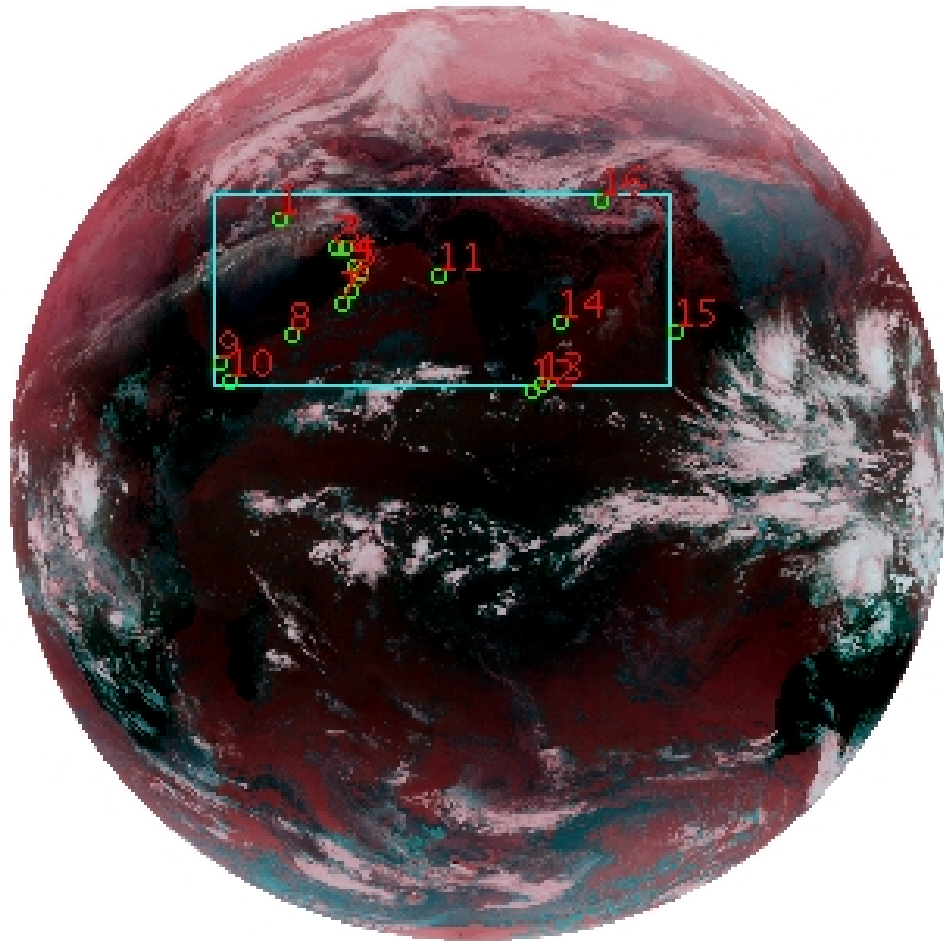


# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG\_27DEC2018\_0615

Satellite	INSAT-3DR	No Of Bands	6	Product Type	STANDARD
Sensor	IMG	LvlOfProcess	L1B	Selected Band	2-TIR1
DOP/Time	27-12-18/06:15	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 3RIMG27DEC20180615L1BSTD

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

GCP Coverage(%) 19.44 (N-S) 46.65 (E-W)

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	2.431	N	1.607	2.914
Across	-3.773	W	1.835	4.196

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.415	0.359	10.383
Along	4.814	1.624	20.357
Across	4.533	1.253	13.334

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	4.648	1.689	1.27	2.112
Across	6.195	1.335	1.74	2.192

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02785	-0.01224	-0.11938

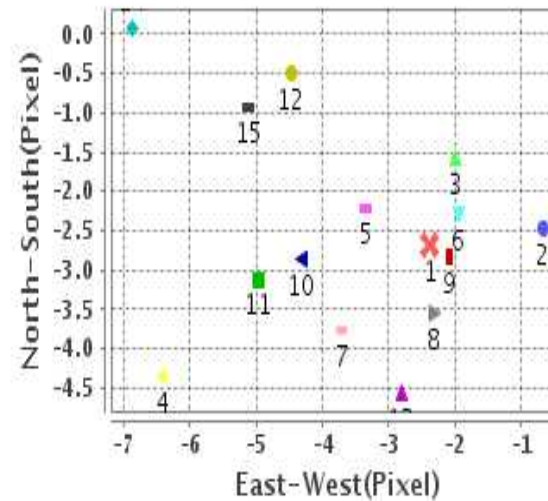
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

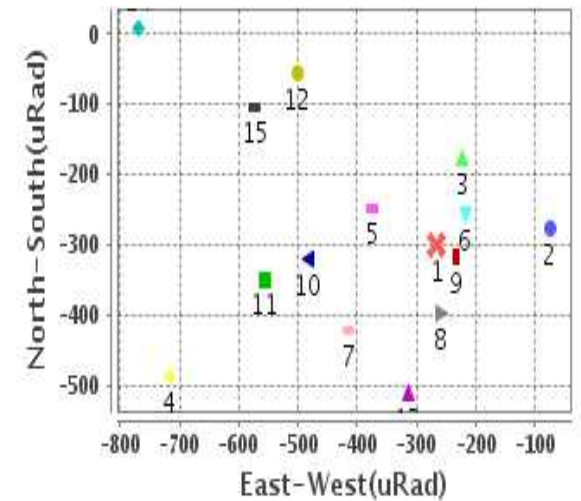
## Radial Error (in IR Pixels)

Mean	4.813
Min	2.672
Max	8.926
CE90	5.613

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	27-12-18
<b>Sensor</b>	IMG	<b>DQE Date</b>	01-01-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	27-12-18
<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	<b>Predicted Center Lat(deg)</b>	-999.99
<b>DP JobId</b>	3RIMG_27DEC20	<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		-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 : 3RIMG27DEC20180615L1BSTD**

(-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>	899.5	166.3	604.8	1152.25	19.44 (N-S)
<b>GCP Pix</b>	1172.4	384.0	647.5	1956.00	46.65 (E-W)

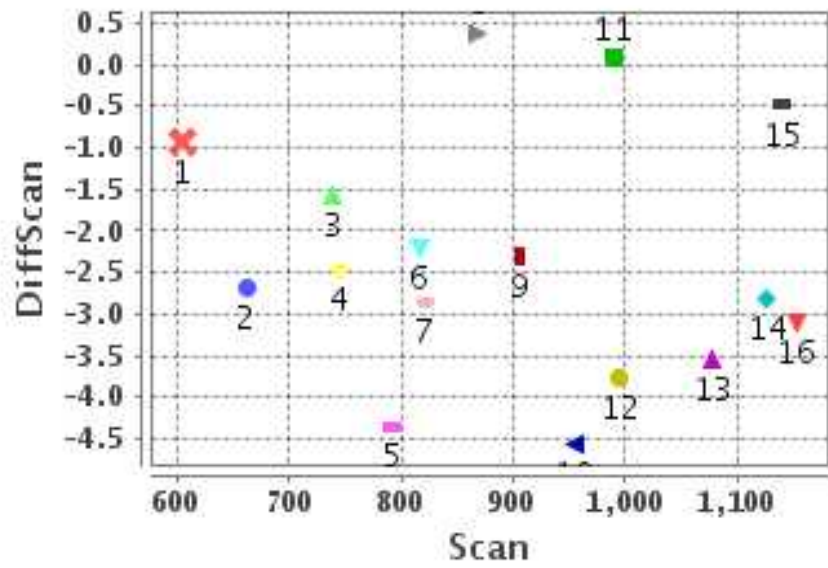
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	662.8	818.0	-2.7	-2.38	11.174	N	15.232	W	Accepted
2	745.5	977.0	-2.5	-0.68	10.020	N	5.344	W	Accepted
3	740.0	1001.8	-1.6	-1.99	7.783	N	7.323	W	Accepted
4	793.0	1027.8	-4.4	-6.40	22.165	N	27.989	W	Accepted
5	816.5	1050.2	-2.2	-3.34	8.046	N	15.199	W	Accepted
6	868.2	1022.8	0.4	-15.42	1.728	S	63.568	W	Rejected
7	905.2	990.5	-2.3	-1.94	9.191	N	6.715	W	Accepted
8	994.5	846.8	-3.8	-3.71	14.315	N	15.392	W	Accepted
9	1077.5	647.5	-3.6	-2.31	13.250	N	11.085	W	Accepted
10	1126.2	671.8	-2.8	-2.08	11.086	N	7.751	W	Accepted
11	821.5	1276.8	-2.9	-4.32	11.932	N	15.934	W	Accepted
12	1152.2	1539.0	-3.1	-4.97	10.994	N	19.577	W	Accepted
13	1140.0	1566.8	-0.5	-4.47	1.838	N	14.724	W	Accepted

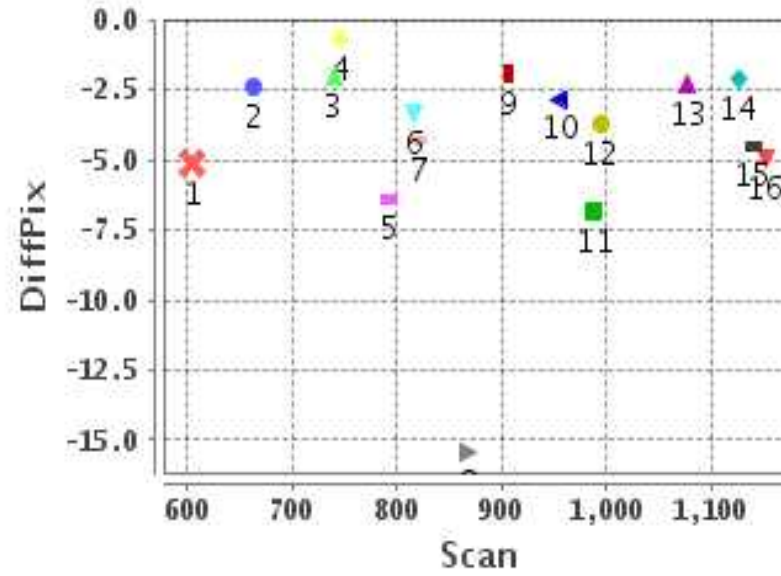
**Identified Control Point details : ( Differences are Reference - Product )**

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
14	955.2	1621.0	-4.6	-2.82	17.970	N	10.928	W	Accepted
15	988.8	1956.0	0.1	-6.87	4.318	S	31.250	W	Accepted
16	604.8	1744.5	-0.9	-5.12	0.391	N	21.935	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



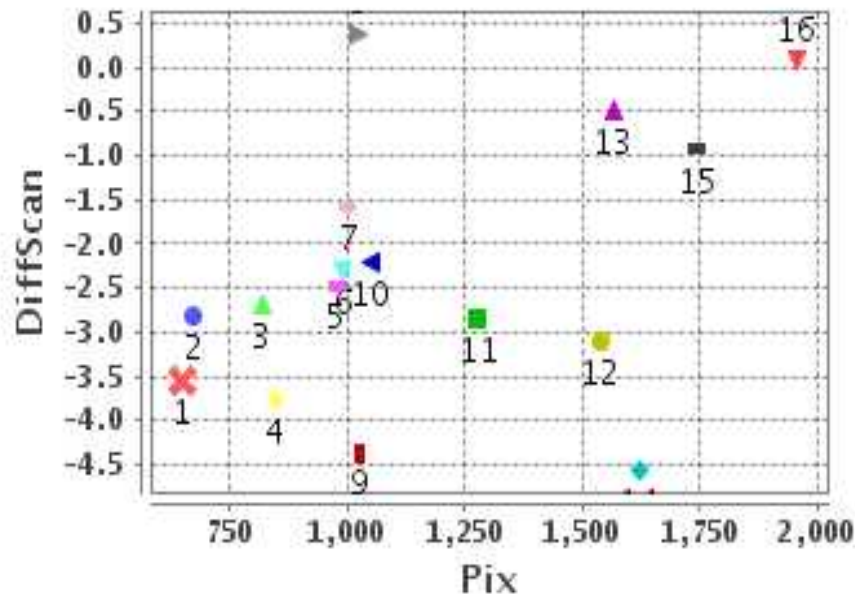
#### Number Of Points

North	14
South	1
East	0
West	15

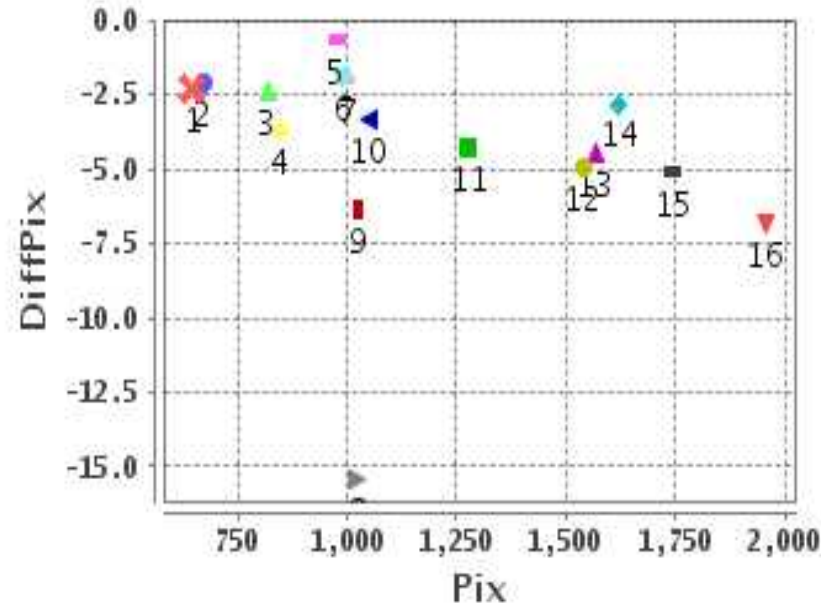
#### Radial Error ( Km )

Mean	4.813
Min	2.672
Max	8.926
CE90	5.613

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	2.431	1.607	2.914	N	2.628	3.016
Across ( Km )	-3.773	1.835	4.196	W	3.808	4.328

## 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)	11.17	N
Across(Mean,Dir)	-15.23	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-0-937; Pix Range-934-1869</b>		
Number of GCPs	7	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	9.93143	N
Across(Mean,Dir)	-14.35	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.62	15.56
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	1.70	0.86
Across(Mean,Stddev)	3.17	1.62

<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	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	12.88329999	N
Across(Mean,Dir)	-11.41	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.41	10.26
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.57	0.37
Across(Mean,Stddev)	0.58	0.81

<b>Scan Range-937-1876; Pix Range-934-1869</b>		
Number of GCPs	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	10.2683	N
Across(Mean,Dir)	-15.08	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	4.12	2.94
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-2.76	1.32
Across(Mean,Stddev)	-1.32	0.82

<b>Scan Range-937-1876; Pix Range-1869-2805</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-4.31	S
Across(Mean,Dir)	-31.25	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