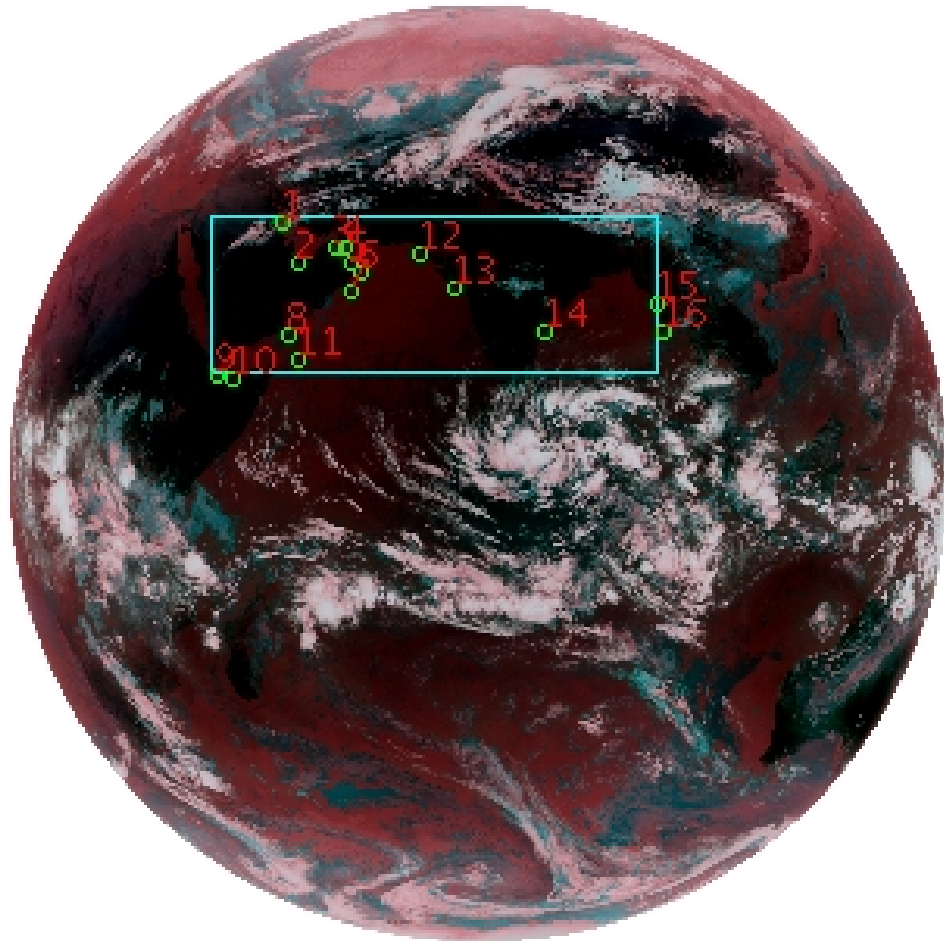


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD(FULL DISK) Product 3RIMG\_11MAR2018\_0615

**Satellite** INSAT-3DR      **No Of Bands** 6      **Product Type** STANDARD  
**Sensor** IMG      **LvlOfProcess** L1B      **Selected Band** 2-TIR1  
**DOP/Time** 11-03-18/06:15      **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 3RIMG11MAR20180615L1BSTD

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

**GCP Coverage(%)** 16.10      **(N-S)** 45.91      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	1.245	N	0.681	1.419
Across	-1.744	W	1.073	2.048

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.437	0.380	10.935
Along	5.942	11.565	48.554
Across	4.674	1.922	16.855

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	3.106	0.036	0.86	0.862
Across	3.692	-0.255	1.09	1.121

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01138	-0.00788	-0.00148

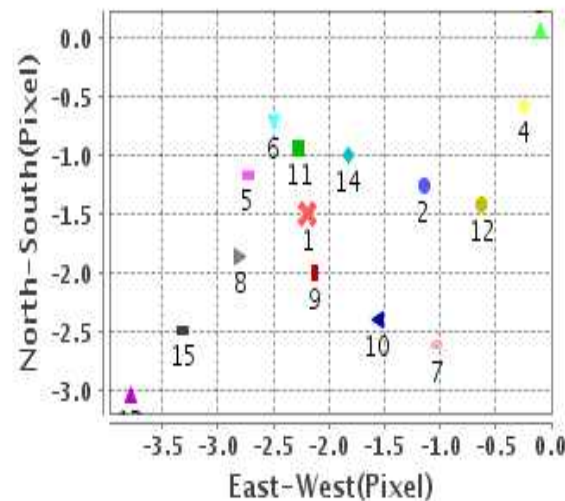
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

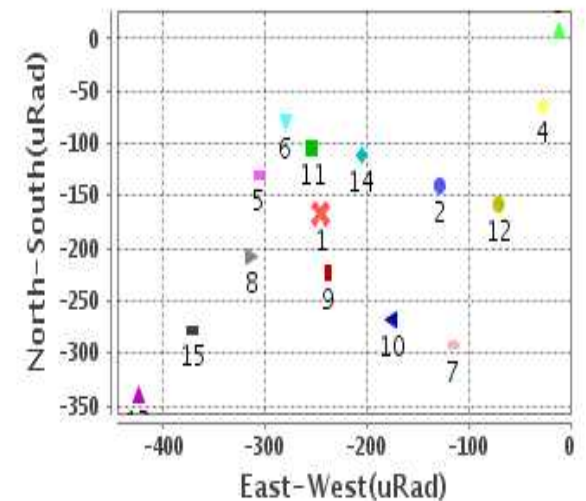
## Radial Error (in IR Pixels)

<b>Mean</b>	2.296
<b>Min</b>	.421
<b>Max</b>	3.974
<b>CE90</b>	3.096

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	11-03-18
<b>Sensor</b>	IMG	<b>DQE Date</b>	16-03-2018
<b>PassType</b>	NONE	<b>Aquisition Date</b>	11-03-18
<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_11MAR2	<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	<b>Unit</b>	-sigma	<b>SemiMinorAxis(m)</b>	6356752.31	<b>Used Reference Type</b>	REFINSREF
<b>Datum</b>	WGS_84		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 : 3RIMG11MAR20180615L1BSTD**

(-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>	886.3	136.8	666.2	1119.75	16.10 (N-S)
<b>GCP Pix</b>	1108.5	378.6	634.0	1921.75	45.91 (E-W)

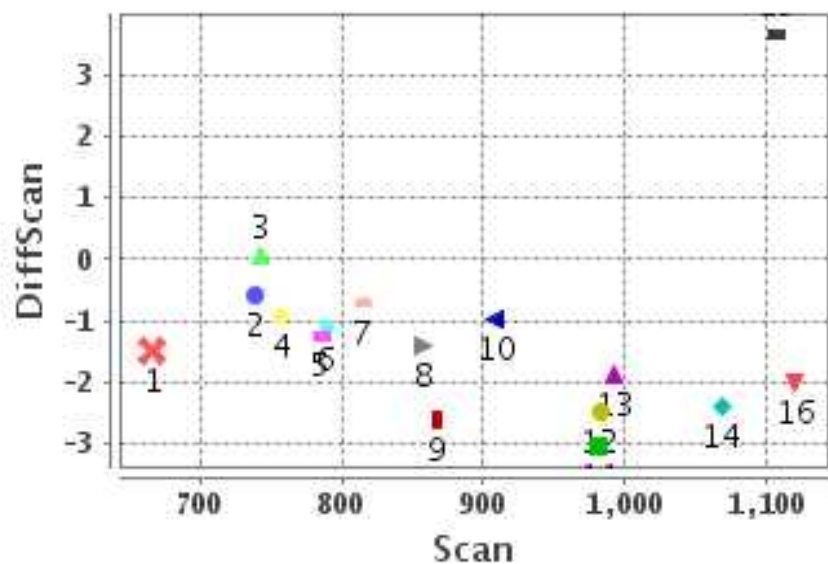
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	666.2	819.5	-1.5	-2.19	7.657	N	10.976	W	Accepted
2	785.5	868.2	-1.2	-1.15	4.233	N	5.088	W	Accepted
3	743.0	976.5	0.1	-0.10	0.791	S	1.489	E	Accepted
4	739.0	1000.0	-0.6	-0.24	3.080	N	1.999	W	Accepted
5	789.5	1023.2	-1.2	-2.73	3.064	N	11.970	W	Accepted
6	815.0	1049.5	-0.7	-2.50	3.462	N	9.431	W	Accepted
7	867.5	1021.2	-2.6	-1.03	9.522	N	4.971	W	Accepted
8	992.5	845.8	-1.9	-2.80	5.986	N	9.447	W	Accepted
9	1107.0	634.0	3.7	-1.06	15.766	S	2.601	W	Rejected
10	1119.8	683.2	-2.0	-2.12	5.530	N	9.095	W	Accepted
11	1068.5	867.2	-2.4	-1.57	7.701	N	6.997	W	Accepted
12	757.5	1221.2	-0.9	-2.27	2.857	N	8.596	W	Accepted
13	857.5	1320.8	-1.4	-0.63	4.635	N	0.519	E	Accepted

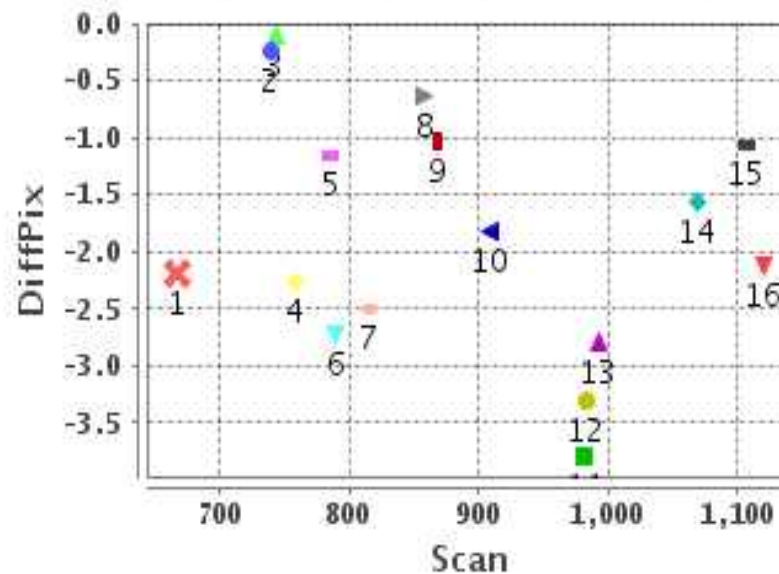
**Identified Control Point details : ( Differences are Reference - Product )**

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
14	981.8	1582.5	-3.0	-3.79	9.065	N	13.060	W	Accepted
15	908.5	1900.8	-1.0	-1.83	2.195	N	4.494	W	Accepted
16	982.8	1921.8	-2.5	-3.32	6.503	N	10.540	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



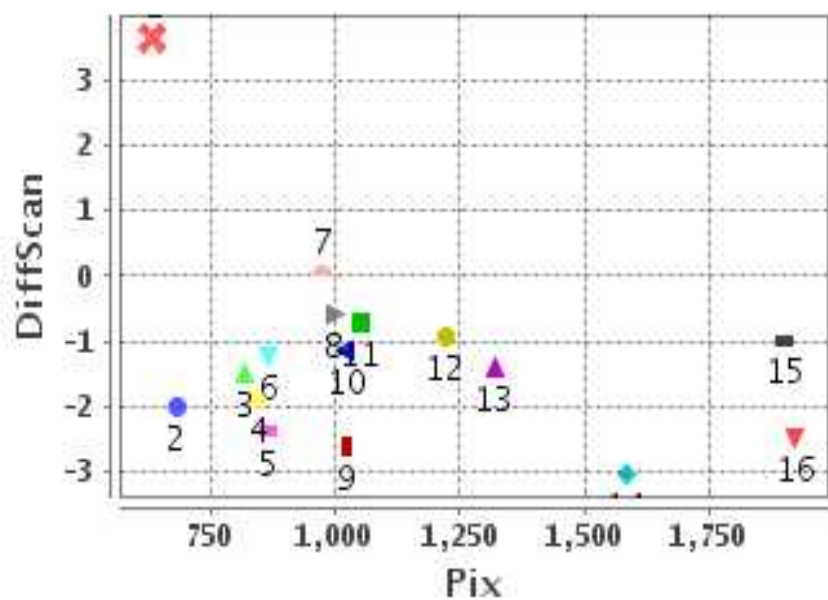
#### Number Of Points

North	14
South	1
East	2
West	13

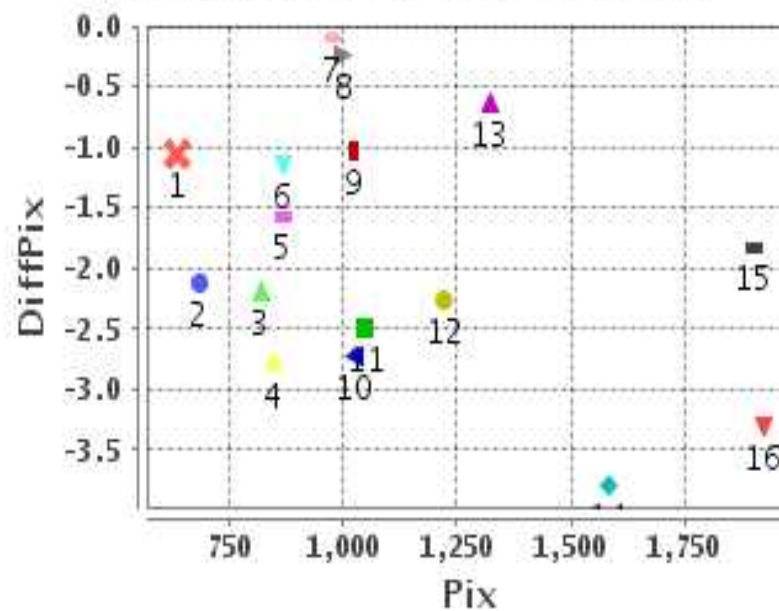
#### Radial Error ( Km )

Mean	2.296
Min	.421
Max	3.974
CE90	3.096

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	1.245	0.681	1.419	N	1.324	1.468
Across ( Km )	-1.744	1.073	2.048	W	1.932	2.119

## 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)	5.945	N
Across(Mean,Dir)	-8.03	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	5.83	45.66
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.24	0.00
Across(Mean,Stddev)	-1.04	0.00

<b>Scan Range-0-937; Pix Range-934-1869</b>		
Number of GCPs	7	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	3.688570000	N
Across(Mean,Dir)	-4.99	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.61	15.24
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.54	0.81
Across(Mean,Stddev)	1.47	0.97

<b>Scan Range-0-937; Pix Range-1869-2805</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	2.2	N
Across(Mean,Dir)	-4.50	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)	6.40667	N
Across(Mean,Dir)	-8.51	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.32	8.10
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.33	0.20
Across(Mean,Stddev)	0.06	0.62

<b>Scan Range-937-1876; Pix Range-934-1869</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	9.07	N
Across(Mean,Dir)	-13.06	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	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	6.5	N
Across(Mean,Dir)	-10.54	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-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