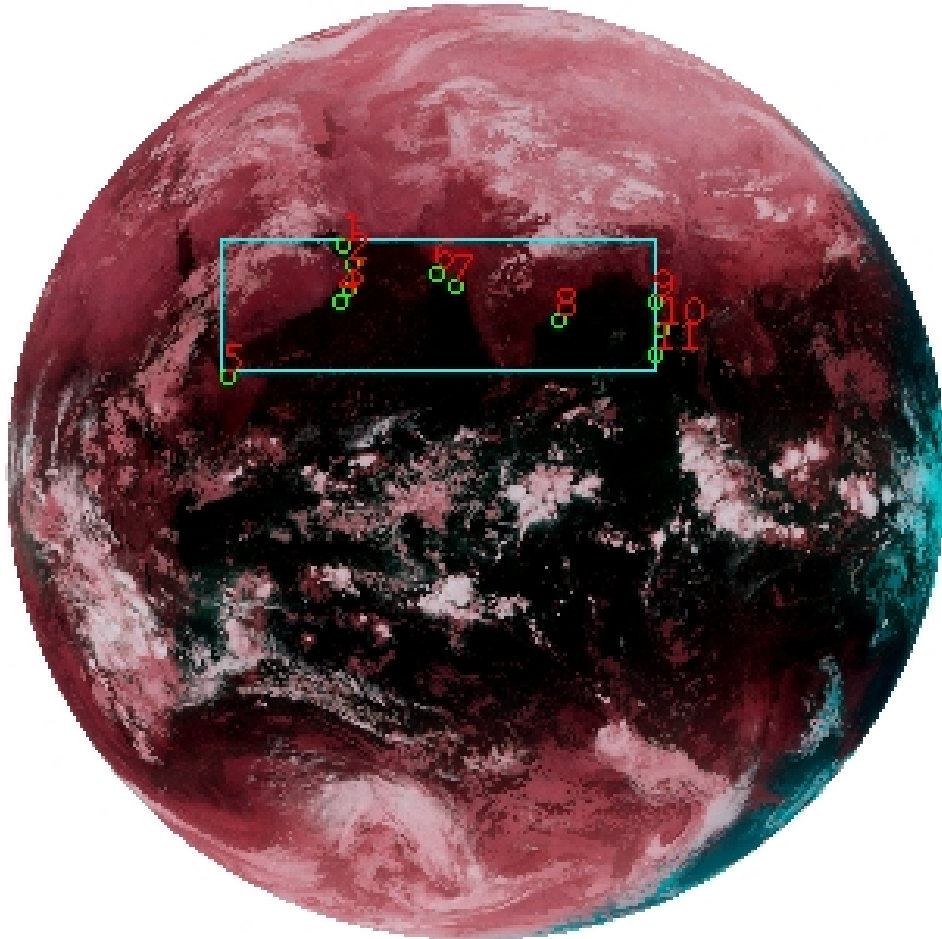


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG\_14FEB2019\_2145

Satellite	INSAT-3DR	No Of Bands	6	Product Type	STANDARD
Sensor	IMG	LvlOfProcess	L1B	Selected Band	2-TIR1
DOP/Time	14-02-19/21:45	Station ID	BES	Field View(deg)	17.99
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 3RIMG14FEB20192145L1BSTD

Image Width: 2805 Image Height: 2816 No Of GCPs: 11

GCP Coverage(%) 13.67 (N-S) 44.51 (E-W)

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	1.765	N	1.101	2.080
Across	-4.076	W	0.905	4.175

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.258	0.173	6.461
Along	5.170	3.768	29.244
Across	4.187	0.140	4.665

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.836	1.206	0.97	1.549
Across	2.046	-1.178	0.76	1.403

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02586	-0.01142	0.02170

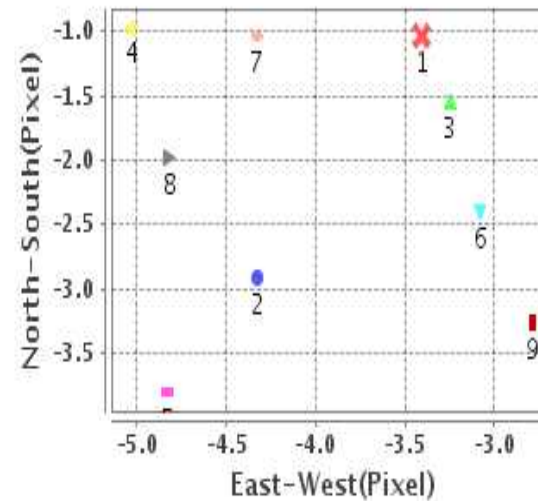
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

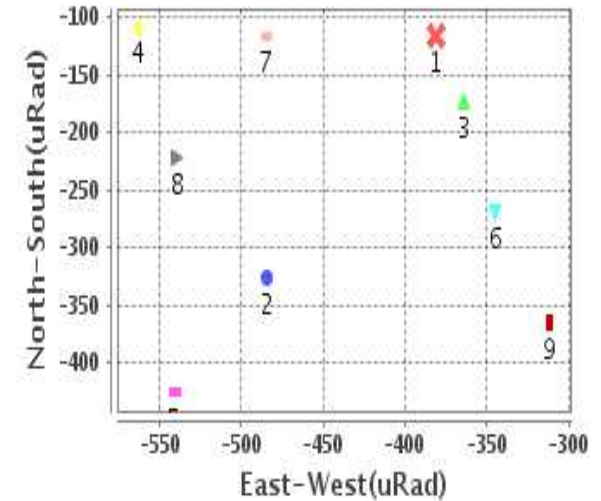
## Radial Error (in IR Pixels)

Mean	4.561
Min	3.037
Max	6.482
CE90	5.212

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	15-02-19
<b>Sensor</b>	IMG	<b>DQE Date</b>	15-02-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	14-02-19
<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_14FEB20	<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>	0.0
<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 : 3RIMG14FEB20192145L1BSTD**

(-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

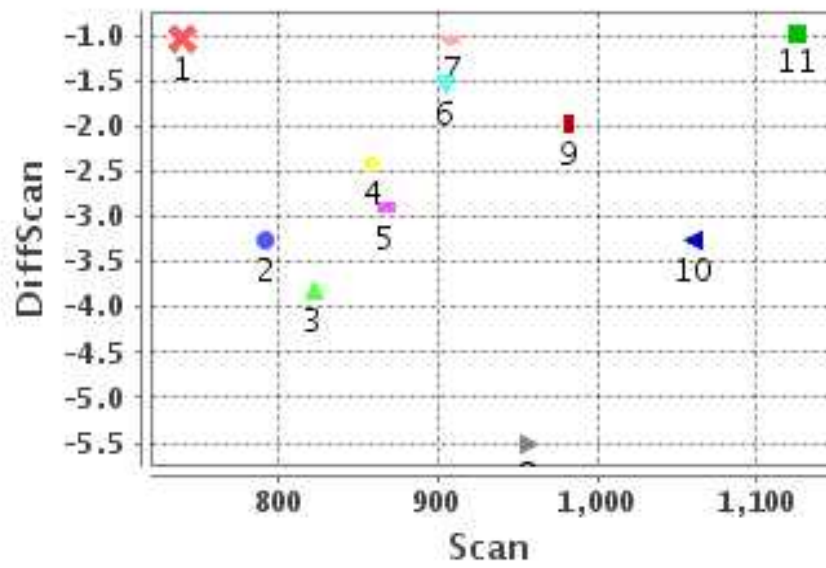
Image Width (pixels) : 2805      Image Height (pixels) : 2816      No of GCPs : 11

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	910.5	109.1	739.5	1124.50	13.67 (N-S)
<b>GCP Pix</b>	1334.3	418.8	674.8	1923.25	44.51 (E-W)

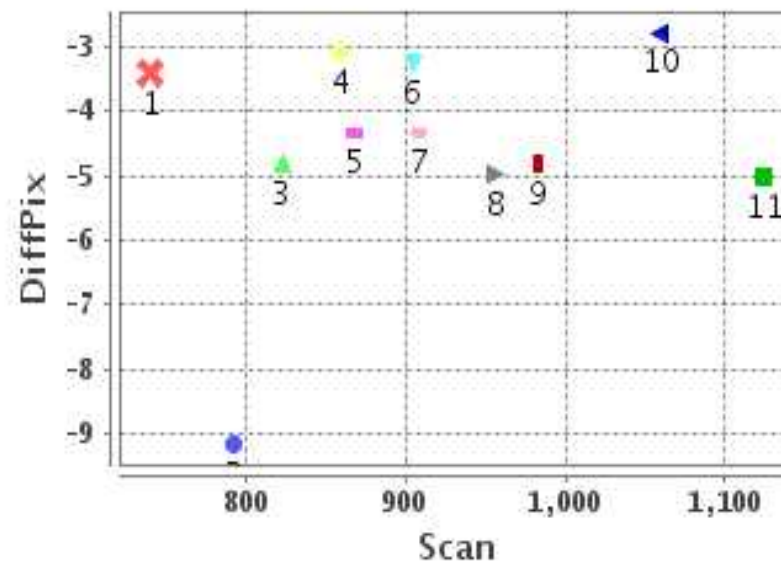
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	739.5	1003.2	-1.0	-3.40	2.835	N	15.398	W	Accepted
2	792.0	1030.5	-3.3	-9.16	17.066	N	40.767	W	Rejected
3	867.8	1024.5	-2.9	-4.32	9.757	N	17.971	W	Accepted
4	904.5	991.8	-1.6	-3.25	4.715	N	11.196	W	Accepted
5	1124.5	674.8	-1.0	-5.03	2.027	N	20.751	W	Accepted
6	822.5	1277.2	-3.8	-4.83	16.265	N	20.194	W	Accepted
7	858.5	1323.2	-2.4	-3.08	9.159	N	12.038	W	Accepted
8	956.2	1624.2	-5.5	-4.97	22.162	N	17.984	W	Rejected
9	908.5	1903.2	-1.0	-4.33	2.428	N	18.559	W	Accepted
10	982.2	1923.2	-2.0	-4.82	6.503	N	19.059	W	Accepted
11	1059.8	1901.0	-3.3	-2.78	9.839	N	11.574	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



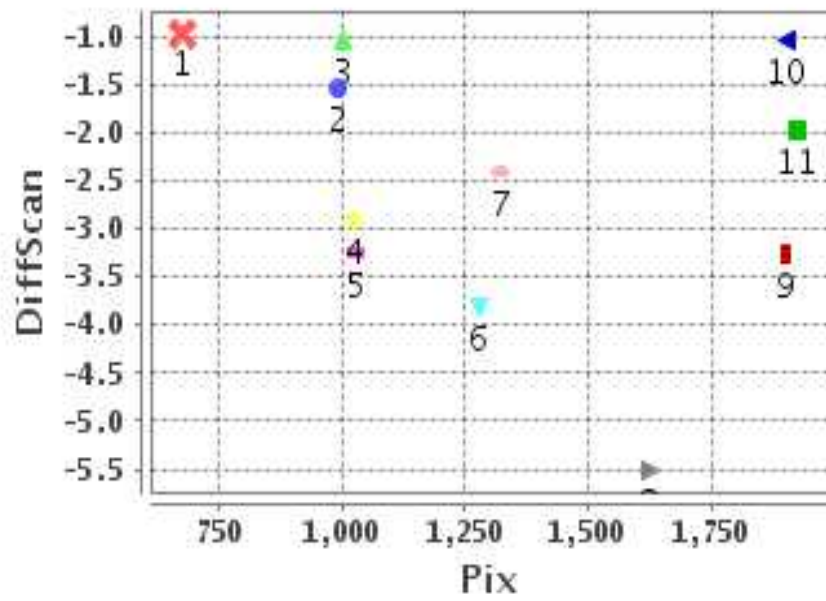
#### Number Of Points

North	9
South	0
East	0
West	9

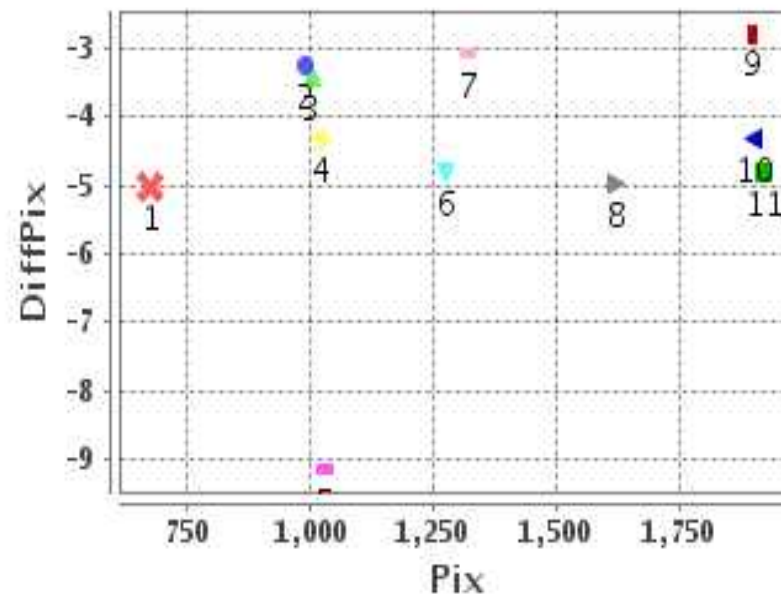
#### Radial Error ( Km )

Mean	4.561
Min	3.037
Max	6.482
CE90	5.212

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	1.765	1.101	2.080	N	1.673	2.199
Across ( Km )	-4.076	0.905	4.175	W	4.031	4.317

## Block-Wise Geo location Error Statistics

### Location Accuracy,Scale,ID

<b>Scan Range-0-937; Pix Range-0-934</b> <b>Number of GCPs</b> -999 <b>Location Error(Km)</b> <b>Along(Mean,Dir)</b> -999.99            NotAvail <b>Across(Mean,Dir)</b> -999.99            NotAvail <b>Scale(Km)</b> <b>Average Scale (Mean,%Variation)</b> -999.99    -999.9 <b>Internal Distortion(Pixel)</b> <b>Along(Mean,Stddev)</b> -999.99            -999.99 <b>Across(Mean,Stddev)</b> -999.99            -999.99	<b>Scan Range-0-937; Pix Range-934-1869</b> <b>Number of GCPs</b> 5 <b>Location Error(Km)</b> <b>Along(Mean,Dir)</b> 8.542                N <b>Across(Mean,Dir)</b> -15.36                W <b>Scale(Km)</b> <b>Average Scale (Mean,%Variation)</b> 4.43                10.76 <b>Internal Distortion(Pixel)</b> <b>Along(Mean,Stddev)</b> 1.63                    0.82 <b>Across(Mean,Stddev)</b> 0.66                    0.70	<b>Scan Range-0-937; Pix Range-1869-2805</b> <b>Number of GCPs</b> 1 <b>Location Error(Km)</b> <b>Along(Mean,Dir)</b> 2.43                    N <b>Across(Mean,Dir)</b> -18.56                W <b>Scale(Km)</b> <b>Average Scale (Mean,%Variation)</b> -999.99    -999.9 <b>Internal Distortion(Pixel)</b> <b>Along(Mean,Stddev)</b> -999.99            -999.99 <b>Across(Mean,Stddev)</b> -999.99            -999.99
<b>Scan Range-937-1876; Pix Range-0-934</b> <b>Number of GCPs</b> 1 <b>Location Error(Km)</b> <b>Along(Mean,Dir)</b> 2.02                    N <b>Across(Mean,Dir)</b> -20.75                W <b>Scale(Km)</b> <b>Average Scale (Mean,%Variation)</b> -999.99    -999.9 <b>Internal Distortion(Pixel)</b> <b>Along(Mean,Stddev)</b> -999.99            -999.99 <b>Across(Mean,Stddev)</b> -999.99            -999.99	<b>Scan Range-937-1876; Pix Range-934-1869</b> <b>Number of GCPs</b> -999 <b>Location Error(Km)</b> <b>Along(Mean,Dir)</b> -999.99            NotAvail <b>Across(Mean,Dir)</b> -999.99            NotAvail <b>Scale(Km)</b> <b>Average Scale (Mean,%Variation)</b> -999.99    -999.9 <b>Internal Distortion(Pixel)</b> <b>Along(Mean,Stddev)</b> -999.99            -999.99 <b>Across(Mean,Stddev)</b> -999.99            -999.99	<b>Scan Range-937-1876; Pix Range-1869-2805</b> <b>Number of GCPs</b> 2 <b>Location Error(Km)</b> <b>Along(Mean,Dir)</b> 8.17                    N <b>Across(Mean,Dir)</b> -15.32                W <b>Scale(Km)</b> <b>Average Scale (Mean,%Variation)</b> 4.29                7.23 <b>Internal Distortion(Pixel)</b> <b>Along(Mean,Stddev)</b> 1.29                    0.00 <b>Across(Mean,Stddev)</b> 2.04                    0.00
<b>Scan Range-1876-2816; Pix Range-0-934</b> <b>Number of GCPs</b> -999 <b>Location Error(Km)</b> <b>Along(Mean,Dir)</b> -999.99            NotAvail <b>Across(Mean,Dir)</b> -999.99            NotAvail <b>Scale(Km)</b> <b>Average Scale (Mean,%Variation)</b> -999.99    -999.9 <b>Internal Distortion(Pixel)</b> <b>Along(Mean,Stddev)</b> -999.99            -999.99 <b>Across(Mean,Stddev)</b> -999.99            -999.99	<b>Scan Range-1876-2816; Pix Range-937-1869</b> <b>Number of GCPs</b> -999 <b>Location Error(Km)</b> <b>Along(Mean,Dir)</b> -999.99            NotAvail <b>Across(Mean,Dir)</b> -999.99            NotAvail <b>Scale(Km)</b> <b>Average Scale (Mean,%Variation)</b> -999.99    -999.9 <b>Internal Distortion(Pixel)</b> <b>Along(Mean,Stddev)</b> -999.99            -999.99 <b>Across(Mean,Stddev)</b> -999.99            -999.99	<b>Scan Range-1876-2816; Pix Range-1869-2805</b> <b>Number of GCPs</b> -999 <b>Location Error(Km)</b> <b>Along(Mean,Dir)</b> -999.99            NotAvail <b>Across(Mean,Dir)</b> -999.99            NotAvail <b>Scale(Km)</b> <b>Average Scale (Mean,%Variation)</b> -999.99    -999.9 <b>Internal Distortion(Pixel)</b> <b>Along(Mean,Stddev)</b> -999.99            -999.99 <b>Across(Mean,Stddev)</b> -999.99            -999.99

\*-999 : no gcp available

\* -999.99 : values are not computed