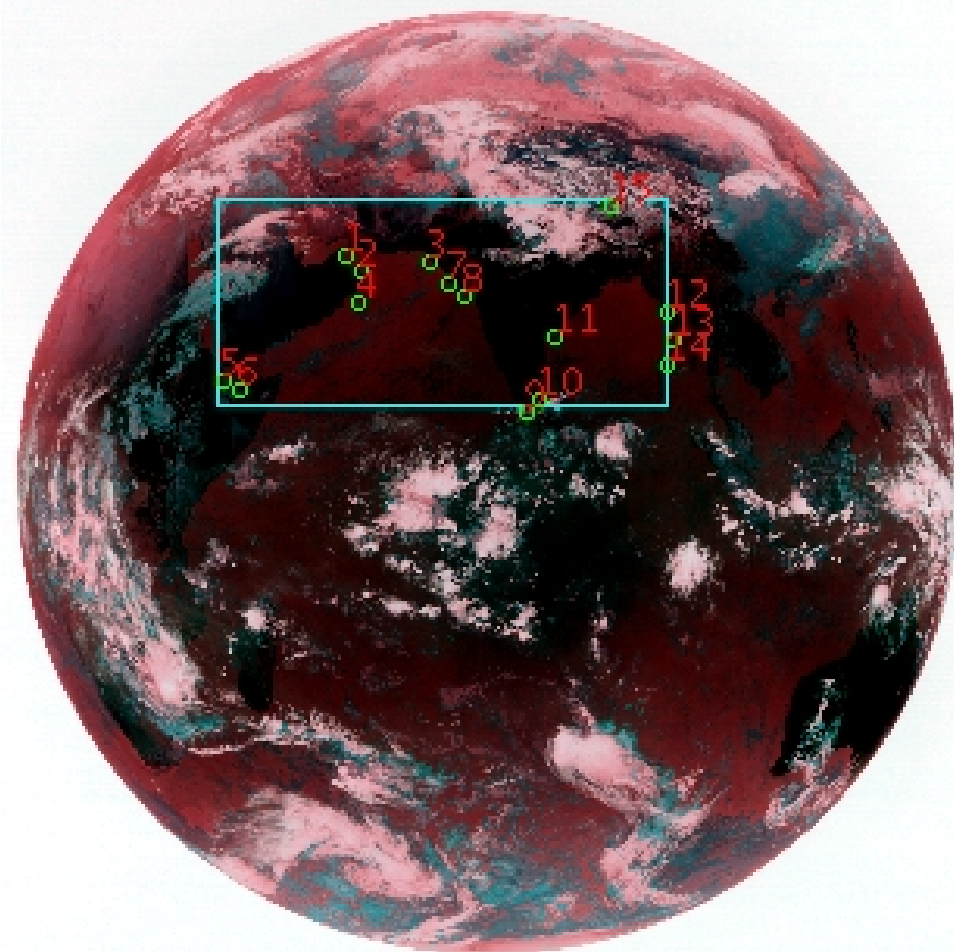


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG\_14FEB2019\_0615

Satellite	INSAT-3DR	No Of Bands	6	Product Type	STANDARD
Sensor	IMG	LvlOfProcess	L1B	Selected Band	2-TIR1
DOP/Time	14-02-19/06:15	Station ID	BES	Field View(deg)	17.99
Res(Y,X) [Km]	(4.0,4.0)	Res(Y,X) [uRad]	(112.0,112.0)		

(81.252N,-7.176W)

(81.252N,155.302E)



(-81.074S,-7.176W)

(-81.074S,155.302E)

GCP Distribution overview for 3RIMG14FEB20190615L1BDQE

Image Width: 2805 Image Height: 2816 No Of GCPs: 15

GCP Coverage(%) 20.78 (N-S) 46.19 (E-W)

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-4.934	S	0.983	5.031
Across	8.061	E	1.737	8.246

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.301	0.227	7.526
Along	4.726	2.520	18.149
Across	4.638	4.891	15.950

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.383	0.139	0.66	0.674
Across	4.233	-0.389	1.19	1.251

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
0.05025	0.03132	0.01351

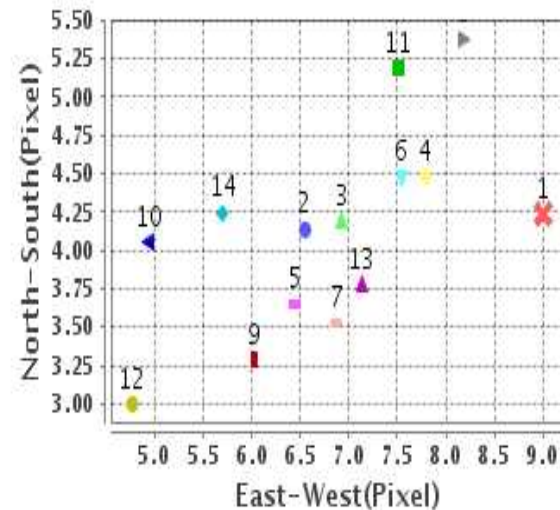
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

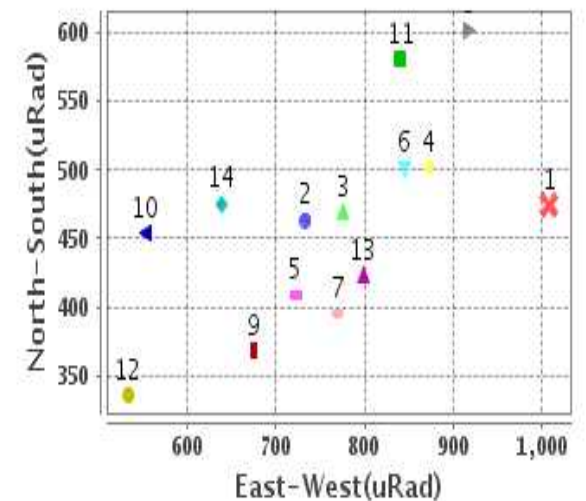
## Radial Error (in IR Pixels)

Mean	9.501
Min	6.671
Max	13.563
CE90	10.752

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	14-02-19
<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>	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_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>	0.089
<b>Center Lon(deg)</b>	74.063
<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>	81.252
<b>NW_Lon(deg)</b>	-7.176
<b>SW_Lat(deg)</b>	-81.074
<b>SW_Lon(deg)</b>	-7.176
<b>NE_Lat(deg)</b>	81.252
<b>NE_Lon(deg)</b>	155.302
<b>SE_Lat(deg)</b>	-81.074
<b>SE_Lon(deg)</b>	155.302

### 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 : 3RIMG14FEB20190615L1BDQE**

(-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 : 15

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	947.6	167.0	620.8	1206.00	20.78 (N-S)
<b>GCP Pix</b>	1346.2	413.6	626.2	1921.75	46.19 (E-W)

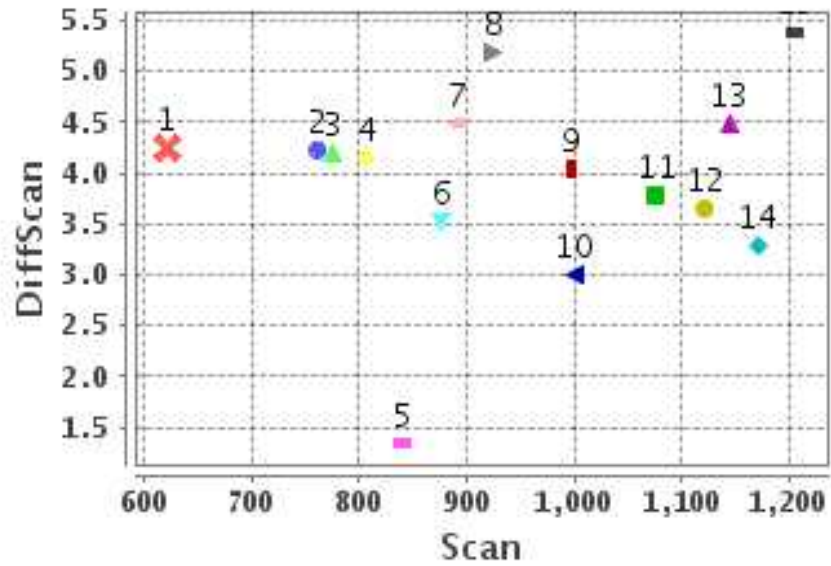
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	761.5	975.2	4.2	9.00	25.476	S	47.899	E	Accepted
2	807.0	1021.8	4.1	6.55	21.464	S	35.948	E	Accepted
3	775.2	1219.8	4.2	6.93	21.664	S	34.842	E	Accepted
4	892.2	1011.2	4.5	7.79	21.756	S	37.100	E	Accepted
5	1121.5	626.2	3.7	6.45	17.948	S	35.922	E	Accepted
6	1144.0	669.2	4.5	7.54	18.209	S	39.724	E	Accepted
7	840.5	1274.0	1.3	6.06	8.415	S	25.817	E	Rejected
8	876.0	1320.8	3.5	6.87	15.978	S	32.464	E	Accepted
9	1206.0	1497.0	5.4	8.19	20.132	S	31.041	E	Accepted
10	1170.5	1536.0	3.3	6.03	14.747	S	24.083	E	Accepted
11	998.2	1581.5	4.1	4.93	18.220	S	22.080	E	Accepted
12	924.2	1899.2	5.2	7.50	22.428	S	31.268	E	Accepted
13	999.8	1921.8	3.0	4.76	15.062	S	22.027	E	Accepted

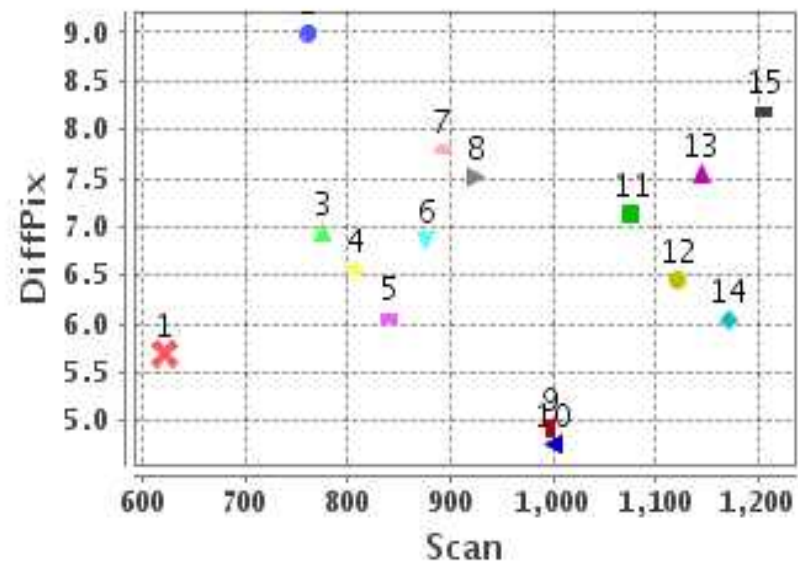
**Identified Control Point details : ( Differences are Reference - Product )**

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
14	1076.0	1899.5	3.8	7.13	14.918	S	31.021	E	Accepted
15	620.8	1740.5	4.2	5.70	28.304	S	25.984	E	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



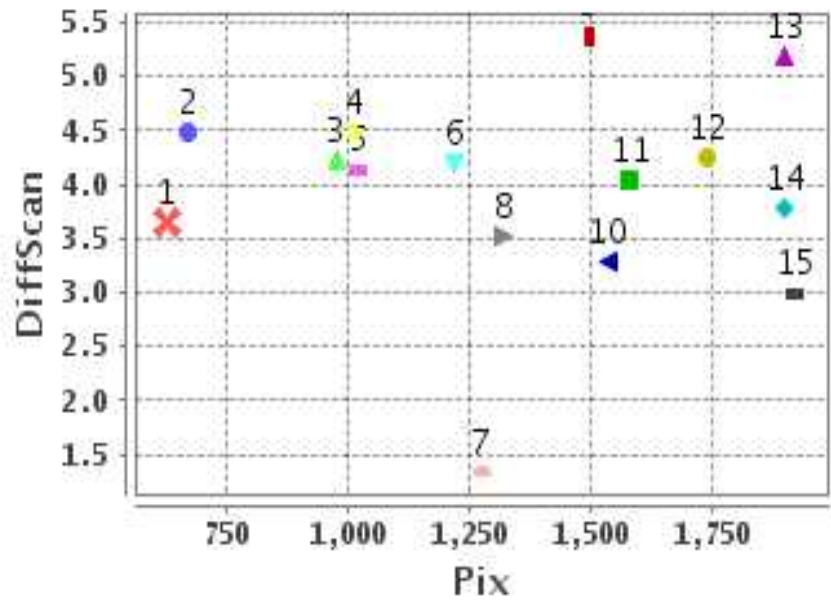
#### Number Of Points

North	0
South	14
East	14
West	0

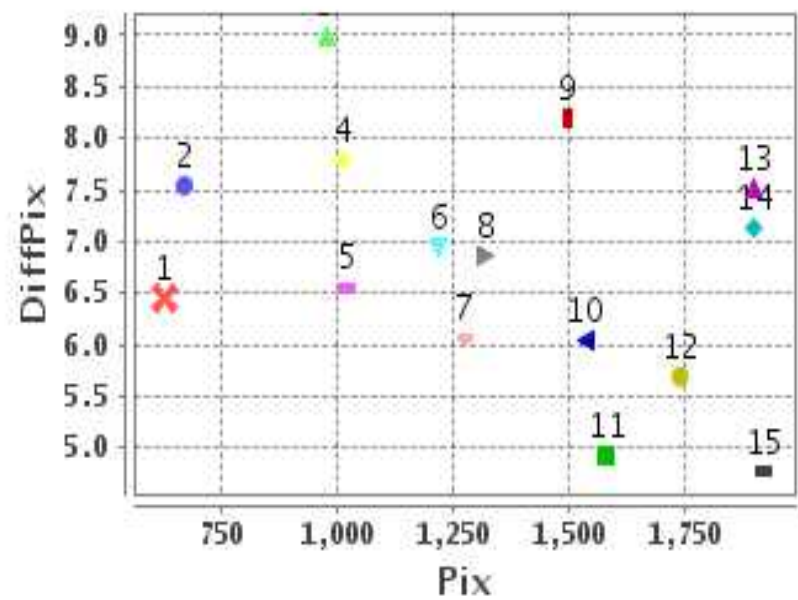
#### Radial Error ( Km )

Mean	9.501
Min	6.671
Max	13.563
CE90	10.752

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	-4.934	0.983	5.031	S	4.838	5.120
Across ( Km )	8.061	1.737	8.246	E	7.886	8.420

## 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> 6 <b>Location Error(Km)</b> <b>Along(Mean,Dir)</b> -22.4382999       S <b>Across(Mean,Dir)</b> 35.71                E <b>Scale(Km)</b> <b>Average Scale (Mean,%Variation)</b> 4.56                14.00 <b>Internal Distortion(Pixel)</b> <b>Along(Mean,Stddev)</b> 0.13                0.32 <b>Across(Mean,Stddev)</b> 2.23                0.67	<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> -22.42               S <b>Across(Mean,Dir)</b> 31.26                E <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> 2 <b>Location Error(Km)</b> <b>Along(Mean,Dir)</b> -18.075             S <b>Across(Mean,Dir)</b> 37.82                E <b>Scale(Km)</b> <b>Average Scale (Mean,%Variation)</b> 5.16                28.88 <b>Internal Distortion(Pixel)</b> <b>Along(Mean,Stddev)</b> -0.83                0.00 <b>Across(Mean,Stddev)</b> -1.09                0.00	<b>Scan Range-937-1876; Pix Range-934-1869</b> <b>Number of GCPs</b> 3 <b>Location Error(Km)</b> <b>Along(Mean,Dir)</b> -17.701             S <b>Across(Mean,Dir)</b> 25.73                E <b>Scale(Km)</b> <b>Average Scale (Mean,%Variation)</b> 4.02                0.62 <b>Internal Distortion(Pixel)</b> <b>Along(Mean,Stddev)</b> -0.28                1.04 <b>Across(Mean,Stddev)</b> 2.71                0.55	<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> -14.99               S <b>Across(Mean,Dir)</b> 26.52                E <b>Scale(Km)</b> <b>Average Scale (Mean,%Variation)</b> 4.35                8.87 <b>Internal Distortion(Pixel)</b> <b>Along(Mean,Stddev)</b> -0.78                0.00 <b>Across(Mean,Stddev)</b> 2.37                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