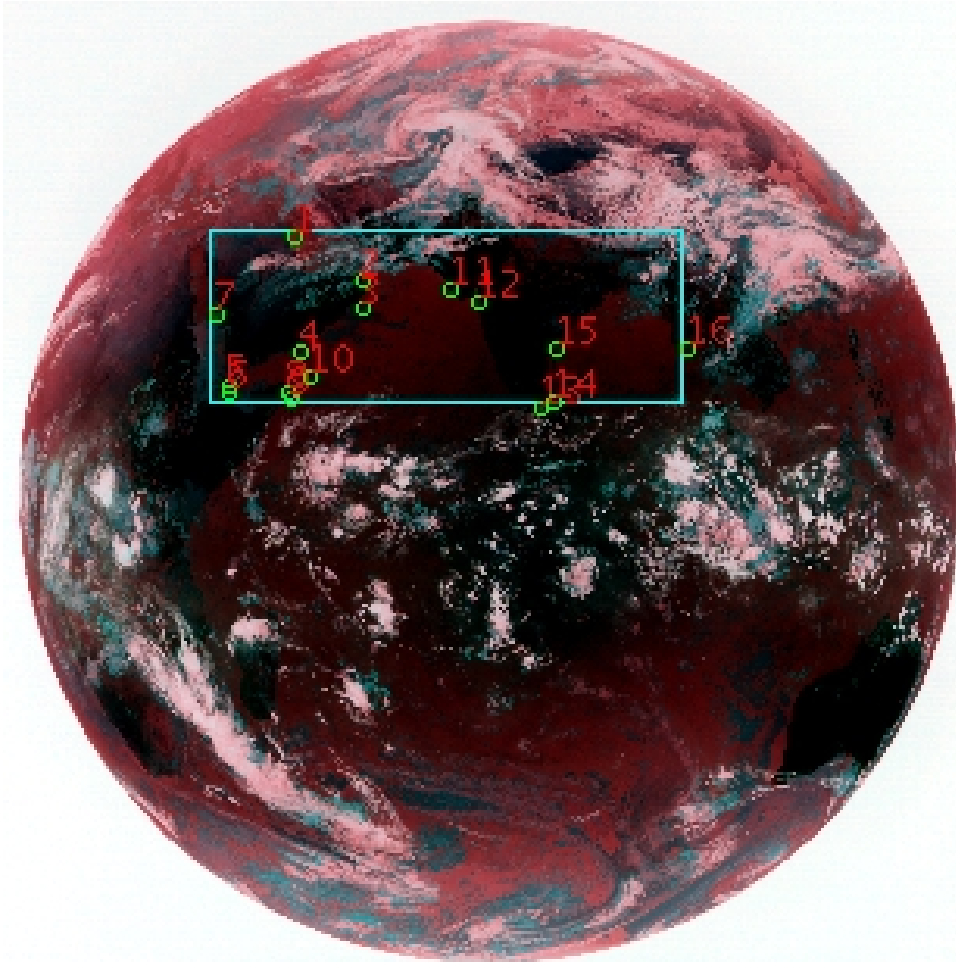


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG\_17FEB2019\_0615

**Satellite** INSAT-3DR    **No Of Bands** 6    **Product Type** STANDARD  
**Sensor** IMG    **LvlOfProcess** L1B    **Selected Band** 2-TIR1  
**DOP/Time** 17-02-19/06:15    **Station ID** BES    **Field View(deg)** 18.006  
**Res(Y,X) [Km]** (4.0,4.0)    **Res(Y,X) [uRad]** (112.0,112.0)

(81.172N,-7.211W)

(81.172N,155.291E)



(-81.067S,-7.211W)

(-81.067S,155.291E)

GCP Distribution overview for 3RIMG17FEB20190615L1BDQE

**Image Width:** 2805    **Image Height:** 2816    **No Of GCPs:** 16

**GCP Coverage(%)**    17.52    **(N-S)** 48.32    **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-5.058	S	1.083	5.173
Across	11.326	E	3.039	11.727

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.323	0.325	8.073
Along	4.583	1.592	14.572
Across	4.368	0.425	9.188

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	3.065	0.199	0.95	0.973
Across	3.382	2.802	1.09	3.009

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
0.05967	0.03331	-0.03120

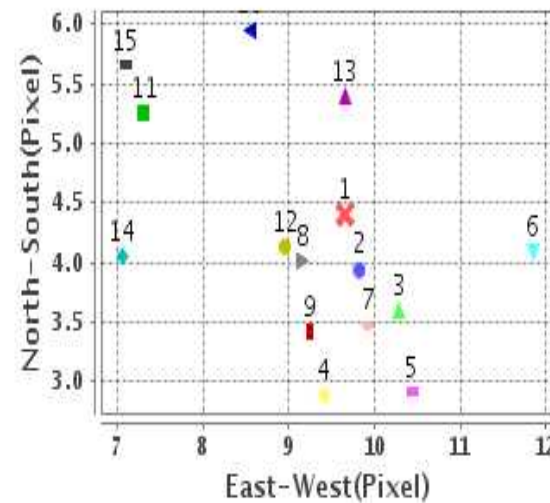
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

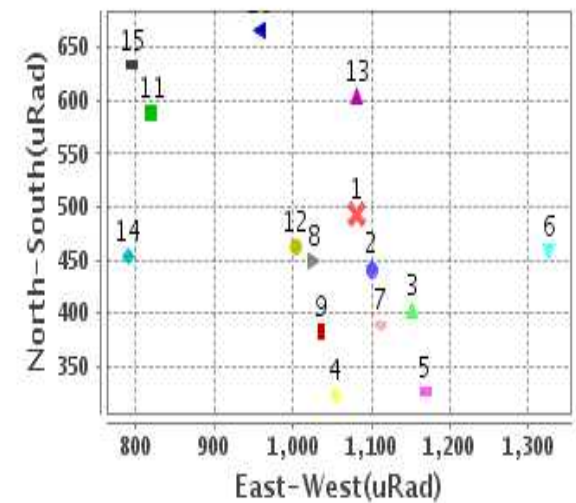
## Radial Error (in IR Pixels)

<b>Mean</b>	12.503
<b>Min</b>	8.951
<b>Max</b>	20.313
<b>CE90</b>	14.265

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	17-02-19
<b>Sensor</b>	IMG	<b>DQE Date</b>	18-02-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	17-02-19
<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_17FEB20	<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>	0.052
<b>Center Lon(deg)</b>	74.04
<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>	81.172
<b>NW_Lon(deg)</b>	-7.211
<b>SW_Lat(deg)</b>	-81.067
<b>SW_Lon(deg)</b>	-7.211
<b>NE_Lat(deg)</b>	81.172
<b>NE_Lon(deg)</b>	155.291
<b>SE_Lat(deg)</b>	-81.067
<b>SE_Lon(deg)</b>	155.291

### 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 : 3RIMG17FEB20190615L1BDQE**

(-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 : 16

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	985.7	145.5	668.0	1161.25	17.52 (N-S)
<b>GCP Pix</b>	1083.3	397.8	597.8	1953.25	48.32 (E-W)

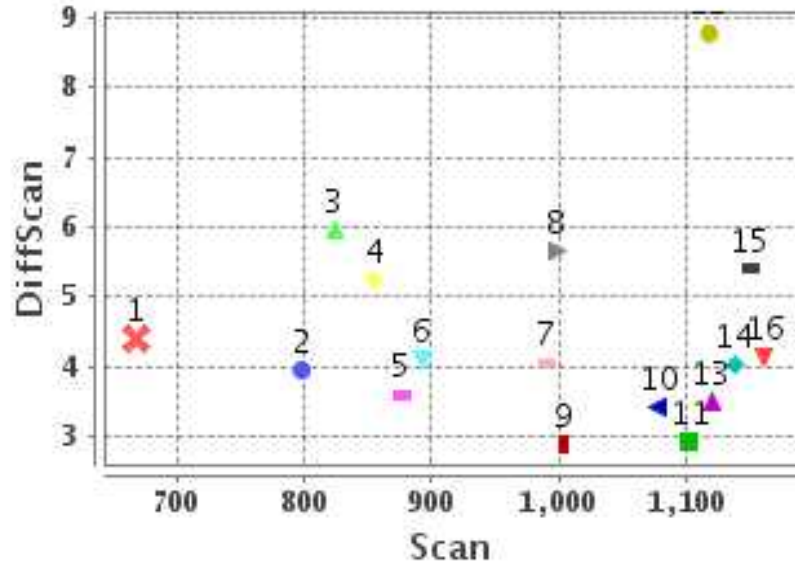
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	668.0	819.0	4.4	9.65	27.575	S	59.752	E	Accepted
2	798.5	1022.5	3.9	9.82	22.862	S	50.235	E	Accepted
3	876.0	1021.5	3.6	10.29	16.710	S	49.337	E	Accepted
4	1002.5	845.0	2.9	9.41	15.998	S	45.083	E	Accepted
5	1102.2	632.2	2.9	10.44	13.688	S	55.394	E	Accepted
6	1117.2	632.0	8.8	12.12	38.209	S	65.550	E	Rejected
7	892.5	597.8	4.1	11.84	24.128	S	77.585	E	Accepted
8	1120.0	807.2	3.5	9.93	15.000	S	46.886	E	Accepted
9	1137.8	811.8	4.0	9.16	19.454	S	46.125	E	Accepted
10	1078.2	871.5	3.4	9.25	16.210	S	44.822	E	Accepted
11	824.0	1275.0	6.0	8.55	27.288	S	37.486	E	Accepted
12	855.0	1352.2	5.2	7.31	23.835	S	32.213	E	Accepted
13	1161.2	1536.2	4.1	8.96	17.743	S	36.018	E	Accepted

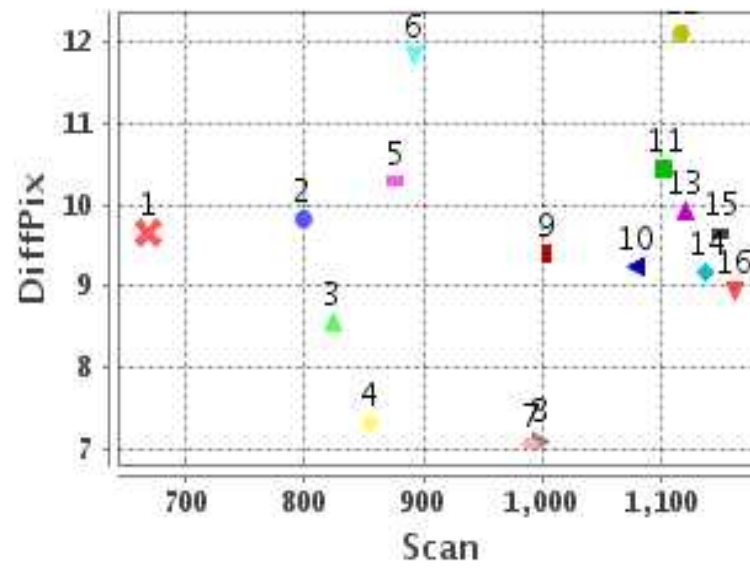
**Identified Control Point details : ( Differences are Reference - Product )**

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
14	1150.0	1572.2	5.4	9.66	20.671	S	37.933	E	Accepted
15	990.2	1582.8	4.1	7.06	18.220	S	30.821	E	Accepted
16	998.0	1953.2	5.7	7.10	24.117	S	29.891	E	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



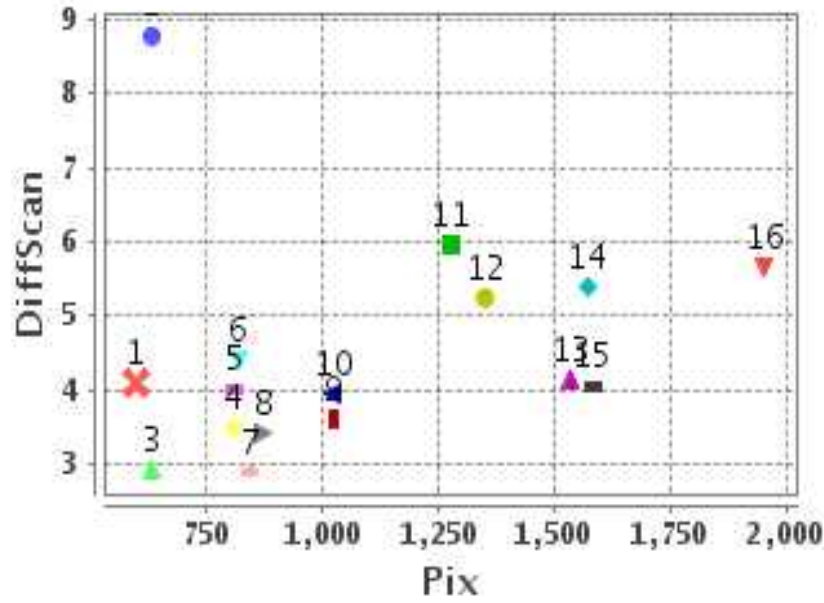
#### Number Of Points

North	0
South	15
East	15
West	0

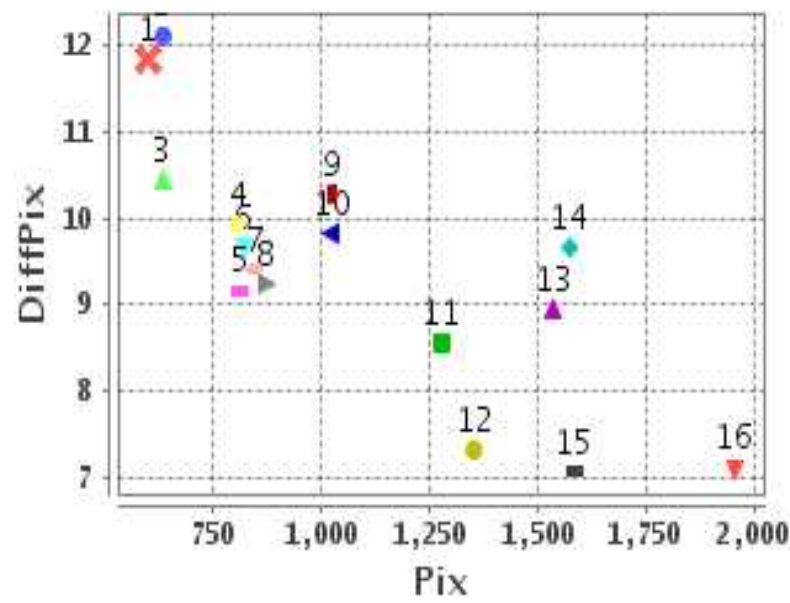
#### Radial Error ( Km )

Mean	12.503
Min	8.951
Max	20.313
CE90	14.265

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	-5.058	1.083	5.173	S	5.028	5.276
Across ( Km )	11.326	3.039	11.727	E	10.976	11.973

## 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)	-25.85	S	
Across(Mean,Dir)	68.67	E	
<b>Scale(Km)</b>			
Average Scale (Mean,%Variation)	4.39	9.74	
<b>Internal Distortion(Pixel)</b>			
Along(Mean,Stddev)	0.31	0.00	
Across(Mean,Stddev)	2.19	0.00	

<b>Scan Range-0-937; Pix Range-934-1869</b>			
Number of GCPs	4		
<b>Location Error(Km)</b>			
Along(Mean,Dir)	-22.6725	S	
Across(Mean,Dir)	42.32	E	
<b>Scale(Km)</b>			
Average Scale (Mean,%Variation)	4.34	8.43	
<b>Internal Distortion(Pixel)</b>			
Along(Mean,Stddev)	-0.99	0.99	
Across(Mean,Stddev)	1.73	1.02	

<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)	-16.07	S	
Across(Mean,Dir)	47.66	E	
<b>Scale(Km)</b>			
Average Scale (Mean,%Variation)	4.34	8.44	
<b>Internal Distortion(Pixel)</b>			
Along(Mean,Stddev)	-0.57	0.39	
Across(Mean,Stddev)	1.00	0.30	

<b>Scan Range-937-1876; Pix Range-934-1869</b>			
Number of GCPs	3		
<b>Location Error(Km)</b>			
Along(Mean,Dir)	-18.88	S	
Across(Mean,Dir)	34.92	E	
<b>Scale(Km)</b>			
Average Scale (Mean,%Variation)	4.07	1.68	
<b>Internal Distortion(Pixel)</b>			
Along(Mean,Stddev)	-0.71	0.63	
Across(Mean,Stddev)	0.60	1.30	

<b>Scan Range-937-1876; Pix Range-1869-2805</b>			
Number of GCPs	1		
<b>Location Error(Km)</b>			
Along(Mean,Dir)	-24.11	S	
Across(Mean,Dir)	29.89	E	
<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