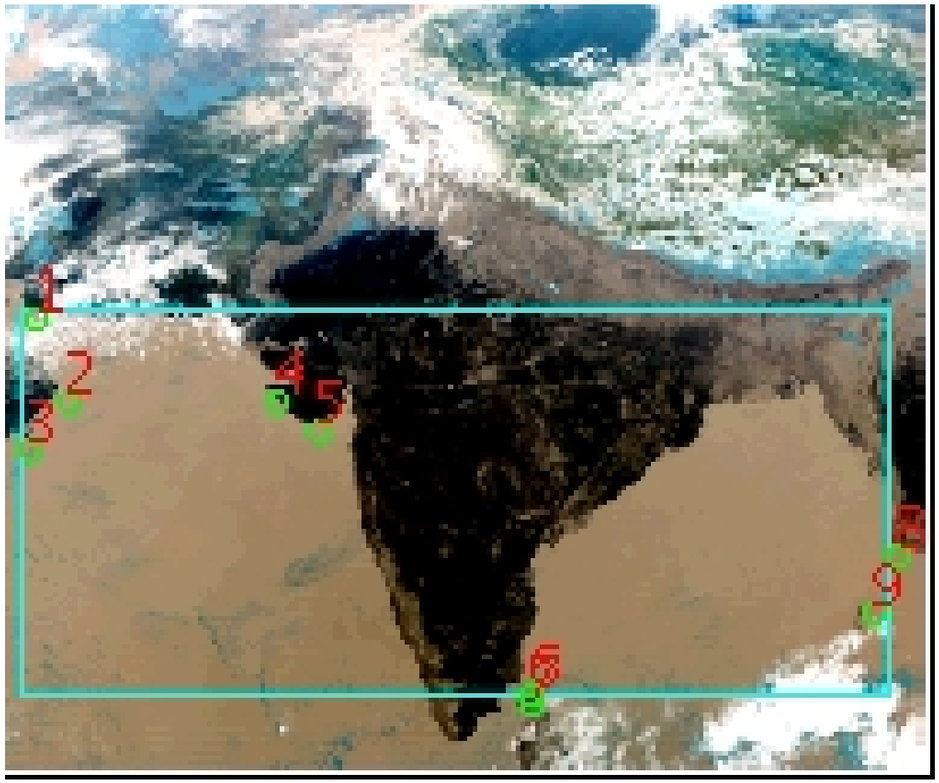
DQE Report: Location Accuracy of INSAT-3D-SND STANDARD Product 3DSND_22FEB2018_0600

Satellite	INSAT-3D	**No Of Bands**	19	**Product Type**	STANDARD
Sensor	SND	**LvlOfProcess**	L1B	**Selected Band**	2-LWIR3
DOP/Time	22-02-18/06:00	**Station ID**	BES	**Field View(deg)**	6.136
Res(Y,X) [Km]	(10.0,10.0)	**Res(Y,X) [uRad]**	(280.0,280.0)		

(41.456N,49.561W) (41.456N,100.235E)



(6.846S,49.561W) (6.846S,100.235E)

GCP Distribution overview for 3DSND22FEB20180600L1BSA1

Image Width: 384 **Image Height:** 320 **No Of GCPs:** 9

GCP Coverage(%) 50.23 **(N-S)** 93.42 **(E-W)**

Location Error(E)

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

Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-0.038	S	0.570	0.571
Across	-0.864	W	0.384	0.945

Radial Error (in IR Pixels)

Mean	1.042
Min	.481
Max	1.621
CE90	1.415

Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.926	0.701	9.258
Along	11.974	4.878	19.740
Across	10.382	1.632	3.825

Internal Distortion (in IR Pixels)

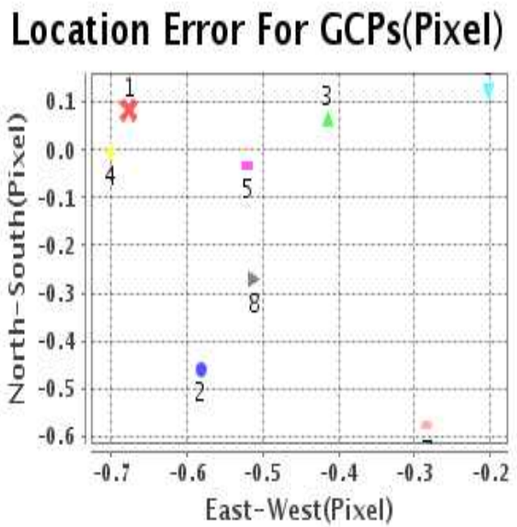
	PeakToPeak	Mean	Stddev	RMS
Along	1.760	0.623	0.63	0.889
Across	1.246	0.206	0.44	0.483

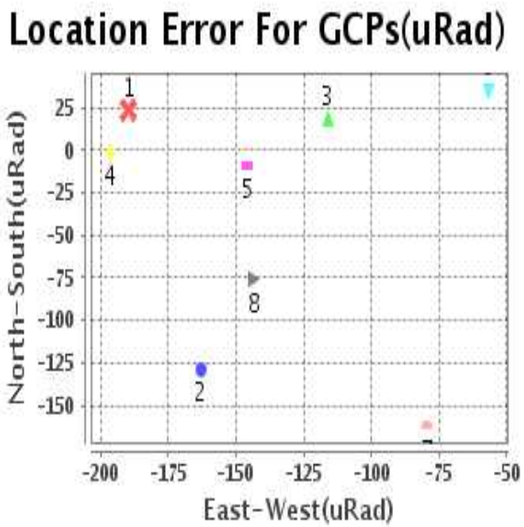
Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01363	0.00047	0.06233

Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP





Detailed Product Information

Ancillary Info

Satellite	INSAT-3D	Generation Date	22-02-18
Sensor	SND	DQE Date	23-02-2018
PassType	NONE	Aquisition Date	22-02-18
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_22FEB20	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)	24.151
Center Lon(deg)	74.898
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)	41.456
NW_Lon(deg)	49.561
SW_Lat(deg)	6.846
SW_Lon(deg)	49.561
NE_Lat(deg)	41.456
NE_Lon(deg)	100.235
SE_Lat(deg)	6.846
SE_Lon(deg)	100.235

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 -sigma	SemiMajorAxis(m)	6378137.00	Mode Of Computation	grid
Ellipsoid	WGS_84			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 : **3DSND22FEB20180600L1BSA1**

(-999.99 - Not Available/Not Computed)

Ref.No	Source	File Name	Resolution (m)	Projection
1	ETM	world_Band1.img	500.0	GGP

Location Accuracy

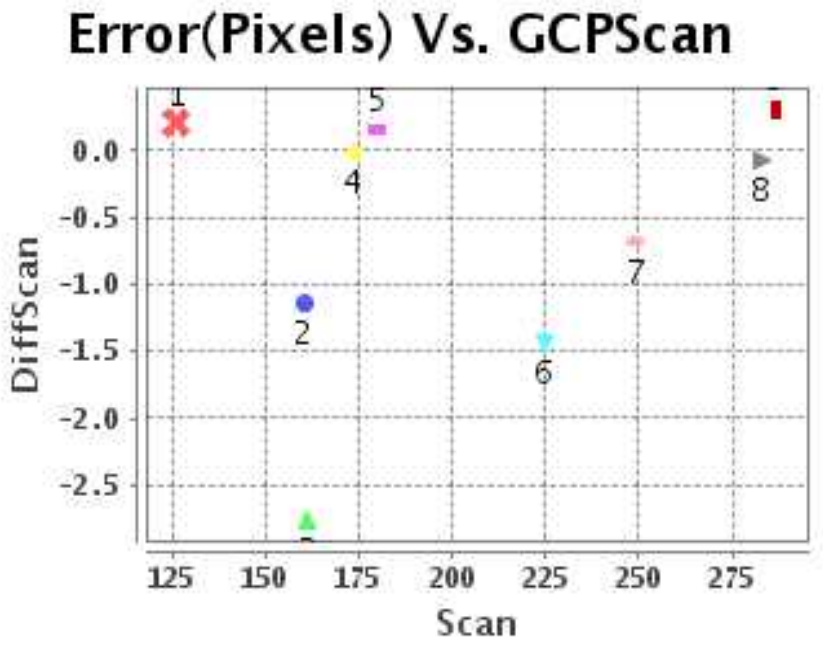
GCP Distribution Statistics

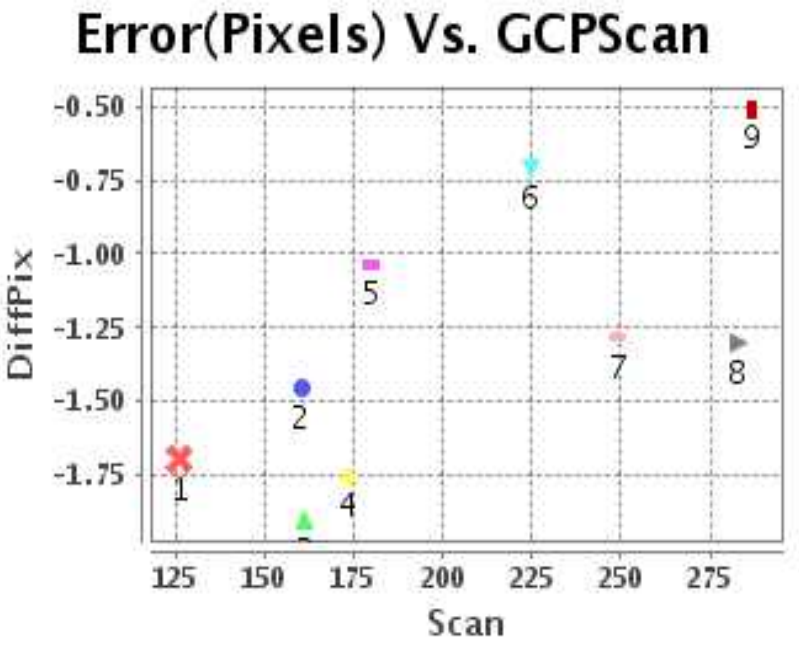
Image Width (pixels) : 384 **Image Height (pixels) :** 320 **No of GCPs :** 9

	Mean	StdDev	Min	Max	Coverage(in %)
GCP Scan	205.0	54.6	126.2	287.00	50.23 (N-S)
GCP Pix	158.6	131.7	7.5	366.25	93.42 (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	126.2	8.5	0.2	-1.69	4.908	S	13.268	W	Accepted
2	160.5	22.8	-1.1	-1.45	8.172	N	8.943	W	Accepted
3	180.0	7.5	0.2	-1.04	1.868	S	4.429	W	Accepted
4	161.2	109.0	-2.8	-1.90	29.544	N	23.167	W	Rejected
5	173.5	126.2	-0.0	-1.75	5.551	S	15.232	W	Accepted
6	282.8	215.2	-0.1	-1.30	6.848	S	10.064	W	Accepted
7	287.0	215.0	0.3	-0.51	3.754	S	5.141	W	Accepted
8	224.8	366.2	-1.4	-0.71	7.604	N	4.151	W	Accepted
9	249.2	356.5	-0.7	-1.28	4.105	N	7.891	W	Accepted



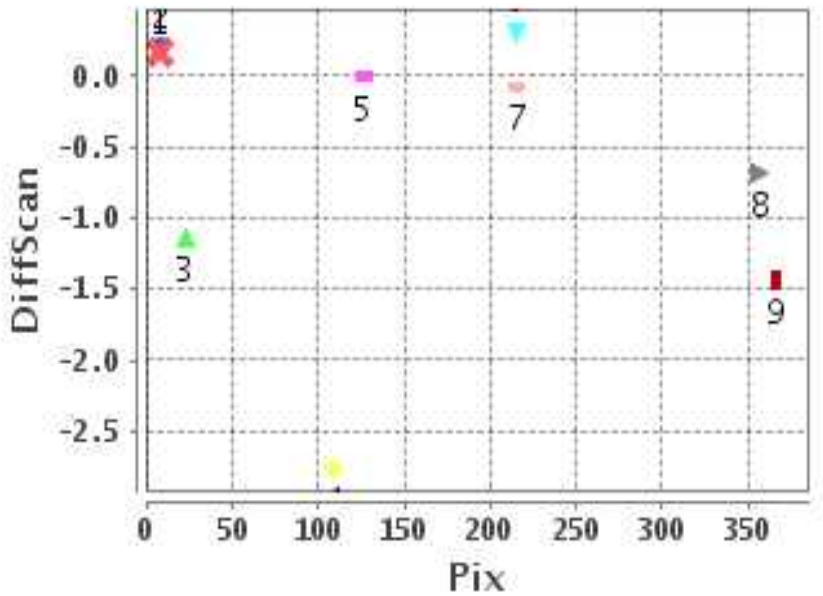


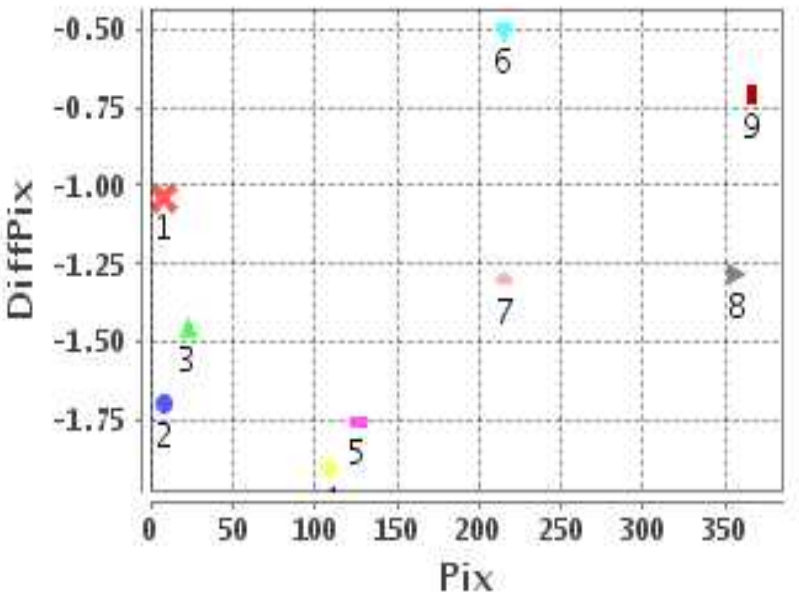
Number Of Points

North	3
South	5
East	0
West	8

Radial Error (Km

Mean	1.042
Min	.481
Max	1.621
CE90	1.415





Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along(Km)	-0.038	0.570	0.571	S	0.527	0.606
Across (Km)	-0.864	0.384	0.945	W	0.831	0.998

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	4		
Location Error(Km)			
Along(Mean,Dir)	-1.04	S	
Across(Mean,Dir)	-10.47	W	
Scale(Km)			
Average Scale (Mean,%Variation)	11.82	18.20	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	0.54	0.58	
Across(Mean,Stddev)	0.60	0.13	

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	2		
Location Error(Km)			
Along(Mean,Dir)	-5.3	S	
Across(Mean,Dir)	-7.60	W	
Scale(Km)			
Average Scale (Mean,%Variation)	10.97	9.73	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-0.40	0.00	
Across(Mean,Stddev)	0.79	0.00	

Scan Range-212-320; Pix Range-255-384

Number of GCPs	2		
Location Error(Km)			
Along(Mean,Dir)	5.86	N	
Across(Mean,Dir)	-6.02	W	
Scale(Km)			
Average Scale (Mean,%Variation)	11.08	10.85	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-0.77	0.00	
Across(Mean,Stddev)	-0.57	0.00	

*-999 : no gcp available

* -999.99 : values are not computed