

DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND_31JAN2019_0300

Satellite	INSAT-3DR	No Of Bands	19	Product Type	STANDARD
Sensor	SND	LvlOfProcess	L1B	Selected Band	2-LWIR3
DOP/Time	31-01-19/03:00	Station ID	BES	Field View(deg)	6.136
Res(Y,X) [Km]	(10.0,10.0)	Res(Y,X) [uRad]	(280.0,280.0)		

(41.253N,52.089W)

(41.253N,102.088E)

Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.504	N	0.530	0.731
Across	-1.552	W	0.314	1.584

Radial Error (in IR Pixels)

Mean	1.693
Min	.944
Max	2.287
CE90	1.933

Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.276	0.551	2.755
Along	10.646	0.118	6.457
Across	10.465	0.030	4.654

Internal Distortion (in IR Pixels)

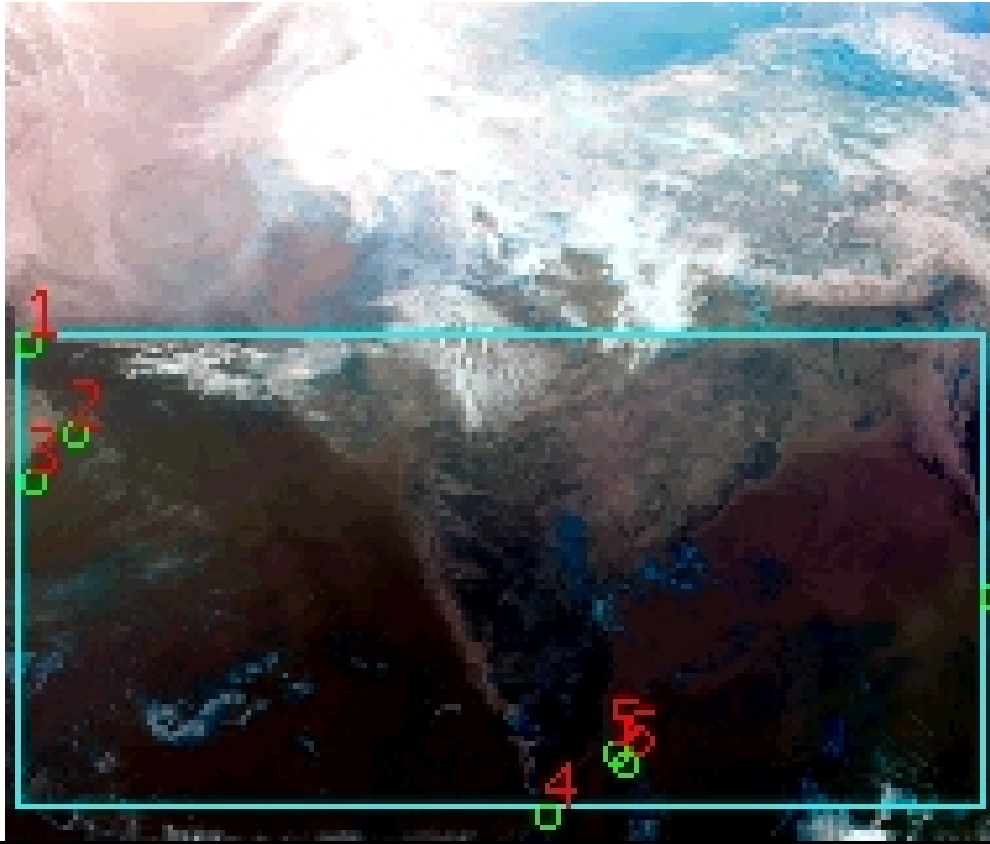
	PeakToPeak	Mean	Stddev	RMS
Along	1.503	-0.813	0.52	0.964
Across	0.672	0.015	0.23	0.229

Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02451	-0.00815	0.01977

Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP



(6.852S,52.089W)

(6.852S,102.088E)

GCP Distribution overview for 3RSND31JAN20190300L1BSA1

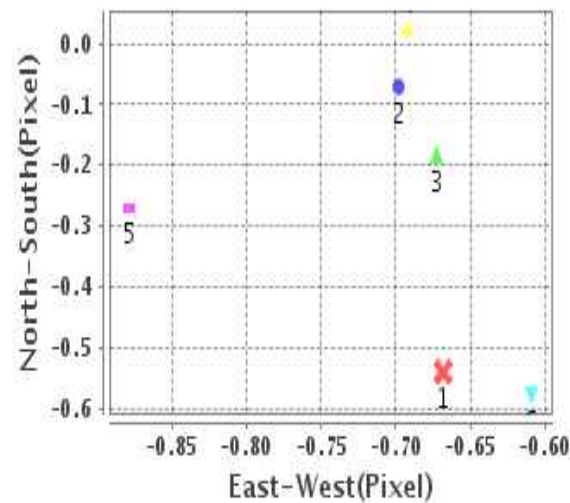
Image Width: 384 Image Height: 320 No Of GCPs: 7

GCP Coverage(%) 55.86 (N-S) 95.44 (E-W)

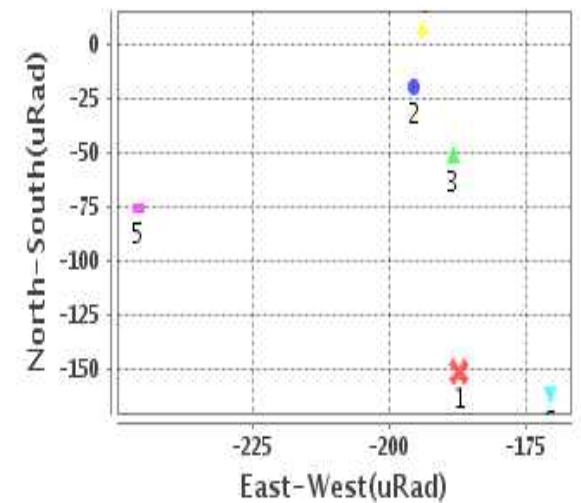
Location Error(E)

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	31-01-19
Sensor	SND	DQE Date	01-02-2019
PassType	NONE	Aquisition Date	31-01-19
Imaging Mode	FULL_FRAME	Aquisition Time(GMT)	03:00
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	3RSND_31JAN20	Predicted Center Lon(deg)	-999.99
ProductCode	NONE		
Field View(deg)	6.136		

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)	24.053
Center Lon(deg)	77.089
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)	41.253
NW_Lon(deg)	52.089
SW_Lat(deg)	6.852
SW_Lon(deg)	52.089
NE_Lat(deg)	41.253
NE_Lon(deg)	102.088
SE_Lat(deg)	6.852
SE_Lon(deg)	102.088

Band Wise Details

	Res_AL(Km)	Res_AX(Km)	Image Height	Image Width
LWIR1	10.0	10.0	320	384
LWIR2	10.0	10.0	320	384
LWIR3	10.0	10.0	320	384
LWIR4	10.0	10.0	320	384
LWIR5	10.0	10.0	320	384
LWIR6	10.0	10.0	320	384

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 : 3RSND31JAN20190300L1BSA1

(-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

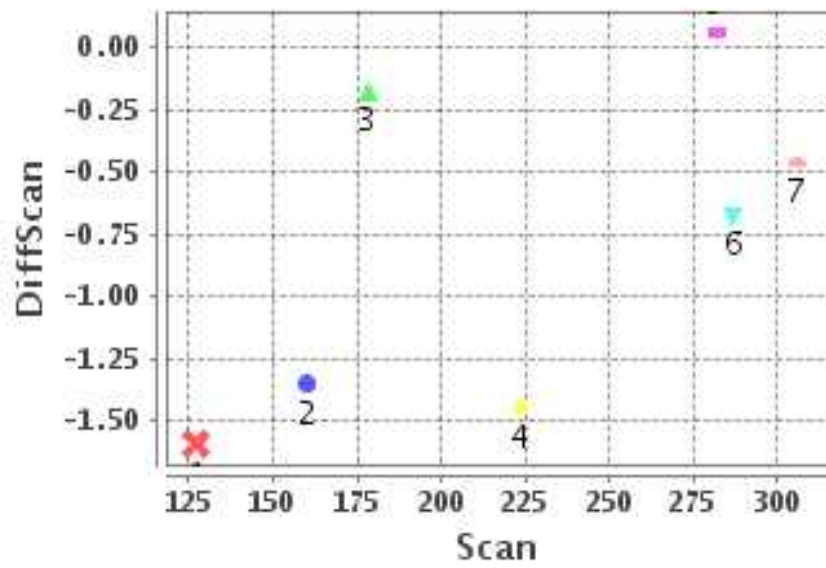
Image Width (pixels) : 384 Image Height (pixels) : 320 No of GCPs : 7

	Mean	StdDev	Min	Max	Coverage(in %)
GCP Scan	223.5	65.0	127.2	306.00	55.86 (N-S)
GCP Pix	161.0	132.6	13.5	380.00	95.44 (E-W)

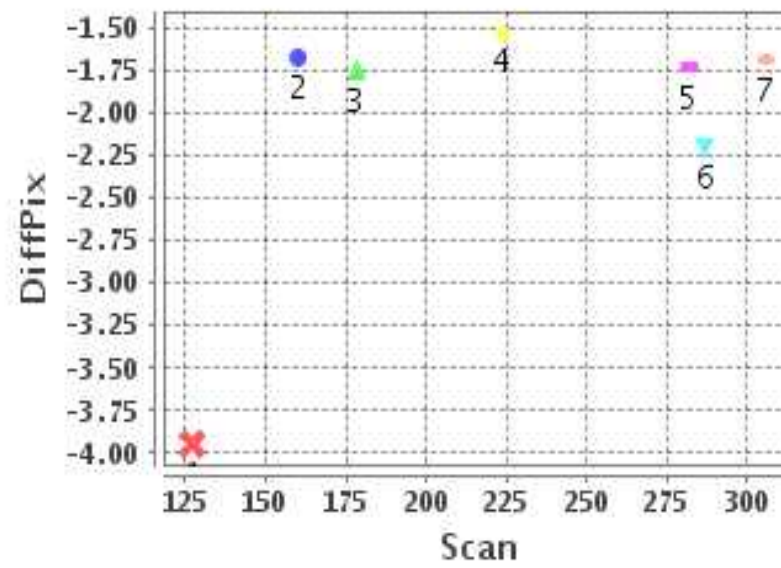
Identified Control Point details : (Differences are Reference - Product)

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	127.2	13.5	-1.6	-3.94	17.428	N	42.863	W	Rejected
2	160.2	30.0	-1.4	-1.67	13.411	N	18.527	W	Accepted
3	178.2	14.2	-0.2	-1.74	0.835	S	15.650	W	Accepted
4	306.0	211.2	-0.5	-1.68	4.447	N	14.748	W	Accepted
5	282.0	236.8	0.1	-1.73	0.845	S	9.399	W	Accepted
6	287.2	241.2	-0.7	-2.20	3.807	N	18.948	W	Accepted
7	223.5	380.0	-1.4	-1.52	10.263	N	15.864	W	Accepted

Error(Pixels) Vs. GCPScan



Error(Pixels) Vs. GCPScan



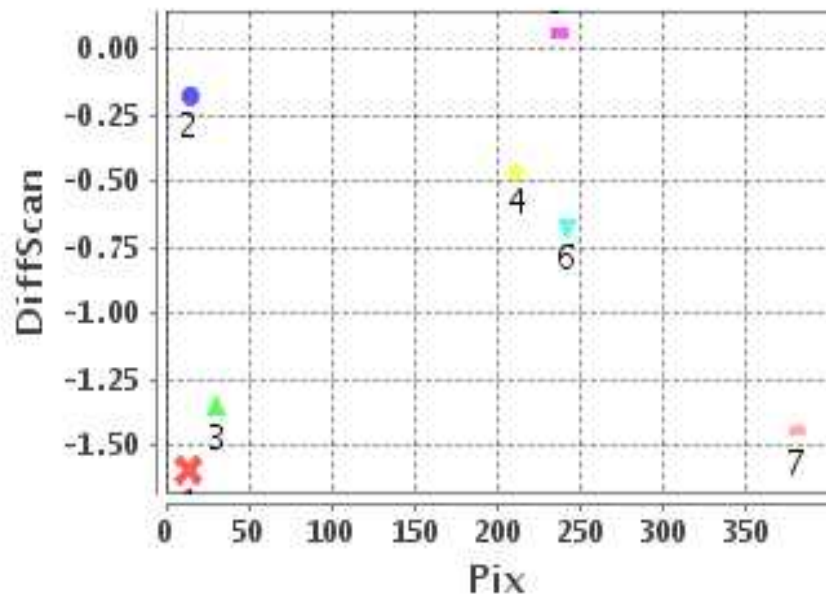
Number Of Points

North	4
South	2
East	0
West	6

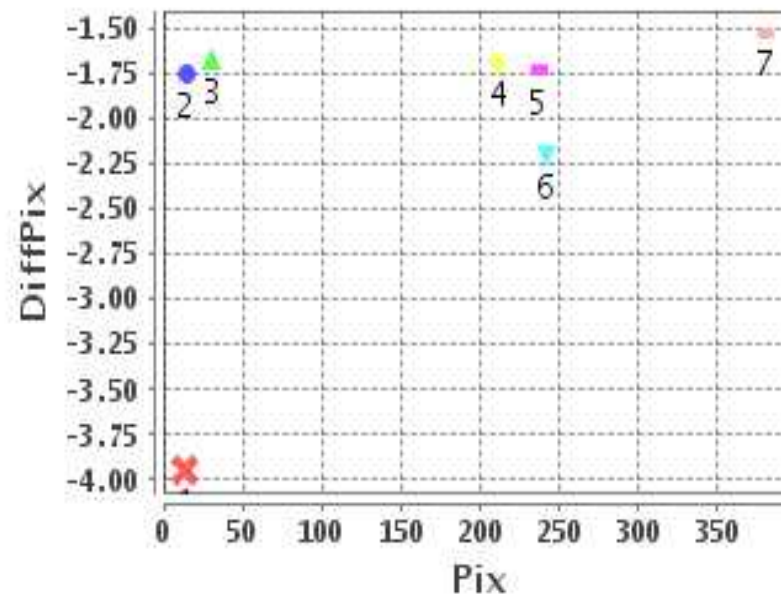
Radial Error (Km)

Mean	1.693
Min	.944
Max	2.287
CE90	1.933

Error(Pixels) Vs. GCPPix



Error(Pixels) Vs. GCPPix



Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along(Km)	0.504	0.530	0.731	N	0.531	0.800
Across (Km)	-1.552	0.314	1.584	W	1.514	1.683

Block-Wise Geo location Error Statistics

Location Accuracy,Scale,ID

Scan Range-0-105; Pix Range-0-127		
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-0-105; Pix Range-127-255		
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-0-105; Pix Range-255-384		
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-105-212; Pix Range-0-127		
Number of GCPs	2	
Location Error(Km)		
Along(Mean,Dir)	6.29	N
Across(Mean,Dir)	-17.09	W
Scale(Km)		
Average Scale (Mean,%Variation)	10.98	9.84
Internal Distortion(Pixel)		
Along(Mean,Stddev)	-1.18	0.00
Across(Mean,Stddev)	-0.07	0.00

Scan Range-105-212; Pix Range-127-255		
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-105-212; Pix Range-255-384		
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-212-320; Pix Range-0-127		
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-212-320; Pix Range-105-255		
Number of GCPs	3	
Location Error(Km)		
Along(Mean,Dir)	2.47233	N
Across(Mean,Dir)	-14.36	W
Scale(Km)		
Average Scale (Mean,%Variation)	9.36	6.41
Internal Distortion(Pixel)		
Along(Mean,Stddev)	0.63	0.11
Across(Mean,Stddev)	0.28	0.23

Scan Range-212-320; Pix Range-255-384		
Number of GCPs	1	
Location Error(Km)		
Along(Mean,Dir)	10.27	N
Across(Mean,Dir)	-15.86	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

*-999 : no gcp available

* -999.99 : values are not computed