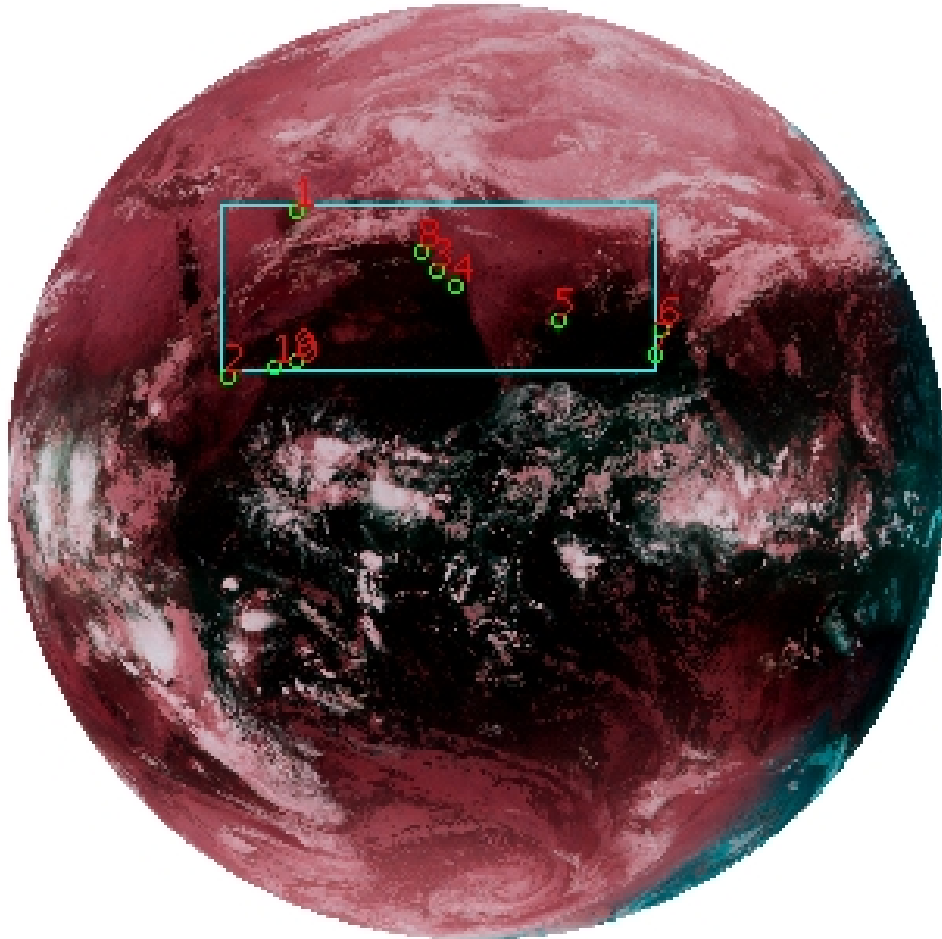


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG\_16FEB2019\_2145

**Satellite** INSAT-3DR    **No Of Bands** 6    **Product Type** STANDARD  
**Sensor** IMG    **LvlOfProcess** L1B    **Selected Band** 2-TIR1  
**DOP/Time** 16-02-19/21:45    **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 3RIMG16FEB20192145L1BSTD

**Image Width:** 2805    **Image Height:** 2816    **No Of GCPs:** 10

**GCP Coverage(%)**    16.97    **(N-S)** 44.55    **(E-W)**

### Location Error(E)

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

### Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	2.304	N	1.172	2.584
Across	-4.646	W	1.793	4.979

### Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.315	0.278	7.886
Along	8.945	19.701	123.630
Across	5.371	6.372	34.269

### Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	3.578	-0.459	1.08	1.178
Across	4.651	-0.632	1.46	1.593

### Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02871	-0.01597	0.06820

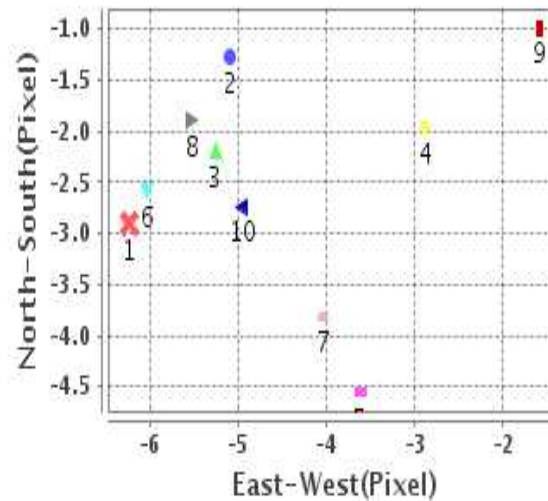
### Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

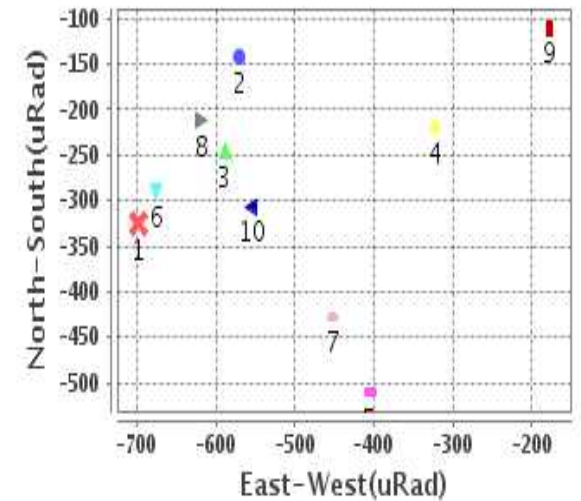
### Radial Error (in IR Pixels)

<b>Mean</b>	5.350
<b>Min</b>	1.712
<b>Max</b>	8.726
<b>CE90</b>	6.286

### 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>	16-02-19
<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_16FEB20	<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>	meters	<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 : 3RIMG16FEB20192145L1BSTD**

(-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

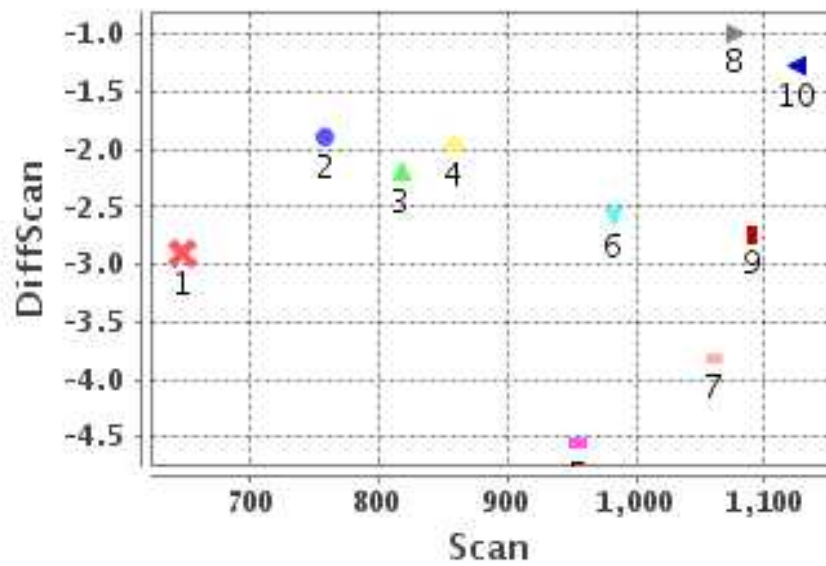
Image Width (pixels) : 2805     Image Height (pixels) : 2816     No of GCPs : 10

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	937.2	152.6	646.8	1124.75	16.97 (N-S)
<b>GCP Pix</b>	1249.4	429.1	674.8	1924.50	44.55 (E-W)

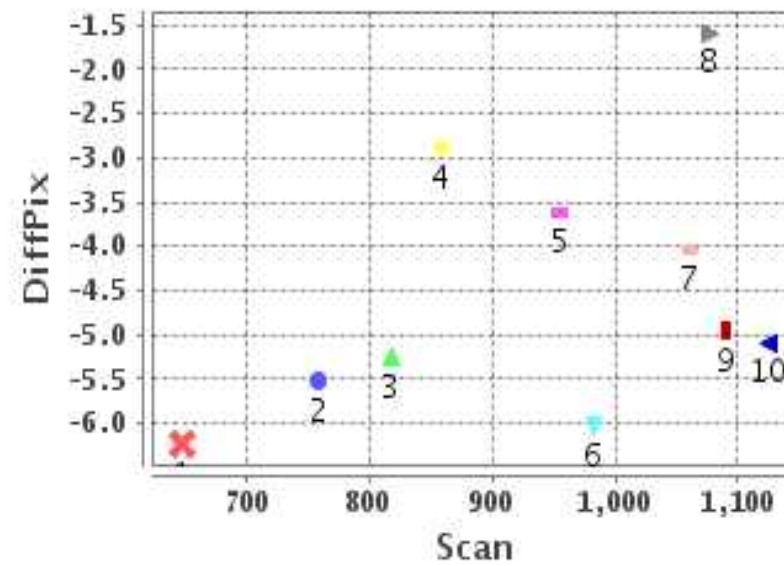
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	646.8	868.8	-2.9	-6.23	13.701	N	32.104	W	Accepted
2	1124.8	674.8	-1.3	-5.09	2.251	N	20.529	W	Accepted
3	817.5	1277.5	-2.2	-5.25	7.749	N	20.238	W	Accepted
4	858.0	1323.0	-2.0	-2.88	9.395	N	12.260	W	Accepted
5	955.2	1621.8	-4.6	-3.62	17.970	N	11.150	W	Accepted
6	982.8	1924.5	-2.6	-6.03	6.962	N	24.161	W	Accepted
7	1060.2	1902.2	-3.8	-4.04	14.408	N	14.768	W	Accepted
8	758.5	1224.5	-1.9	-5.52	7.279	N	22.439	W	Accepted
9	1077.2	869.2	-1.0	-1.58	3.175	N	6.068	W	Accepted
10	1090.5	808.2	-2.7	-4.95	9.250	N	22.103	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



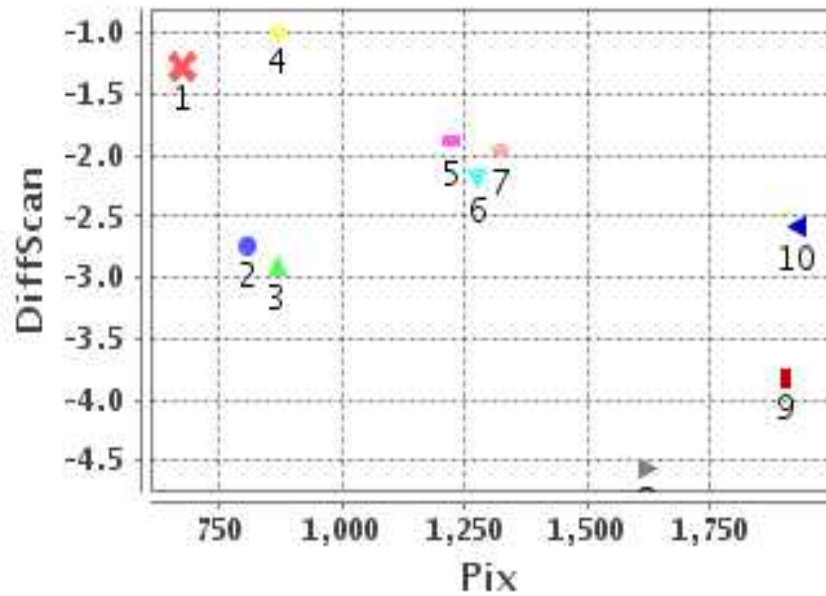
#### Number Of Points

North	10
South	0
East	0
West	10

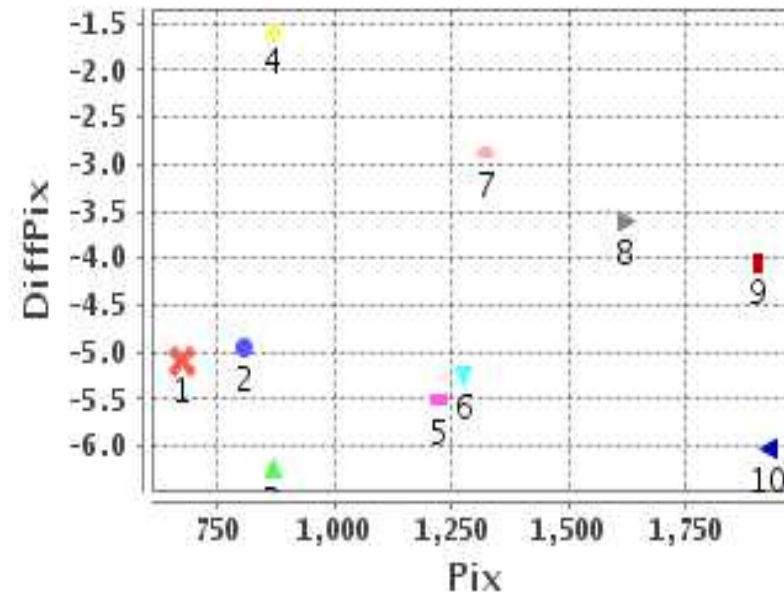
#### Radial Error ( Km )

Mean	5.350
Min	1.712
Max	8.726
CE90	6.286

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	2.304	1.172	2.584	N	2.276	2.718
Across ( Km )	-4.646	1.793	4.979	W	4.516	5.224

## 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)	13.7	N
Across(Mean,Dir)	-32.10	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

<b>Scan Range-0-937; Pix Range-934-1869</b>		
Number of GCPs	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	8.14333	N
Across(Mean,Dir)	-18.31	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.66	16.49
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.19	0.12
Across(Mean,Stddev)	-1.46	1.18

<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	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	4.89	N
Across(Mean,Dir)	-16.23	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.51	12.74
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	1.02	0.73
Across(Mean,Stddev)	-1.82	1.68

<b>Scan Range-937-1876; Pix Range-934-1869</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	17.97	N
Across(Mean,Dir)	-11.15	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	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	10.685	N
Across(Mean,Dir)	-19.46	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.29	7.32
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	1.24	0.00
Across(Mean,Stddev)	1.99	0.00

<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