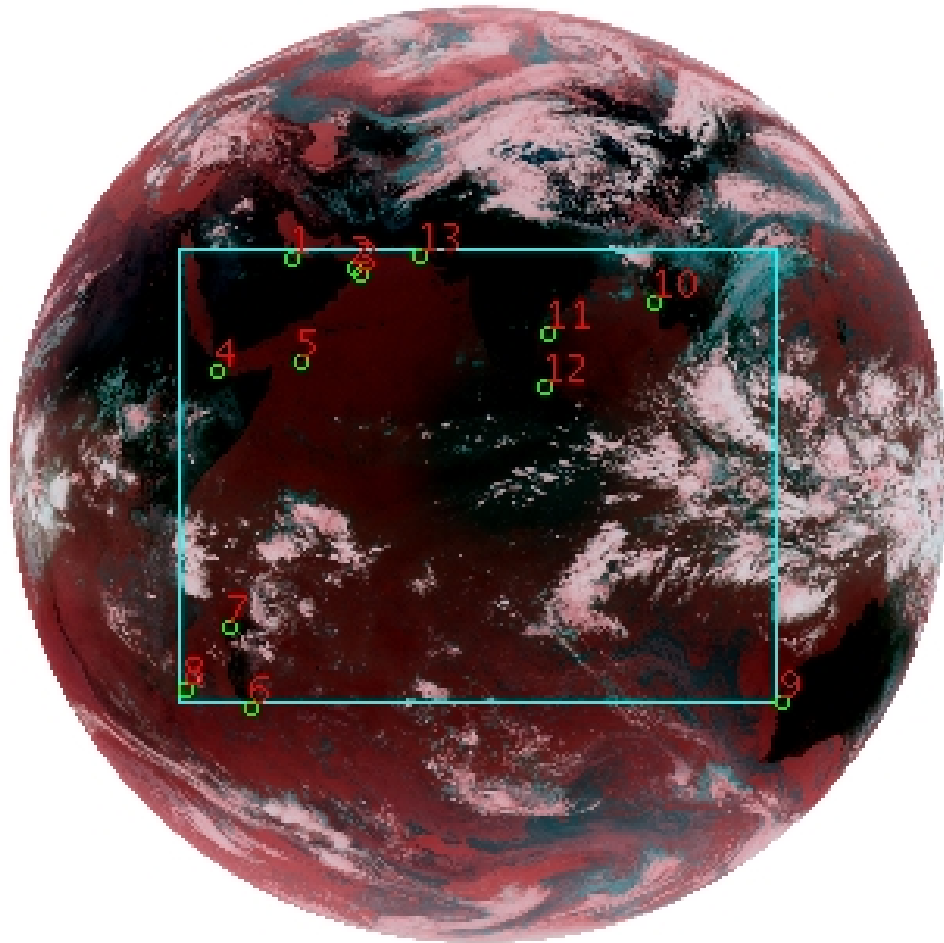


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD(FULL DISK) Product 3RIMG\_05APR2017\_0615

**Satellite** INSAT-3DR      **No Of Bands** 6      **Product Type** STANDARD  
**Sensor** IMG      **LvlOfProcess** L1B      **Selected Band** 2-TIR1  
**DOP/Time** 05-04-17/06:15      **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 3RIMG05APR20170615L1BSTD

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

**GCP Coverage(%)** 46.34      **(N-S)** 61.15      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.918	N	1.221	1.528
Across	-4.622	W	1.564	4.880

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.363	0.282	9.074
Along	4.268	0.168	6.688
Across	4.337	0.319	8.434

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	3.369	-0.811	0.96	1.260
Across	2.713	-1.364	0.82	1.590

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.03015	-0.00686	0.03382

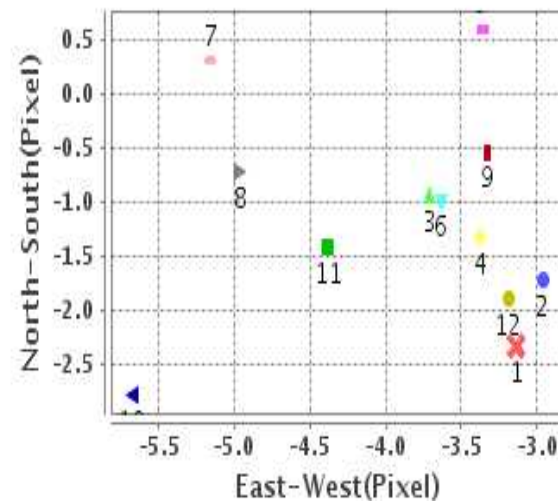
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

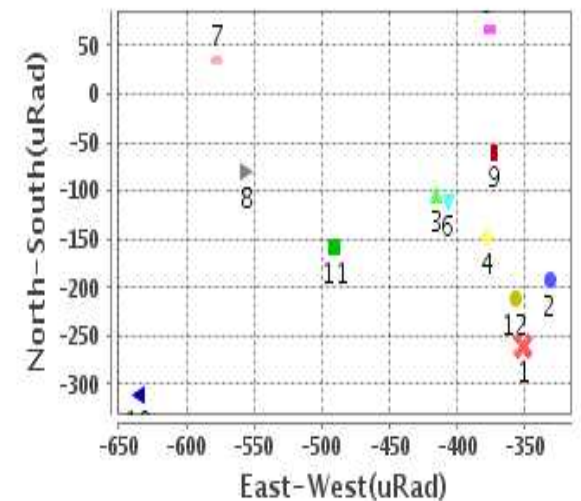
## Radial Error (in IR Pixels)

<b>Mean</b>	4.886
<b>Min</b>	3.253
<b>Max</b>	8.050
<b>CE90</b>	5.749

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	05-04-17
<b>Sensor</b>	IMG	<b>DQE Date</b>	06-04-2017
<b>PassType</b>	NONE	<b>Aquisition Date</b>	05-04-17
<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(FULL)	<b>Predicted Center Lat(deg)</b>	-999.99
<b>DP JobId</b>	3RIMG_05APR20	<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 : 3RIMG05APR20170615L1BSTD**

(-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

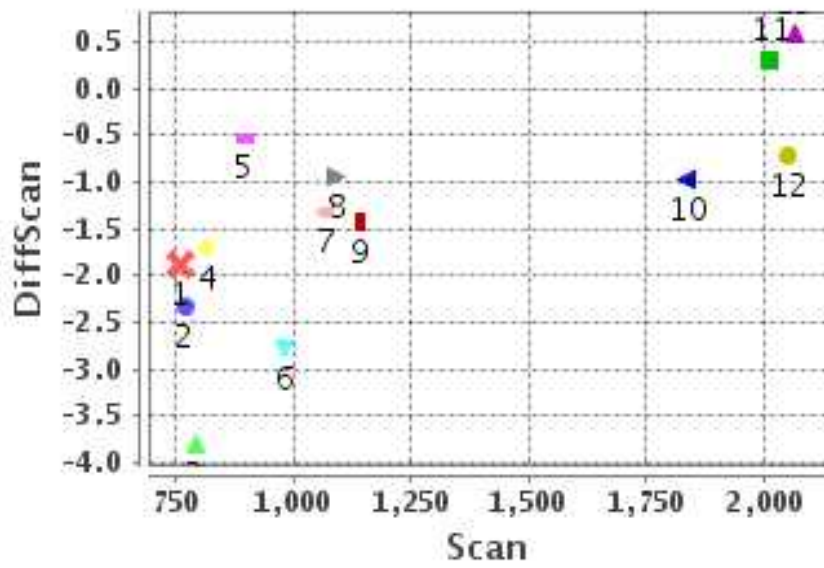
Image Width (pixels) : 2805      Image Height (pixels) : 2816      No of GCPs : 13

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	1251.7	508.8	758.2	2063.25	46.34 (N-S)
<b>GCP Pix</b>	1148.7	510.0	546.2	2261.50	61.15 (E-W)

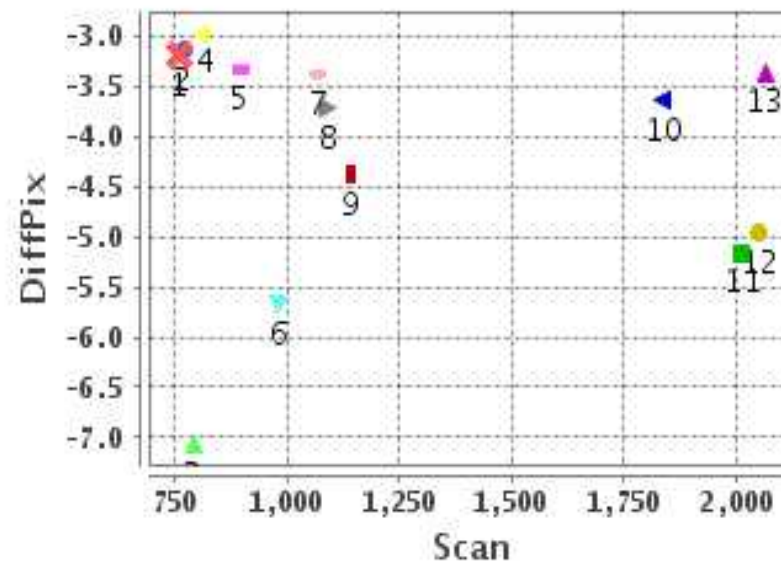
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	769.2	852.5	-2.3	-3.13	10.868	N	15.178	W	Accepted
2	792.5	1028.2	-3.8	-7.06	17.307	N	32.913	W	Rejected
3	816.0	1049.2	-1.7	-2.96	8.285	N	12.314	W	Accepted
4	1091.0	635.2	-0.9	-3.71	4.071	N	17.859	W	Accepted
5	1067.5	873.0	-1.3	-3.37	3.543	N	14.810	W	Accepted
6	2063.2	737.2	0.6	-3.36	4.836	S	17.907	W	Accepted
7	1835.5	673.5	-1.0	-3.63	1.524	N	15.714	W	Accepted
8	2011.2	546.2	0.3	-5.16	4.466	S	31.889	W	Accepted
9	2051.0	2261.5	-0.7	-4.96	5.826	N	31.104	W	Accepted
10	894.5	1894.5	-0.5	-3.33	0.320	S	13.006	W	Accepted
11	981.5	1584.5	-2.8	-5.68	9.065	N	21.135	W	Accepted
12	1140.8	1575.0	-1.4	-4.38	2.509	N	17.040	W	Accepted
13	758.2	1222.2	-1.9	-3.19	8.009	N	13.920	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



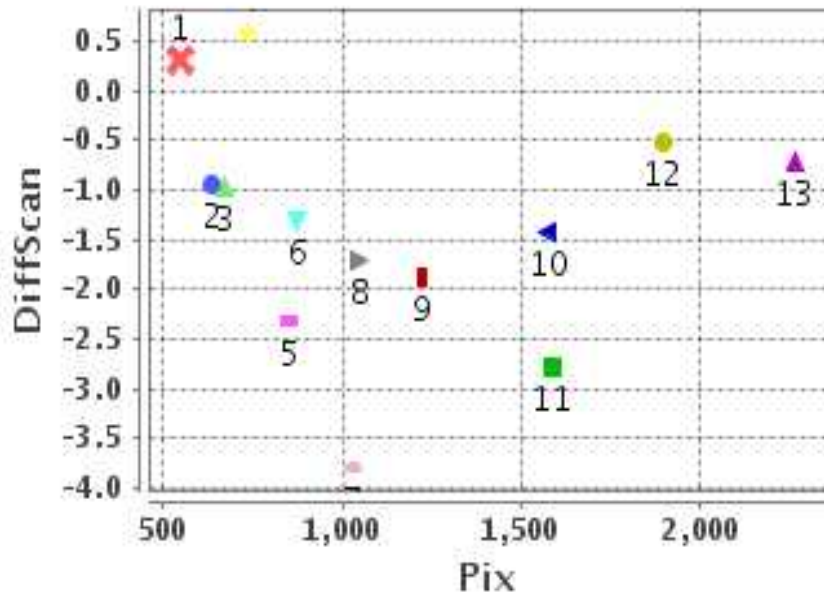
#### Number Of Points

North	9
South	3
East	0
West	12

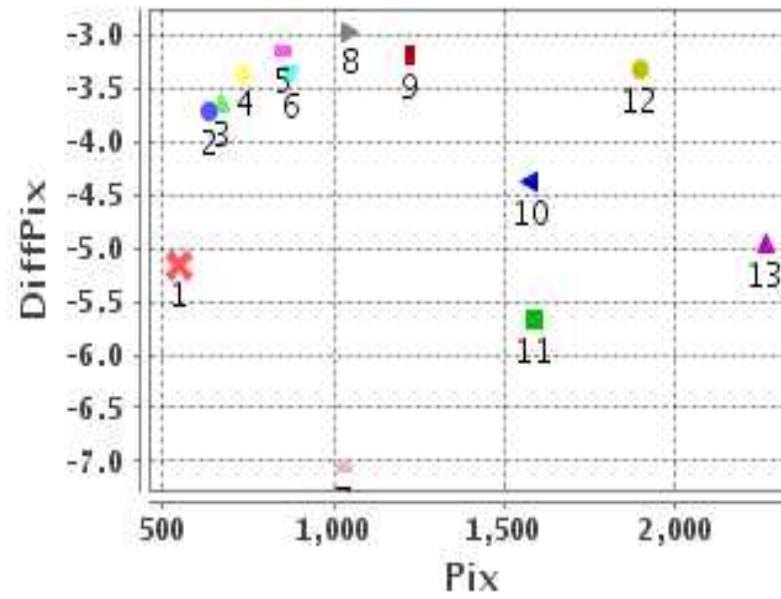
#### Radial Error ( Km )

Mean	4.886
Min	3.253
Max	8.050
CE90	5.749

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.918	1.221	1.528	N	1.369	1.596
Across ( Km )	-4.622	1.564	4.880	W	4.495	5.012

## 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)	10.87	N
Across(Mean,Dir)	-15.18	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	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	8.145	N
Across(Mean,Dir)	-13.12	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.27	6.66
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.17	0.00
Across(Mean,Stddev)	0.23	0.00

<b>Scan Range-0-937; Pix Range-1869-2805</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-0.32	S
Across(Mean,Dir)	-13.00	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)	3.04667	N
Across(Mean,Dir)	-16.13	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.24	6.02
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.36	0.02
Across(Mean,Stddev)	-0.21	0.13

<b>Scan Range-937-1876; Pix Range-934-1869</b>		
Number of GCPs	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	5.79	N
Across(Mean,Dir)	-19.09	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.14	3.60
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-1.35	0.00
Across(Mean,Stddev)	1.30	0.00

<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	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-4.655	S
Across(Mean,Dir)	-24.90	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	5.27	31.72
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.29	0.00
Across(Mean,Stddev)	-1.80	0.00

<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	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	5.82	N
Across(Mean,Dir)	-31.10	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

\*-999 : no gcp available

\* -999.99 : values are not computed