

DQE Report: Location Accuracy of INSAT-3D-SND STANDARD Product 3DSND_10AUG2019_0600

Satellite	INSAT-3D	No Of Bands	19	Product Type	STANDARD
Sensor	SND	LvlOfProcess	L1B	Selected Band	2-LWIR3
DOP/Time	10-08-19/06:00	Station ID	BES	Field View(deg)	6.136
Res(Y,X) [Km]	(10.0,10.0)	Res(Y,X) [uRad]	(280.0,280.0)		

(41.347N,49.95W)

(41.347N,100.577E)

Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	1.136	N	1.000	1.514
Across	-0.659	W	0.678	0.945

Radial Error (in IR Pixels)

Mean	1.650
Min	.908
Max	2.795
CE90	1.813

Scale (Km)

	Pixel Size	Stddev	%variation
Average	11.106	0.647	11.061
Along	11.764	1.054	17.643
Across	10.504	0.657	5.045

Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.534	0.497	0.95	1.072
Across	1.456	-0.525	0.55	0.758

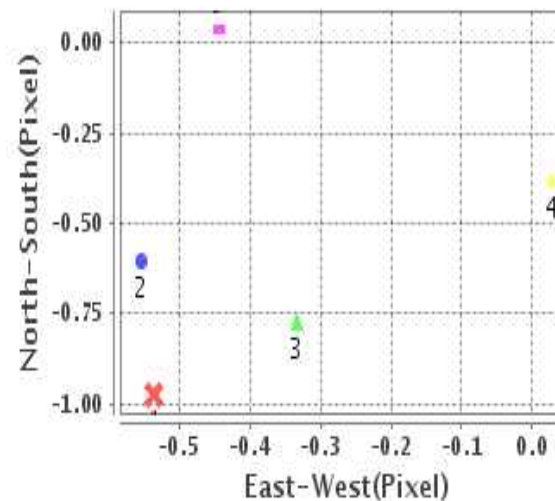
Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01390	-0.02147	-0.27873

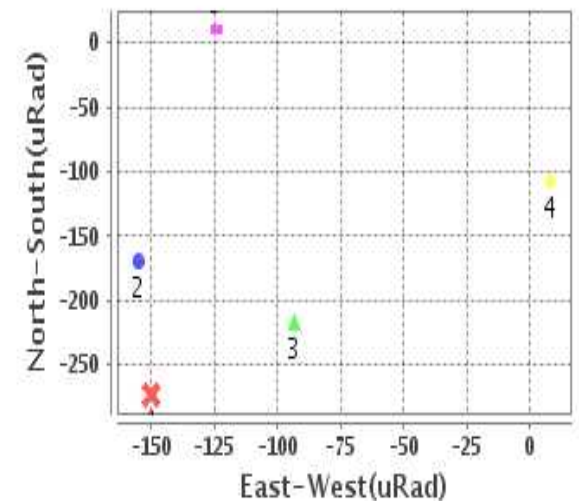
Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

Location Error For GCPs(Pixel)



Location Error For GCPs(uRad)



(6.771S,49.95W)

(6.771S,100.577E)

GCP Distribution overview for 3DSND10AUG20190600L1BSA1

Image Width: 384 **Image Height:** 320 **No Of GCPs:** 6

GCP Coverage(%) 73.75 **(N-S)** 73.76 **(E-W)**

Location Error(E)

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

Detailed Product Information

Ancillary Info

Satellite	INSAT-3D	Generation Date	10-08-19
Sensor	SND	DQE Date	14-08-2019
PassType	NONE	Aquisition Date	10-08-19
Imaging Mode	FULL_FRAME	Aquisition Time(GMT)	06:00
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)	82.0
LvlOfProcessing	STANDARD	Predicted Center Lat(deg)	-999.99
DP JobId	3DSND_10AUG2	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)	24.059
Center Lon(deg)	75.264
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)	41.347
NW_Lon(deg)	49.95
SW_Lat(deg)	6.771
SW_Lon(deg)	49.95
NE_Lat(deg)	41.347
NE_Lon(deg)	100.577
SE_Lat(deg)	6.771
SE_Lon(deg)	100.577

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 : 3DSND10AUG20190600L1BSA1

(-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

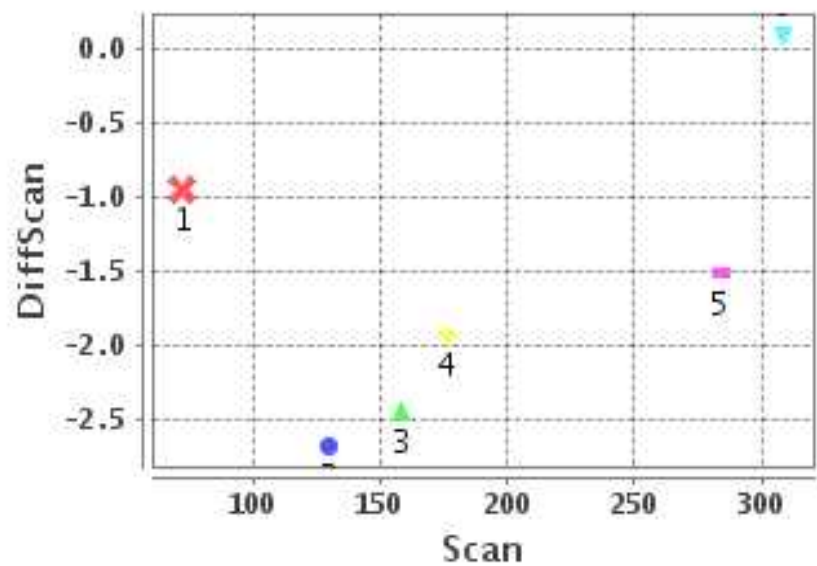
Image Width (pixels) : 384 Image Height (pixels) : 320 No of GCPs : 6

	Mean	StdDev	Min	Max	Coverage(in %)
GCP Scan	188.3	83.1	72.5	308.50	73.75 (N-S)
GCP Pix	178.2	116.7	17.2	300.50	73.76 (E-W)

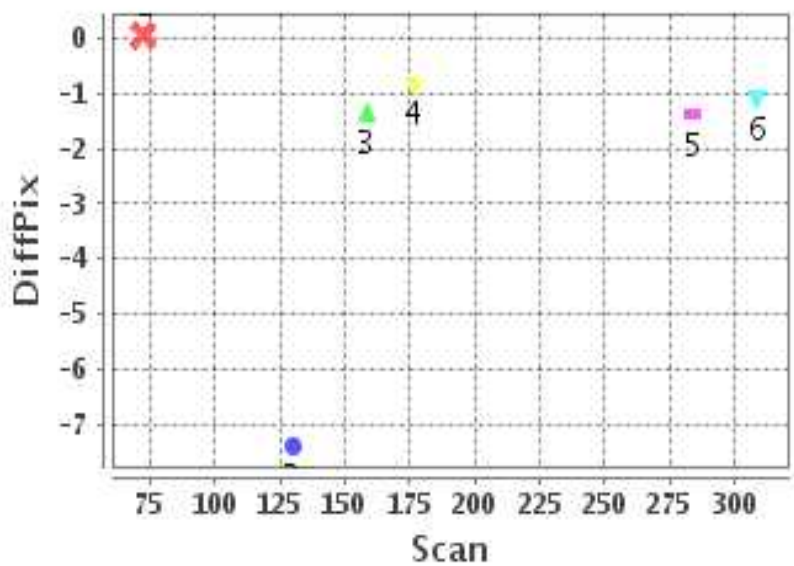
Identified Control Point details : (Differences are Reference - Product)

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	130.0	17.2	-2.7	-7.40	35.710	N	94.704	W	Rejected
2	158.5	20.5	-2.4	-1.34	23.599	N	14.977	W	Accepted
3	284.0	212.5	-1.5	-1.39	15.502	N	9.399	W	Accepted
4	176.5	288.2	-1.9	-0.83	16.271	N	5.910	W	Accepted
5	72.5	300.5	-1.0	0.07	7.139	N	5.604	E	Accepted
6	308.5	230.2	0.1	-1.11	5.701	S	8.246	W	Accepted

Error(Pixels) Vs. GCPScan



Error(Pixels) Vs. GCPScan



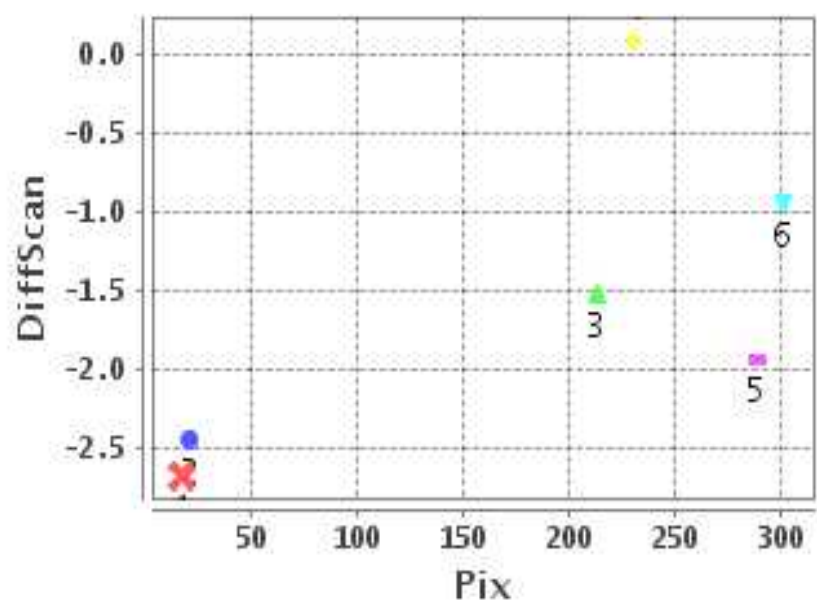
Number Of Points

North	4
South	1
East	1
West	4

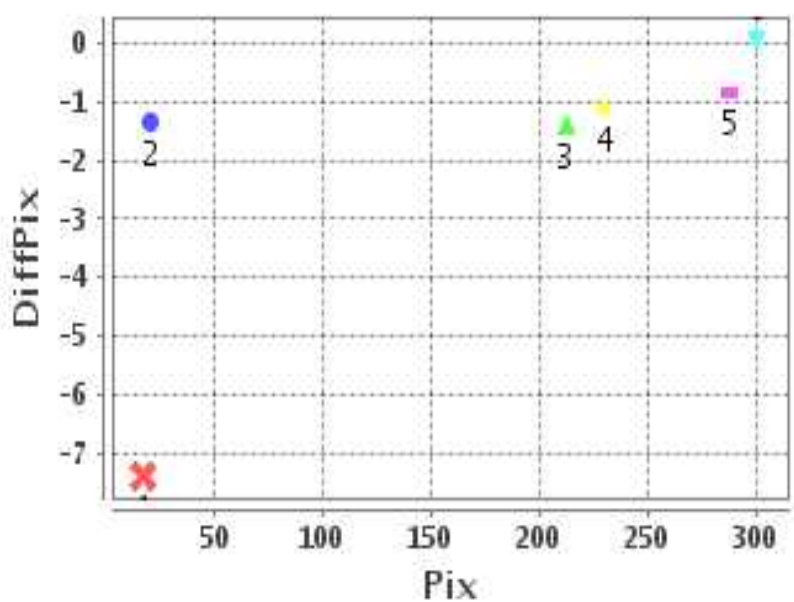
Radial Error (Km)

Mean	1.650
Min	.908
Max	2.795
CE90	1.813

Error(Pixels) Vs. GCPPix



Error(Pixels) Vs. GCPPix



Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along(Km)	1.136	1.000	1.514	N	1.213	1.668
Across (Km)	-0.659	0.678	0.945	W	0.746	1.019

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	1	
Location Error(Km)		
Along(Mean,Dir)	7.14	N
Across(Mean,Dir)	5.60	E
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	1		
Location Error(Km)			
Along(Mean,Dir)	23.6	N	
Across(Mean,Dir)	-14.97	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-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	1	
Location Error(Km)		
Along(Mean,Dir)	16.27	N
Across(Mean,Dir)	-5.91	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-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	2	
Location Error(Km)		
Along(Mean,Dir)	4.8995	N
Across(Mean,Dir)	-8.82	W
Scale(Km)		
Average Scale (Mean,%Variation)	10.32	3.19
Internal Distortion(Pixel)		
Along(Mean,Stddev)	-1.61	0.00
Across(Mean,Stddev)	-0.28	0.00

Scan Range-212-320; 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

*-999 : no gcp available
* -999.99 : values are not computed