

DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG_05JUL2020_0615

Satellite INSAT-3DR **No Of Bands** 6 **Product Type** STANDARD
Sensor IMG **LvlOfProcess** L1B **Selected Band** 2-TIR1
DOP/Time 05-07-20/06:15 **Station ID** BES **Field View(deg)** 18.006
Res(Y,X) [Km] (4.0,4.0) **Res(Y,X) [uRad]** (112.0,112.0)

(81.169N,-7.144W)

(81.169N,155.16E)

Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	2.254	N	0.756	2.377
Across	-7.181	W	0.822	7.228

Radial Error (in IR Pixels)

Mean	7.552
Min	6.377
Max	9.494
CE90	8.654

Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.781	0.427	19.514
Along	5.402	3.898	35.054
Across	5.759	7.546	43.965

Internal Distortion (in IR Pixels)

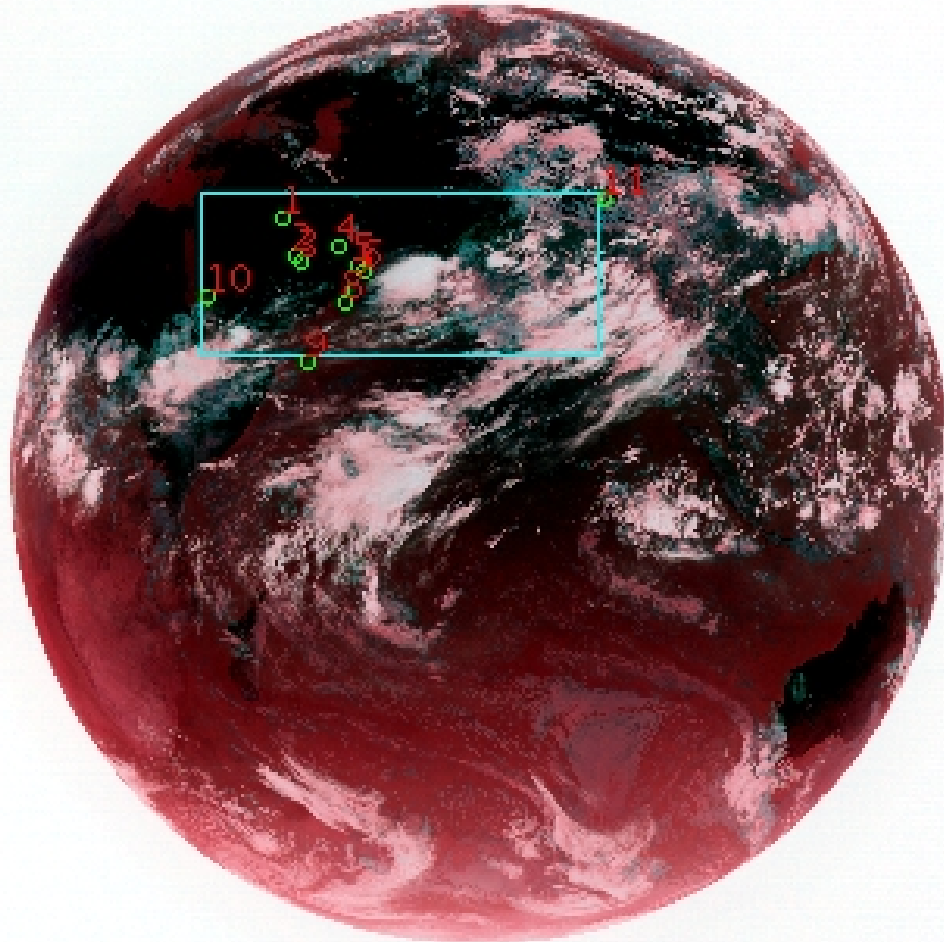
	PeakToPeak	Mean	Stddev	RMS
Along	1.968	0.894	0.59	1.073
Across	2.891	1.764	0.93	1.995

Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.05022	-0.01487	0.01015

Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP



(-81.047S,-7.144W)

(-81.047S,155.16E)

GCP Distribution overview for 3RIMG05JUL20200615L1BDQE

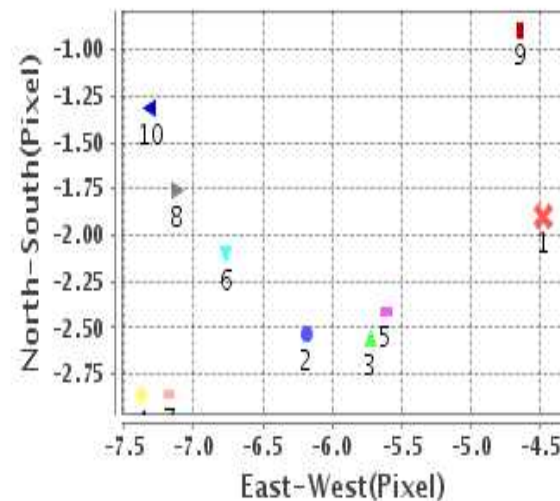
Image Width: 2805 **Image Height:** 2816 **No Of GCPs:** 11

GCP Coverage(%) 16.73 **(N-S)** 40.69 **(E-W)**

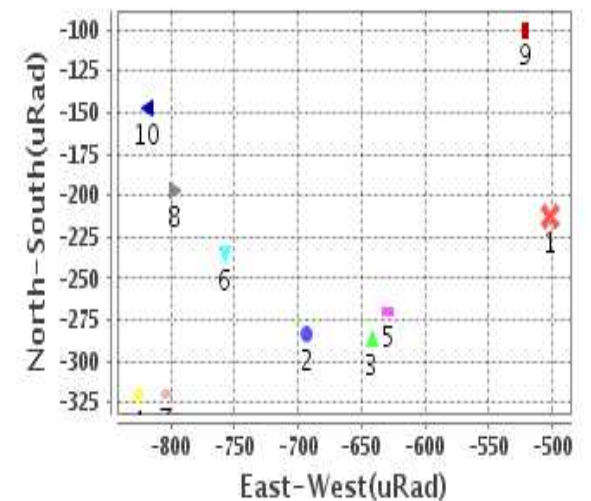
Location Error(E)

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	05-07-20
Sensor	IMG	DQE Date	06-07-2020
PassType	NONE	Aquisition Date	05-07-20
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_05JUL20	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)	0.061
Center Lon(deg)	74.008
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)	81.169
NW_Lon(deg)	-7.144
SW_Lat(deg)	-81.047
SW_Lon(deg)	-7.144
NE_Lat(deg)	81.169
NE_Lon(deg)	155.16
SE_Lat(deg)	-81.047
SE_Lon(deg)	155.16

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	pixels	Standardparallel1(deg)	17.0		
Zone	Not Applicable			Standardparallel2(deg)	17.0		

* -999.99 : Not Applicable/Not Available

References

JobId : 3RIMG05JUL20200615L1BDQE

(-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

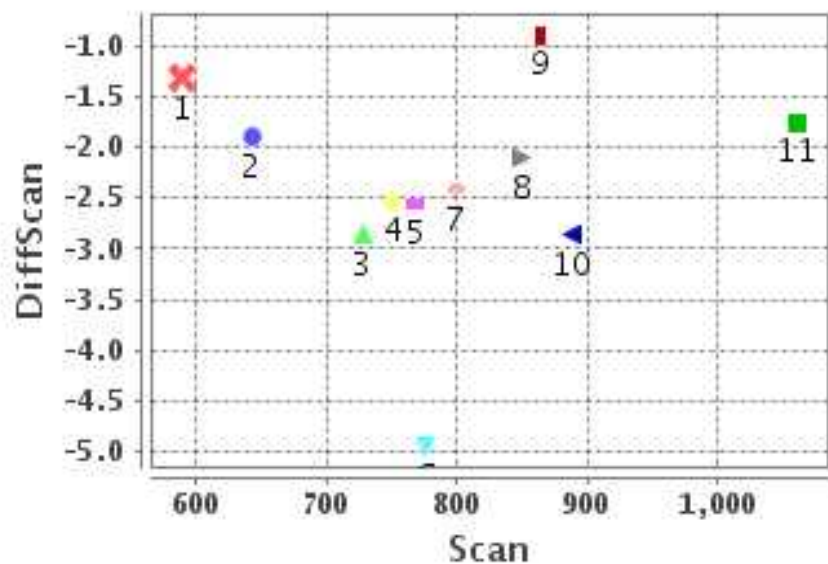
Image Width (pixels) : 2805 Image Height (pixels) : 2816 No of GCPs : 11

	Mean	StdDev	Min	Max	Coverage(in %)
GCP Scan	792.5	120.6	589.0	1060.25	16.73 (N-S)
GCP Pix	992.9	268.9	607.0	1748.25	40.69 (E-W)

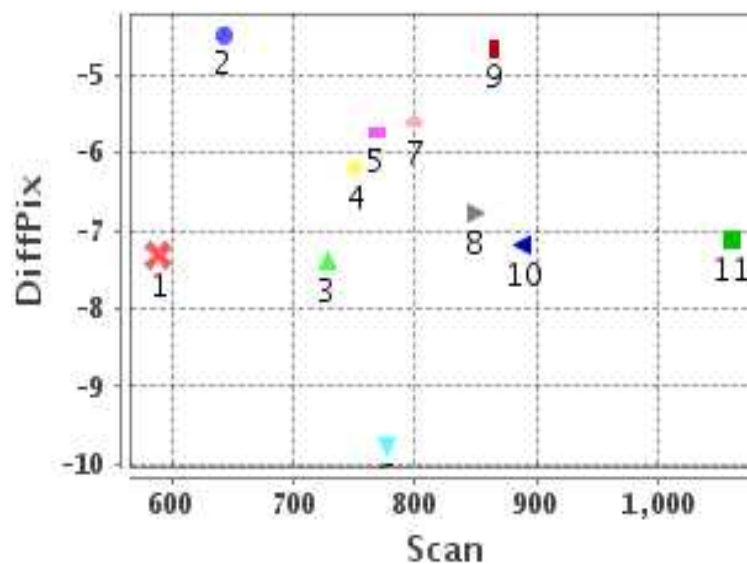
Identified Control Point details : (Differences are Reference - Product)

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	642.8	826.2	-1.9	-4.48	7.523	N	24.372	W	Accepted
2	750.8	860.8	-2.5	-6.19	9.945	N	29.021	W	Accepted
3	768.5	877.8	-2.6	-5.73	10.700	N	26.829	W	Accepted
4	728.0	988.5	-2.9	-7.37	15.397	N	34.716	W	Accepted
5	776.2	1035.2	-4.9	-9.76	23.991	N	45.470	W	Rejected
6	799.2	1056.0	-2.4	-5.62	9.908	N	25.936	W	Accepted
7	849.5	1030.8	-2.1	-6.77	7.263	N	26.490	W	Accepted
8	888.5	999.5	-2.9	-7.18	11.662	N	30.586	W	Accepted
9	1060.2	891.5	-1.8	-7.12	6.514	N	29.288	W	Accepted
10	864.2	607.0	-0.9	-4.65	4.103	N	26.150	W	Accepted
11	589.0	1748.2	-1.3	-7.31	7.139	N	33.870	W	Accepted

Error(Pixels) Vs. GCPScan



Error(Pixels) Vs. GCPScan



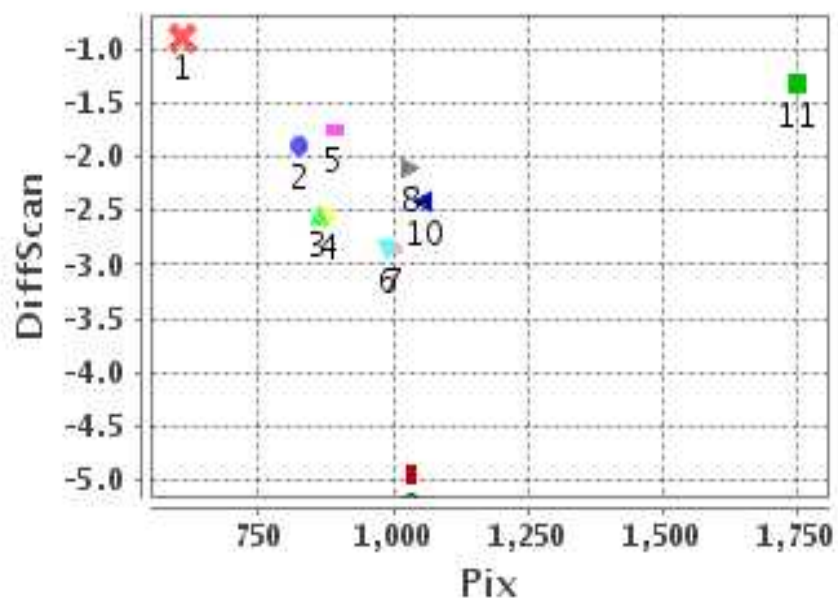
Number Of Points

North	10
South	0
East	0
West	10

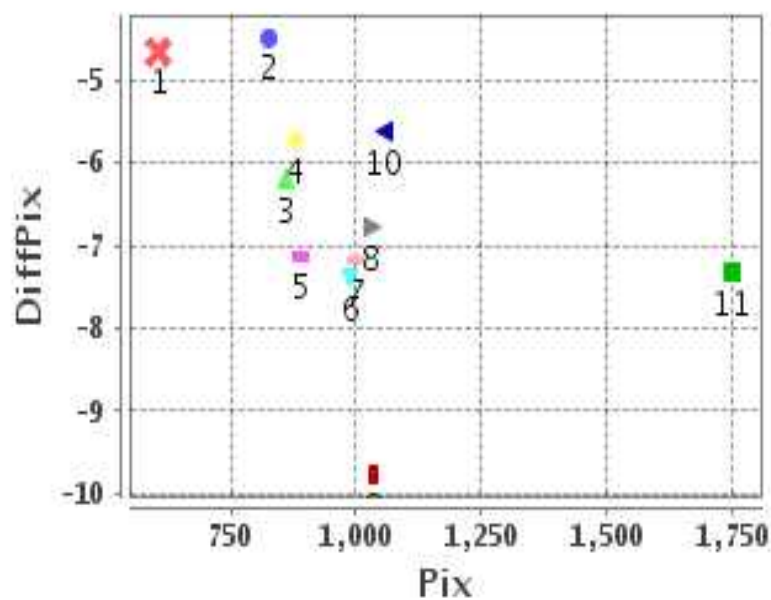
Radial Error (Km)

Mean	7.552
Min	6.377
Max	9.494
CE90	8.654

Error(Pixels) Vs. GCPPix



Error(Pixels) Vs. GCPPix



Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along(Km)	2.254	0.756	2.377	N	2.152	2.482
Across (Km)	-7.181	0.822	7.228	W	7.049	7.344

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)	8.0675	N
Across(Mean,Dir)	-26.59	W
Scale(Km)		
Average Scale (Mean,%Variation)	5.13	28.26
Internal Distortion(Pixel)		
Along(Mean,Stddev)	0.09	0.78
Across(Mean,Stddev)	0.81	0.72

Scan Range-0-937; Pix Range-934-1869		
Number of GCPs	5	
Location Error(Km)		
Along(Mean,Dir)	10.274	N
Across(Mean,Dir)	-30.32	W
Scale(Km)		
Average Scale (Mean,%Variation)	4.61	15.30
Internal Distortion(Pixel)		
Along(Mean,Stddev)	1.24	0.32
Across(Mean,Stddev)	-0.65	0.67

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	1	
Location Error(Km)		
Along(Mean,Dir)	6.51	N
Across(Mean,Dir)	-29.29	W
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-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