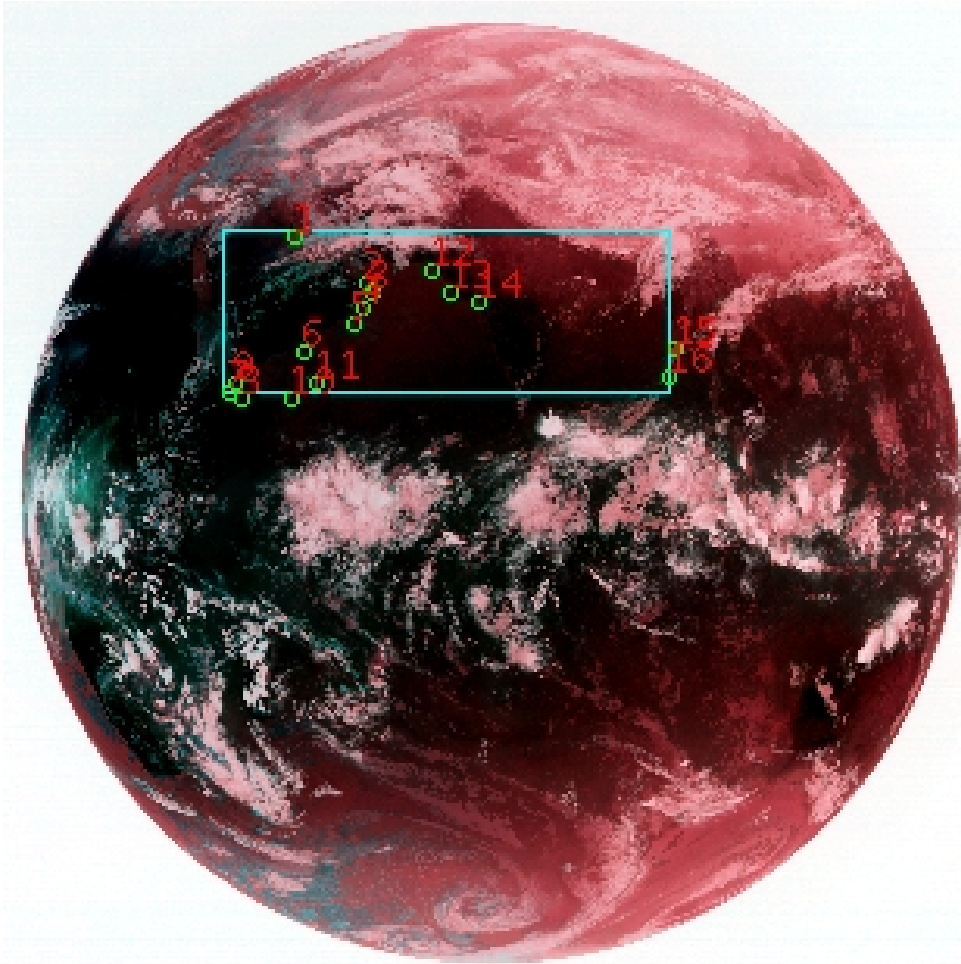


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG\_16FEB2019\_1215

Satellite	INSAT-3DR	No Of Bands	6	Product Type	STANDARD
Sensor	IMG	LvlOfProcess	L1B	Selected Band	2-TIR1
DOP/Time	16-02-19/24:15	Station ID	BES	Field View(deg)	18.006
Res(Y,X) [Km]	(4.0,4.0)	Res(Y,X) [uRad]	(112.0,112.0)		

(81.172N,-7.069W)

(81.172N,155.266E)



(-80.834S,-7.069W)

(-80.834S,155.266E)

GCP Distribution overview for 3RIMG16FEB20191215L1BDQE

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

GCP Coverage(%) 16.63 (N-S) 45.80 (E-W)

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-0.484	S	0.978	1.091
Across	8.783	E	1.554	8.920

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.336	0.332	8.403
Along	4.970	3.196	24.258
Across	4.626	1.468	15.655

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.908	0.669	0.74	0.998
Across	4.875	0.142	1.22	1.233

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
0.05150	0.00191	0.03158

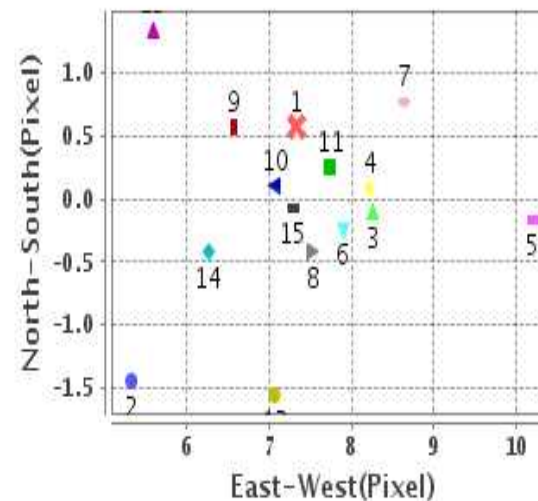
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

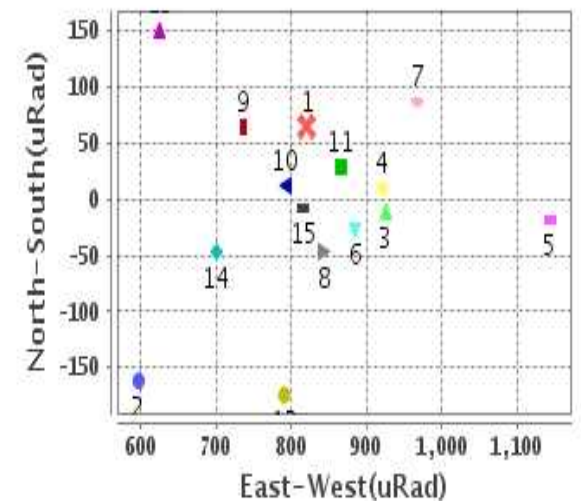
## Radial Error (in IR Pixels)

Mean	8.857
Min	5.943
Max	11.330
CE90	10.524

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	16-02-19
<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>	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_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>	0.169
<b>Center Lon(deg)</b>	74.099
<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>	81.172
<b>NW_Lon(deg)</b>	-7.069
<b>SW_Lat(deg)</b>	-80.834
<b>SW_Lon(deg)</b>	-7.069
<b>NE_Lat(deg)</b>	81.172
<b>NE_Lon(deg)</b>	155.266
<b>SE_Lat(deg)</b>	-80.834
<b>SE_Lon(deg)</b>	155.266

### 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 : 3RIMG16FEB20191215L1BDQE**

(-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>	952.1	144.1	673.2	1141.50	16.63 (N-S)
<b>GCP Pix</b>	1069.4	379.4	637.5	1922.25	45.80 (E-W)

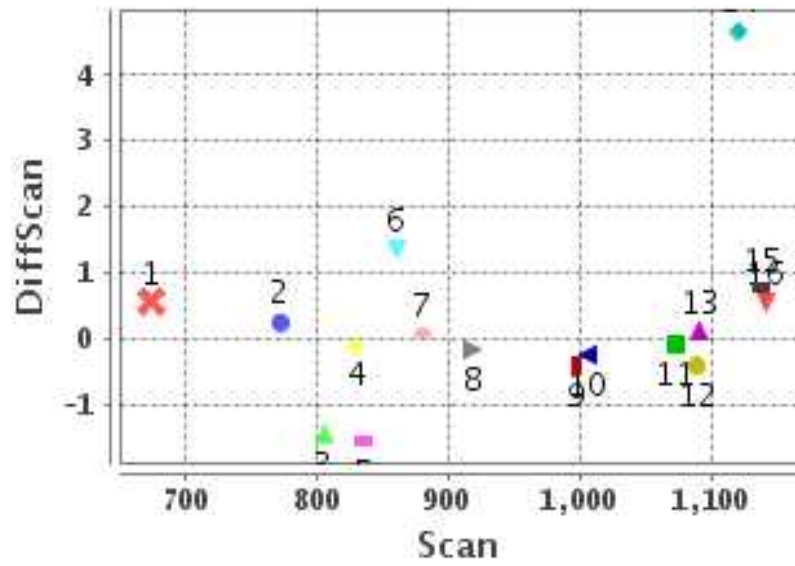
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	673.2	823.2	0.6	7.32	6.128	S	41.650	E	Accepted
2	805.2	1029.0	-1.4	5.33	5.518	N	23.125	E	Accepted
3	829.8	1051.5	-0.1	8.26	4.132	S	38.710	E	Accepted
4	880.2	1024.8	0.1	8.22	2.671	S	39.975	E	Accepted
5	918.5	991.0	-0.2	10.20	2.654	S	45.241	E	Accepted
6	1006.2	848.0	-0.2	7.90	0.836	S	35.721	E	Accepted
7	1121.5	637.5	4.7	8.49	22.016	S	47.447	E	Rejected
8	1138.5	674.0	0.8	8.64	5.510	S	42.076	E	Accepted
9	1089.2	650.8	-0.4	7.53	0.389	S	40.649	E	Accepted
10	1141.5	815.8	0.6	6.56	4.386	S	33.125	E	Accepted
11	1091.2	886.5	0.1	7.07	1.924	S	33.538	E	Accepted
12	771.8	1223.5	0.3	7.73	5.312	S	36.128	E	Accepted
13	836.0	1277.2	-1.6	7.06	7.122	N	31.141	E	Accepted

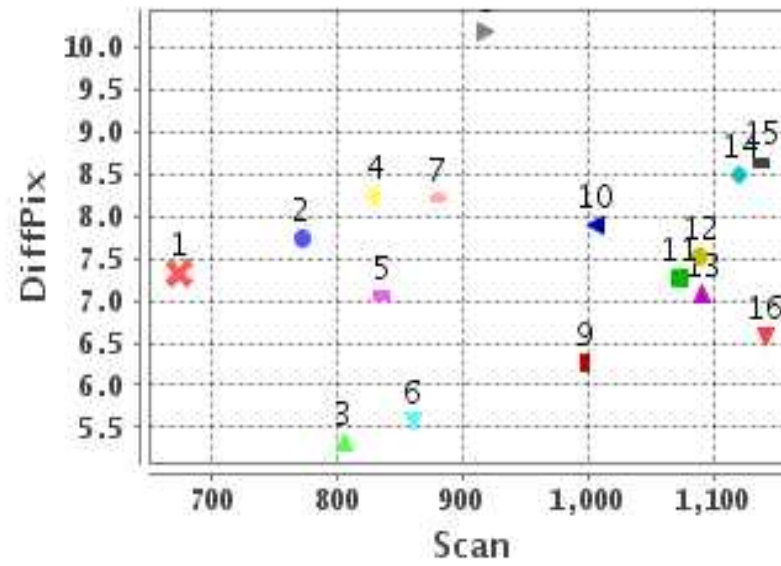
**Identified Control Point details : ( Differences are Reference - Product )**

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
14	860.2	1354.5	1.4	5.58	7.268	S	24.980	E	Accepted
15	996.8	1922.2	-0.4	6.25	0.744	S	28.860	E	Accepted
16	1073.0	1901.2	-0.1	7.28	0.292	N	32.086	E	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



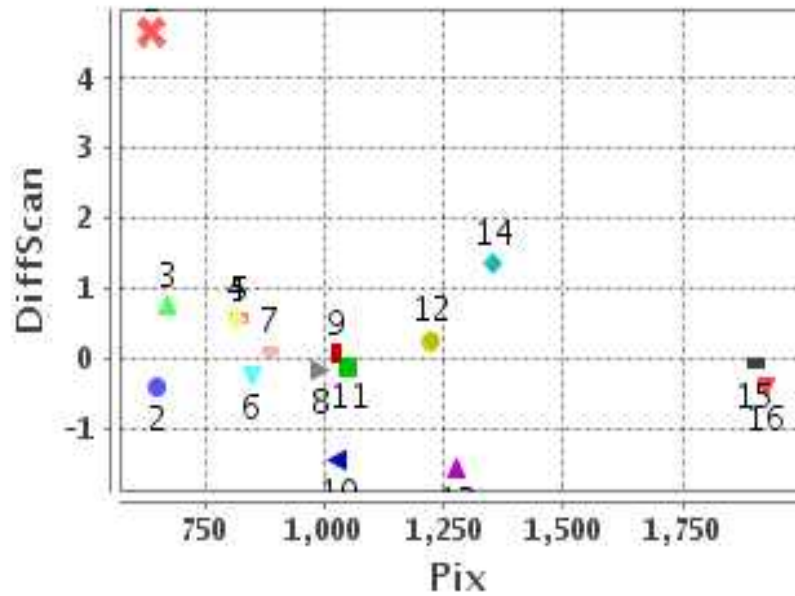
#### Number Of Points

North	3
South	12
East	15
West	0

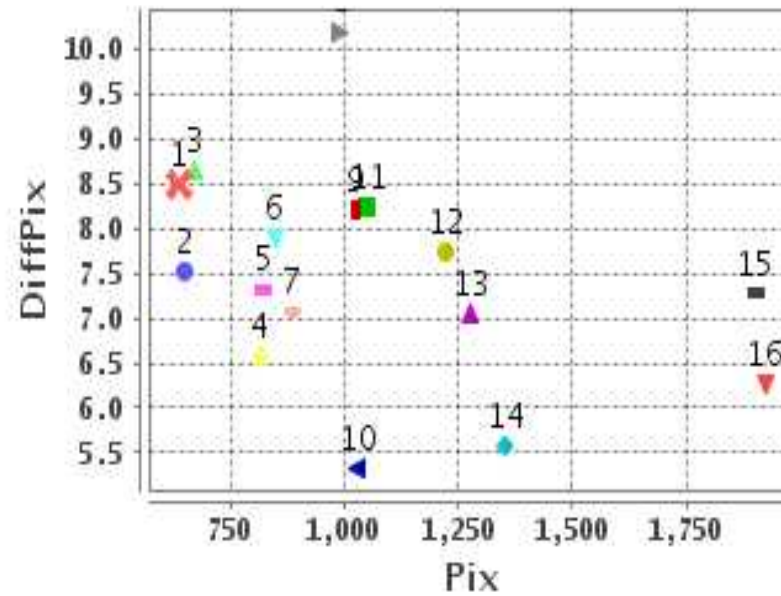
#### Radial Error ( Km )

Mean	8.857
Min	5.943
Max	11.330
CE90	10.524

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	-0.484	0.978	1.091	S	1.020	1.129
Across ( Km )	8.783	1.554	8.920	E	8.724	9.103

## 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)	-6.13	S
Across(Mean,Dir)	41.65	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	7	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-1.34286	S
Across(Mean,Dir)	34.18	E
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.38	9.44
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.56	0.99
Across(Mean,Stddev)	3.17	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	5	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-2.608	S
Across(Mean,Dir)	37.02	E
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.44	10.89
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.50	0.46
Across(Mean,Stddev)	-0.01	0.79

<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)	-0.225	S
Across(Mean,Dir)	30.47	E
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.38	9.39
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.34	0.00
Across(Mean,Stddev)	1.03	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