

DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG_14JUL2018_0615

Satellite INSAT-3DR **No Of Bands** 6 **Product Type** STANDARD
Sensor IMG **LvlOfProcess** L1B **Selected Band** 2-TIR1
DOP/Time 14-07-18/06:15 **Station ID** BES **Field View(deg)** 18.006
Res(Y,X) [Km] (4.0,4.0) **Res(Y,X) [uRad]** (112.0,112.0)

(81.089N,-7.202W)

(81.089N,155.082E)

Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	11.680	N	2.252	11.895
Across	-28.435	W	2.556	28.550

Radial Error (in IR Pixels)

Mean	30.792
Min	26.296
Max	35.199
CE90	33.890

Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.616	0.485	15.410
Along	4.750	0.613	18.751
Across	4.615	0.430	15.384

Internal Distortion (in IR Pixels)

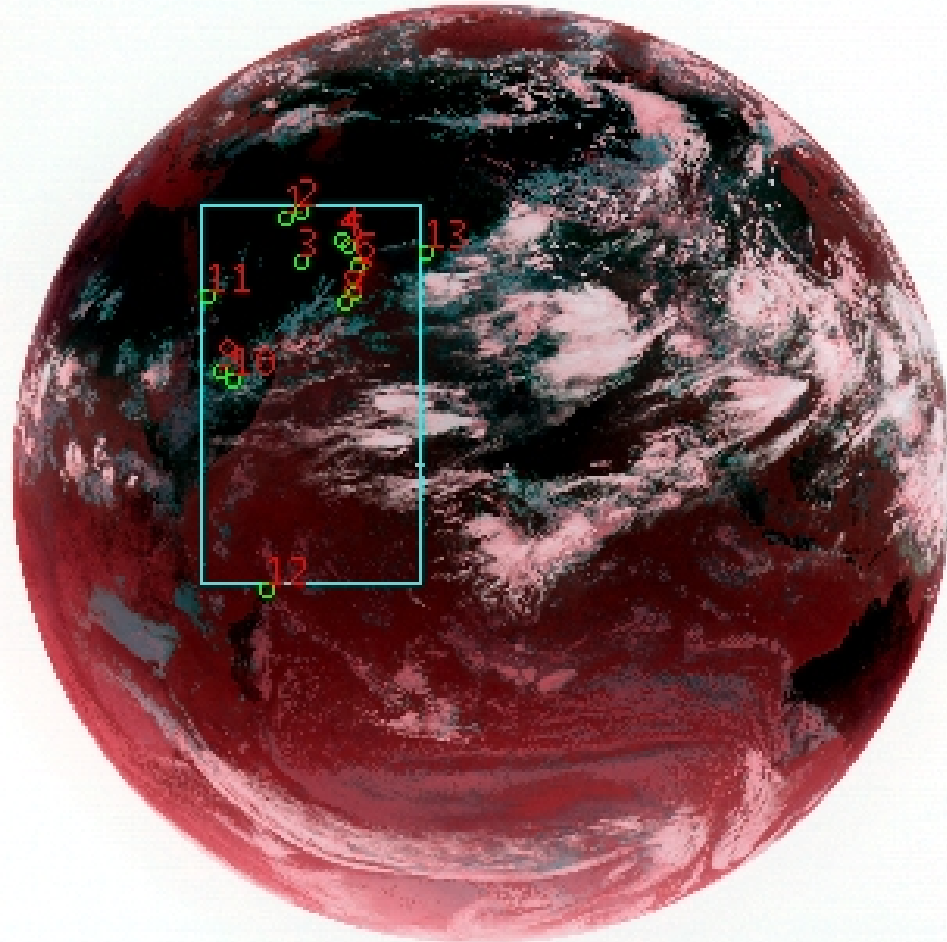
	PeakToPeak	Mean	Stddev	RMS
Along	5.587	0.771	1.35	1.558
Across	5.726	1.370	1.48	2.018

Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.16170	-0.09513	0.32880

Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP



(-81.13S,-7.202W)

(-81.13S,155.082E)

GCP Distribution overview for 3RIMG14JUL20180615L1BDQE

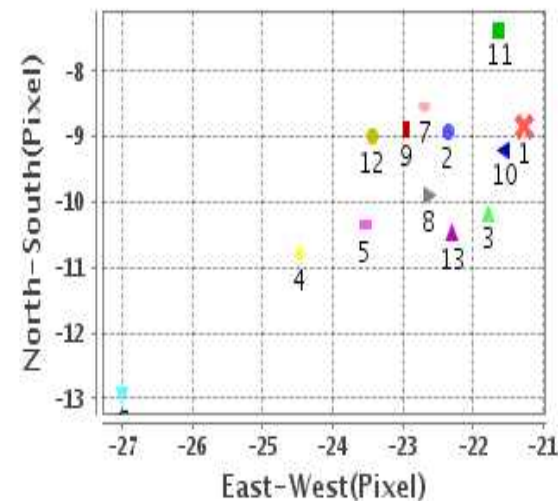
Image Width: 2805 **Image Height:** 2816 **No Of GCPs:** 13

GCP Coverage(%) 38.73 **(N-S)** 22.15 **(E-W)**

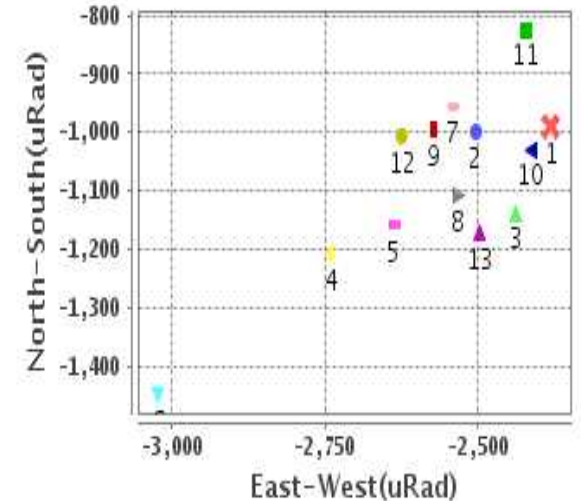
Location Error(E)

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

Location Error For GCPs(Pixel)



Location Error For GCPs(uRad)



Detailed Product Information

Ancillary Info

Satellite	INSAT-3DR	Generation Date	17-07-18
Sensor	IMG	DQE Date	23-07-2018
PassType	NONE	Aquisition Date	14-07-18
Imaging Mode	FULL_FRAME	Aquisition Time(GMT)	06:15
Sat Altitude(m)	3.6E7	Nominal Altitude(Km)	3.6E7
Station	BES	Predicted Altitude(Km)	-999.99
Sat Location(deg)	-999.99 E	Nominal Center Lat(deg)	0.0
Format	hdf5-1.8.8	Nominal Center Lon(deg)	74.0
LvlOfProcessing	STANDARD	Predicted Center Lat(deg)	-999.99
DP JobId	3RIMG_14JUL20	Predicted Center Lon(deg)	-999.99
ProductCode	NONE		
Field View(deg)	18.006		

Projection Parameters

Projection	None
Ellipsoid	WGS_84
Datum	WGS_84
Zone	NotAvail
Semi_Major_Axis(Km)	6378.14
Semi_Minor_Axis(Km)	6356.75
Standard_Parallel1(deg)	-999.99
Standard_Parallel2(deg)	-999.99
Projection_Origin_Lon(deg)	-999.99
Projection_Origin_Lat(deg)	-999.99
Projection_False_Easting(Km)	-999.99
Projection_False_Northing(Km)	-999.99

Scene Center Desc

Centre Lat(deg)	-0.02
Center Lon(deg)	73.94
Centre Roll(deg)	-999.0
Centre Pitch(deg)	-999.0
Center Yaw(deg)	-999.0
SunElevation(deg)	-999.99
SunAzimuth(deg)	-999.99
SatElevation(deg)	-999.99
SatAzimuth(deg)	-999.99

Scene Corner Desc

NW_Lat(deg)	81.089
NW_Lon(deg)	-7.202
SW_Lat(deg)	-81.13
SW_Lon(deg)	-7.202
NE_Lat(deg)	81.089
NE_Lon(deg)	155.082
SE_Lat(deg)	-81.13
SE_Lon(deg)	155.082

Band Wise Details

	Res_AL(Km)	Res_AX(Km)	Image Height	Image Width
MIR	4.0	4.0	2816	2805
SWIR	1.0	1.0	11264	11220
TIR1	4.0	4.0	2816	2805
TIR2	4.0	4.0	2816	2805
VIS	1.0	1.0	11264	11220
WV	8.0	8.0	1408	1402

GDQE Computation Base

Projection	MER	Wildpoint Rejection Threshold	2.60	SemiMajorAxis(m)	6378137.00	Mode Of Computation	grid
Ellipsoid	WGS_84		-sigma	SemiMinorAxis(m)	6356752.31	Used Reference Type	REFINSREF
Datum	WGS_84	Unit	meters	Standardparallel1(deg)	17.0		
Zone	Not Applicable			Standardparallel2(deg)	17.0		

* -999.99 : Not Applicable/Not Available

References

JobId : 3RIMG14JUL20180615L1BDQE

(-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

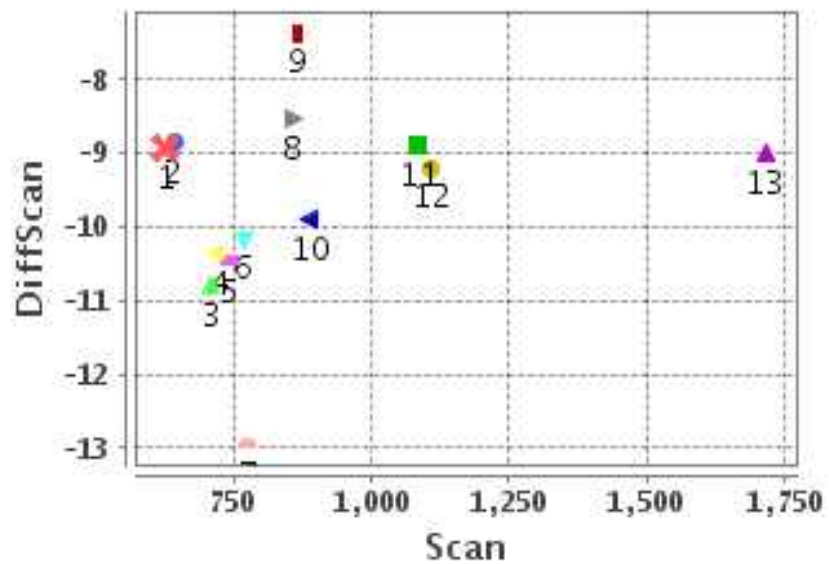
Image Width (pixels) : 2805 Image Height (pixels) : 2816 No of GCPs : 13

	Mean	StdDev	Min	Max	Coverage(in %)
GCP Scan	885.1	278.8	626.0	1716.50	38.73 (N-S)
GCP Pix	884.8	174.9	602.8	1224.00	22.15 (E-W)

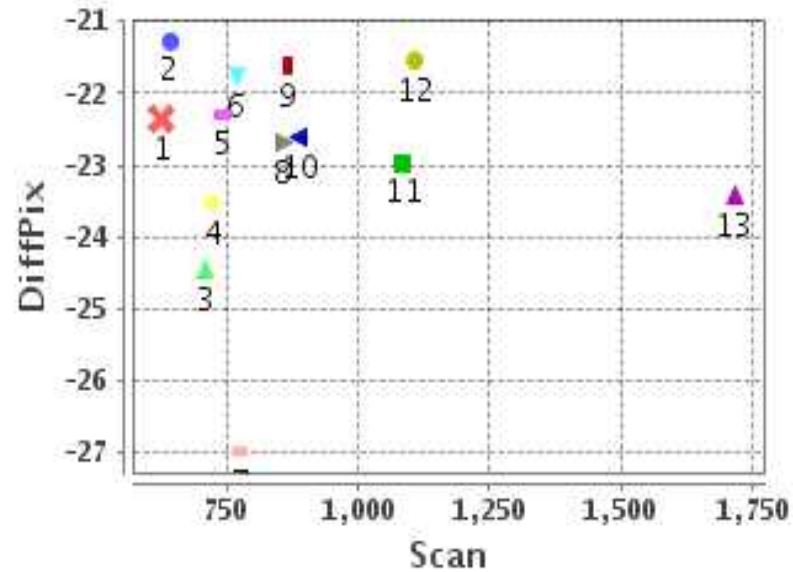
Identified Control Point details : (Differences are Reference - Product)

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	642.0	821.5	-8.8	-21.27	53.184	N	124.690	W	Accepted
2	626.0	869.2	-8.9	-22.36	55.268	N	127.720	W	Accepted
3	768.5	872.5	-10.2	-21.78	49.352	N	111.174	W	Accepted
4	710.2	988.5	-10.8	-24.47	55.936	N	121.015	W	Accepted
5	723.2	1006.8	-10.3	-23.54	53.549	N	112.522	W	Accepted
6	776.5	1031.5	-12.9	-26.99	62.020	N	126.399	W	Accepted
7	856.8	1017.0	-8.5	-22.69	36.200	N	102.396	W	Accepted
8	888.0	994.2	-9.9	-22.62	45.424	N	102.552	W	Accepted
9	1084.5	631.2	-8.9	-22.96	36.890	N	117.861	W	Accepted
10	1108.2	674.0	-9.2	-21.56	38.382	N	107.005	W	Accepted
11	864.0	602.8	-7.4	-21.63	37.684	N	125.181	W	Accepted
12	1716.5	768.8	-9.0	-23.43	32.853	N	99.924	W	Accepted
13	742.2	1224.0	-10.5	-22.30	50.610	N	100.174	W	Accepted

Error(Pixels) Vs. GCPScan



Error(Pixels) Vs. GCPScan



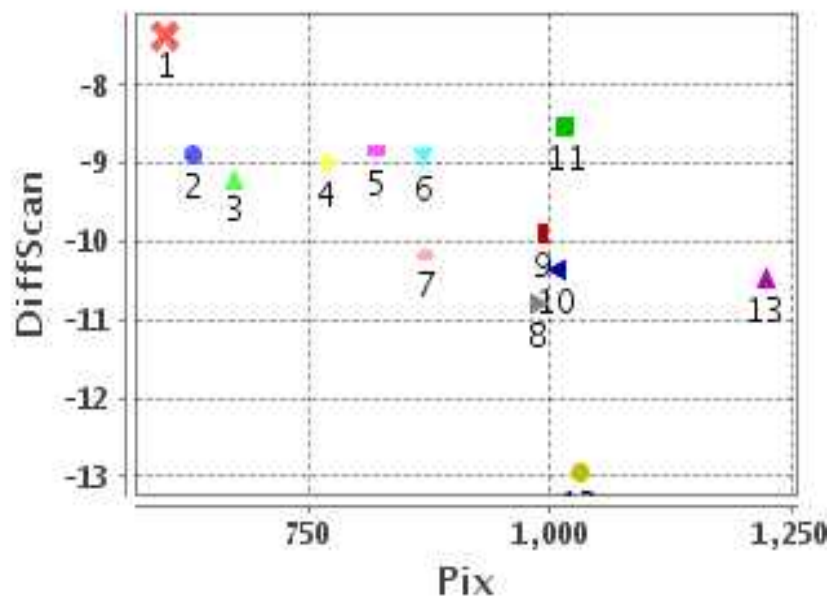
Number Of Points

North	13
South	0
East	0
West	13

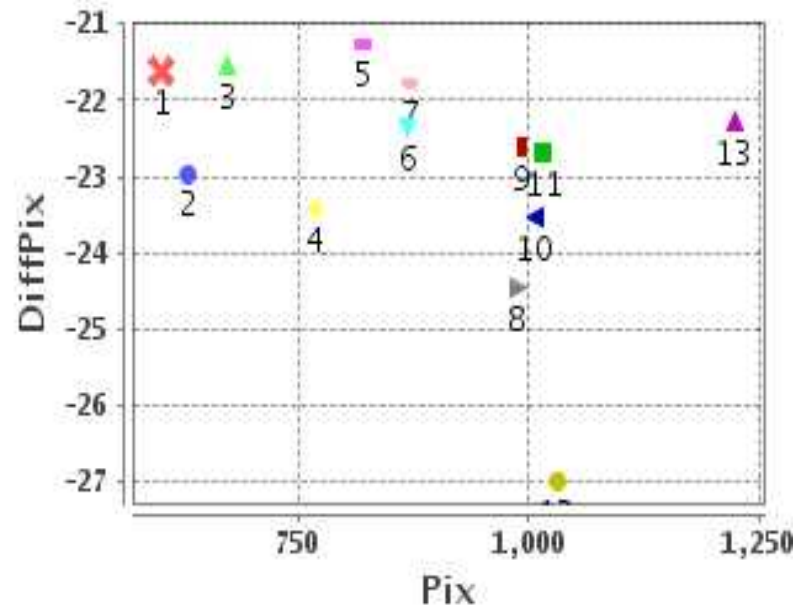
Radial Error (Km)

Mean	30.792
Min	26.296
Max	35.199
CE90	33.890

Error(Pixels) Vs. GCPPix



Error(Pixels) Vs. GCPPix



Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along(Km)	11.680	2.252	11.895	N	11.543	12.152
Across (Km)	-28.435	2.556	28.550	W	28.250	28.827

Block-Wise Geo location Error Statistics

Location Accuracy,Scale,ID

Scan Range-0-937; Pix Range-0-934		
Number of GCPs	4	
Location Error(Km)		
Along(Mean,Dir)	48.8725	N
Across(Mean,Dir)	-122.19	W
Scale(Km)		
Average Scale (Mean,%Variation)	4.90	22.47
Internal Distortion(Pixel)		
Along(Mean,Stddev)	-0.14	1.15
Across(Mean,Stddev)	0.17	0.45

Scan Range-0-937; Pix Range-934-1869		
Number of GCPs	6	
Location Error(Km)		
Along(Mean,Dir)	50.6217	N
Across(Mean,Dir)	-110.85	W
Scale(Km)		
Average Scale (Mean,%Variation)	4.70	17.57
Internal Distortion(Pixel)		
Along(Mean,Stddev)	-0.35	1.43
Across(Mean,Stddev)	-0.84	1.73

Scan Range-0-937; Pix Range-1869-2805		
Number of GCPs	-999	
Location Error(Km)		
Along(Mean,Dir)	-999.99	NotAvail
Across(Mean,Dir)	-999.99	NotAvail
Scale(Km)		
Average Scale (Mean,%Variation)	-999.99	-999.9
Internal Distortion(Pixel)		
Along(Mean,Stddev)	-999.99	-999.99
Across(Mean,Stddev)	-999.99	-999.99

Scan Range-937-1876; Pix Range-0-934		
Number of GCPs	3	
Location Error(Km)		
Along(Mean,Dir)	36.0433	N
Across(Mean,Dir)	-108.26	W
Scale(Km)		
Average Scale (Mean,%Variation)	4.37	9.19
Internal Distortion(Pixel)		
Along(Mean,Stddev)	0.18	0.10
Across(Mean,Stddev)	-0.47	0.94

Scan Range-937-1876; Pix Range-934-1869		
Number of GCPs	-999	
Location Error(Km)		
Along(Mean,Dir)	-999.99	NotAvail
Across(Mean,Dir)	-999.99	NotAvail
Scale(Km)		
Average Scale (Mean,%Variation)	-999.99	-999.9
Internal Distortion(Pixel)		
Along(Mean,Stddev)	-999.99	-999.99
Across(Mean,Stddev)	-999.99	-999.99

Scan Range-937-1876; Pix Range-1869-2805		
Number of GCPs	-999	
Location Error(Km)		
Along(Mean,Dir)	-999.99	NotAvail
Across(Mean,Dir)	-999.99	NotAvail
Scale(Km)		
Average Scale (Mean,%Variation)	-999.99	-999.9
Internal Distortion(Pixel)		
Along(Mean,Stddev)	-999.99	-999.99
Across(Mean,Stddev)	-999.99	-999.99

Scan Range-1876-2816; Pix Range-0-934		
Number of GCPs	-999	
Location Error(Km)		
Along(Mean,Dir)	-999.99	NotAvail
Across(Mean,Dir)	-999.99	NotAvail
Scale(Km)		
Average Scale (Mean,%Variation)	-999.99	-999.9
Internal Distortion(Pixel)		
Along(Mean,Stddev)	-999.99	-999.99
Across(Mean,Stddev)	-999.99	-999.99

Scan Range-1876-2816; Pix Range-937-1869		
Number of GCPs	-999	
Location Error(Km)		
Along(Mean,Dir)	-999.99	NotAvail
Across(Mean,Dir)	-999.99	NotAvail
Scale(Km)		
Average Scale (Mean,%Variation)	-999.99	-999.9
Internal Distortion(Pixel)		
Along(Mean,Stddev)	-999.99	-999.99
Across(Mean,Stddev)	-999.99	-999.99

Scan Range-1876-2816; Pix Range-1869-2805		
Number of GCPs	-999	
Location Error(Km)		
Along(Mean,Dir)	-999.99	NotAvail
Across(Mean,Dir)	-999.99	NotAvail
Scale(Km)		
Average Scale (Mean,%Variation)	-999.99	-999.9
Internal Distortion(Pixel)		
Along(Mean,Stddev)	-999.99	-999.99
Across(Mean,Stddev)	-999.99	-999.99

*-999 : no gcp available

* -999.99 : values are not computed