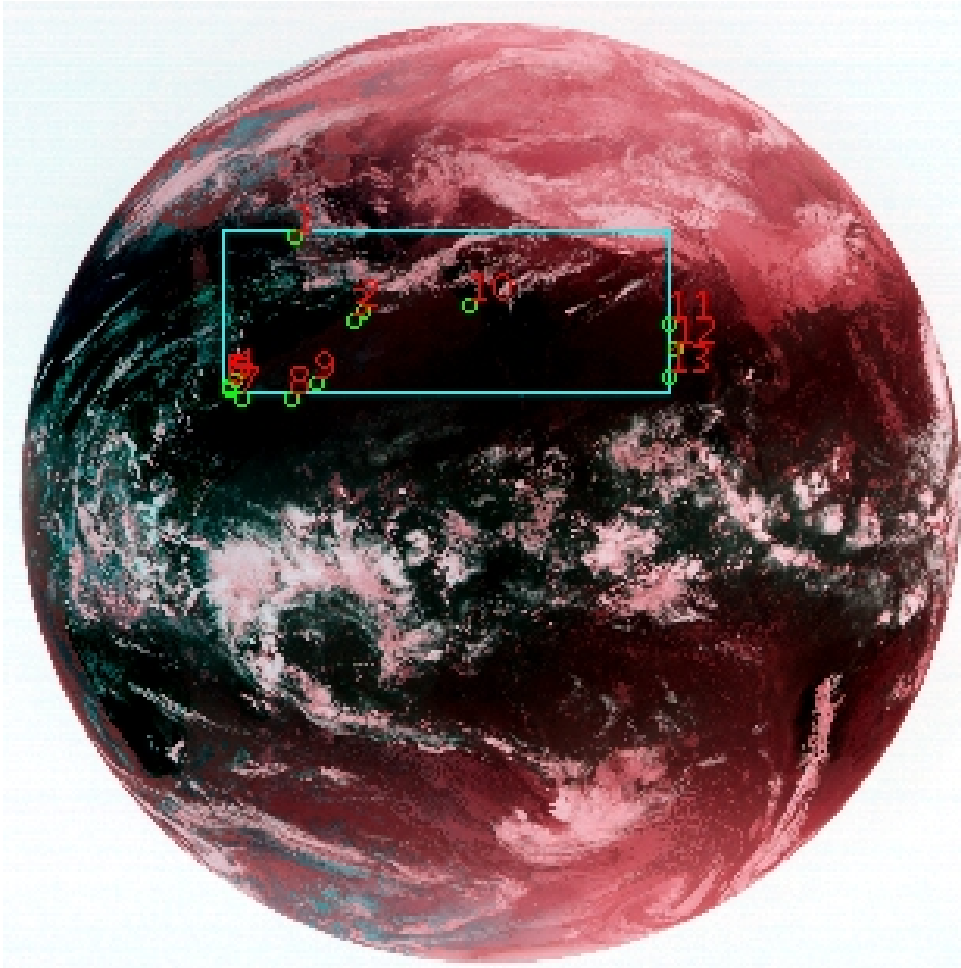


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG\_23FEB2019\_1215

**Satellite** INSAT-3DR      **No Of Bands** 6      **Product Type** STANDARD  
**Sensor** IMG      **LvlOfProcess** L1B      **Selected Band** 2-TIR1  
**DOP/Time** 23-02-19/24:15      **Station ID** BES      **Field View(deg)** 17.99  
**Res(Y,X) [Km]** (4.0,4.0)      **Res(Y,X) [uRad]** (112.0,112.0)

(80.929N,-7.133W)

(80.929N,155.298E)



(-81.163S,-7.133W)

(-81.163S,155.298E)

GCP Distribution overview for 3RIMG23FEB20191215L1BDQE

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

**GCP Coverage(%)**      16.70      **(N-S)** 46.04      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-1.468	S	0.633	1.599
Across	9.408	E	1.574	9.539

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.337	0.299	8.437
Along	4.652	1.965	16.311
Across	4.402	0.337	10.038

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.868	-0.053	0.67	0.671
Across	2.923	-0.518	0.91	1.044

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
0.05641	0.01003	-0.01792

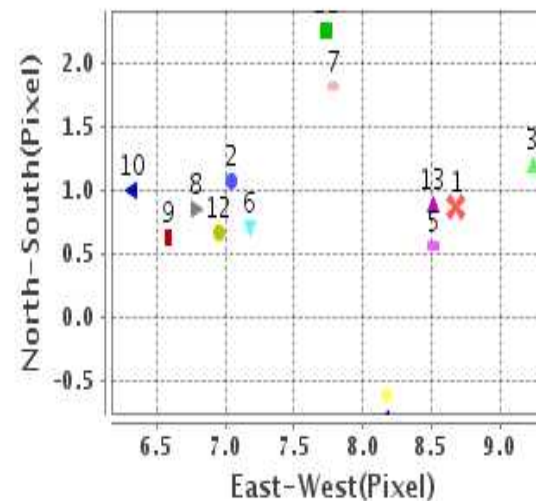
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

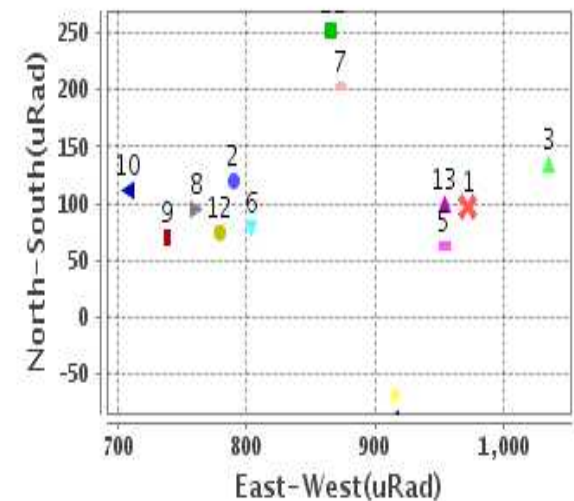
## Radial Error (in IR Pixels)

<b>Mean</b>	9.545
<b>Min</b>	6.848
<b>Max</b>	12.303
<b>CE90</b>	11.251

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	23-02-19
<b>Sensor</b>	IMG	<b>DQE Date</b>	25-02-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	23-02-19
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	24:15
<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_23FEB20	<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>	-0.117
<b>Center Lon(deg)</b>	74.082
<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>	80.929
<b>NW_Lon(deg)</b>	-7.133
<b>SW_Lat(deg)</b>	-81.163
<b>SW_Lon(deg)</b>	-7.133
<b>NE_Lat(deg)</b>	80.929
<b>NE_Lon(deg)</b>	155.298
<b>SE_Lat(deg)</b>	-81.163
<b>SE_Lon(deg)</b>	155.298

### 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 : 3RIMG23FEB20191215L1BDQE**

(-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

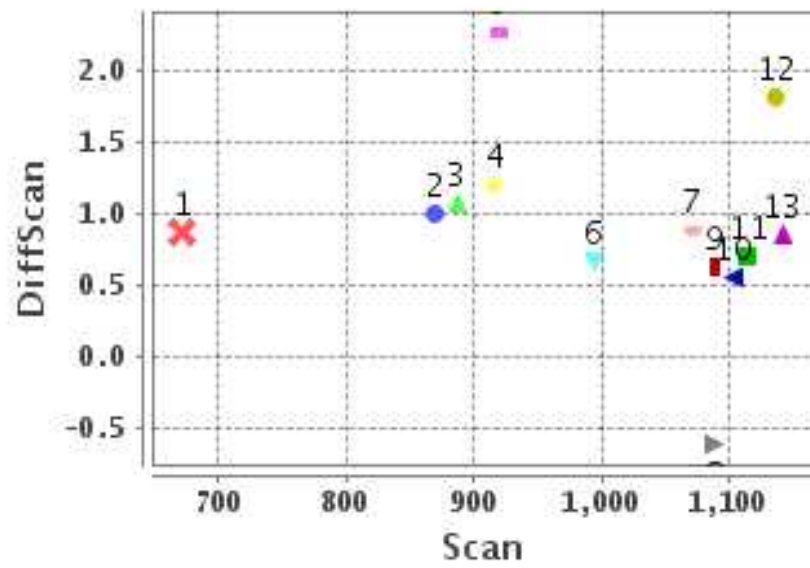
Image Width (pixels) : 2805      Image Height (pixels) : 2816      No of GCPs : 13

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	1000.5	134.3	672.0	1142.25	16.70 (N-S)
<b>GCP Pix</b>	1090.9	484.6	631.5	1923.00	46.04 (E-W)

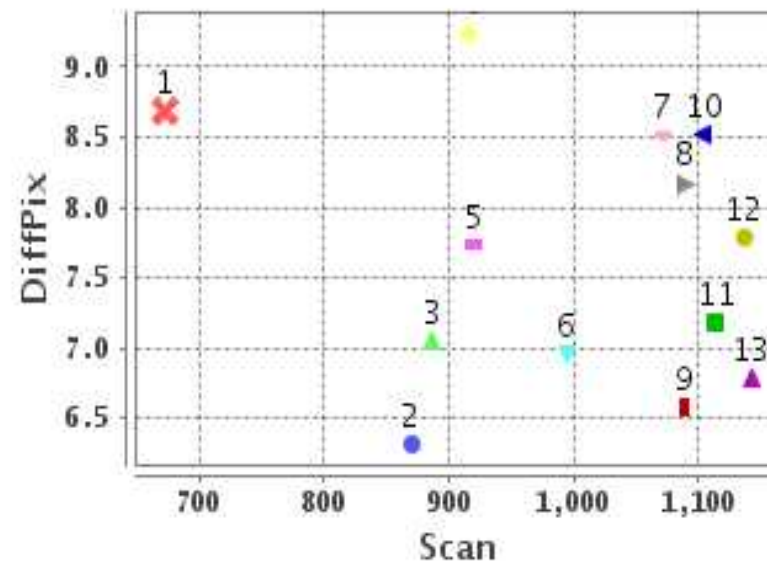
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	672.0	822.0	0.9	8.68	7.346	S	48.660	E	Accepted
2	886.8	1018.0	1.1	7.05	8.213	S	32.086	E	Accepted
3	916.2	992.5	1.2	9.24	7.366	S	44.398	E	Accepted
4	1088.8	650.2	-0.6	8.17	1.699	S	41.492	E	Accepted
5	1104.0	636.2	0.6	8.52	2.644	S	44.968	E	Accepted
6	1114.2	631.5	0.7	7.18	4.127	S	38.895	E	Accepted
7	1136.5	674.8	1.8	7.79	10.041	S	42.697	E	Accepted
8	1142.2	815.8	0.9	6.79	4.744	S	34.412	E	Accepted
9	1089.5	887.5	0.6	6.59	4.903	S	31.852	E	Accepted
10	870.0	1326.2	1.0	6.32	5.079	S	26.918	E	Accepted
11	920.2	1902.5	2.3	7.73	10.112	S	35.971	E	Accepted
12	994.8	1923.0	0.7	6.95	6.250	S	29.925	E	Accepted
13	1071.2	1901.2	0.9	8.51	3.827	S	36.966	E	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



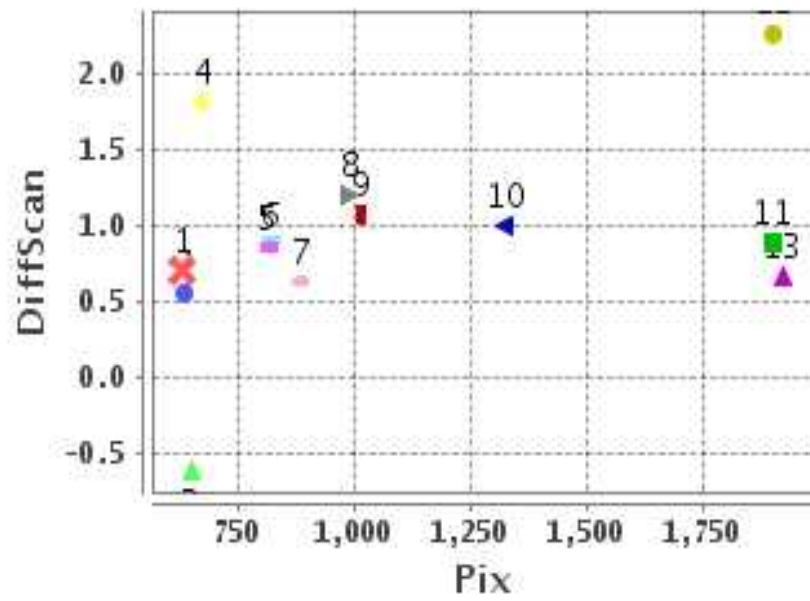
#### Number Of Points

North	0
South	13
East	13
West	0

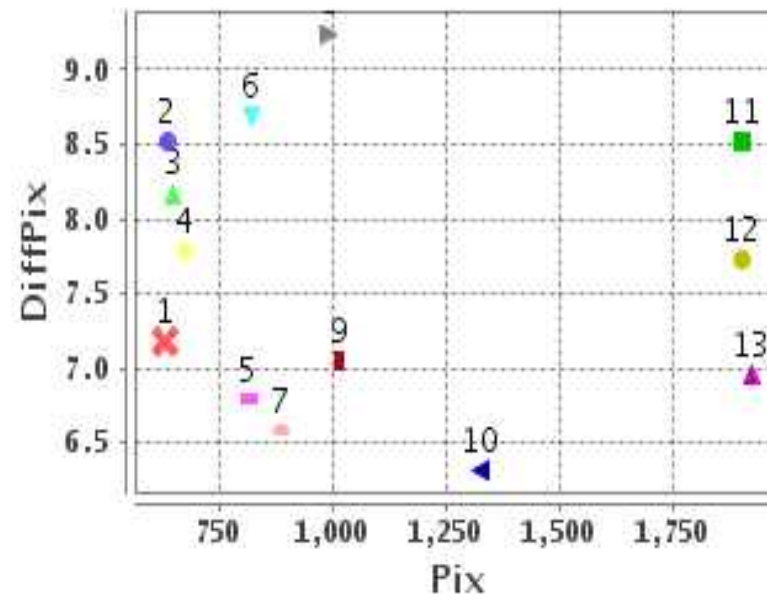
#### Radial Error ( Km )

Mean	9.545
Min	6.848
Max	12.303
CE90	11.251

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	-1.468	0.633	1.599	S	1.496	1.660
Across ( Km )	9.408	1.574	9.539	E	9.287	9.737

## 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)	-7.35	S
Across(Mean,Dir)	48.66	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-0-937; Pix Range-934-1869</b>		
Number of GCPs	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-6.88333	S
Across(Mean,Dir)	34.47	E
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.14	3.49
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.14	0.06
Across(Mean,Stddev)	2.56	0.36

<b>Scan Range-0-937; Pix Range-1869-2805</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-10.11	S
Across(Mean,Dir)	35.97	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-937-1876; Pix Range-0-934</b>		
Number of GCPs	6	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-4.69333	S
Across(Mean,Dir)	39.05	E
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.59	14.84
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-1.52	0.46
Across(Mean,Stddev)	-0.39	0.76

<b>Scan Range-937-1876; Pix Range-934-1869</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-937-1876; Pix Range-1869-2805</b>		
Number of GCPs	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-5.035	S
Across(Mean,Dir)	33.44	E
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.35	8.76
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.21	0.00
Across(Mean,Stddev)	1.56	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