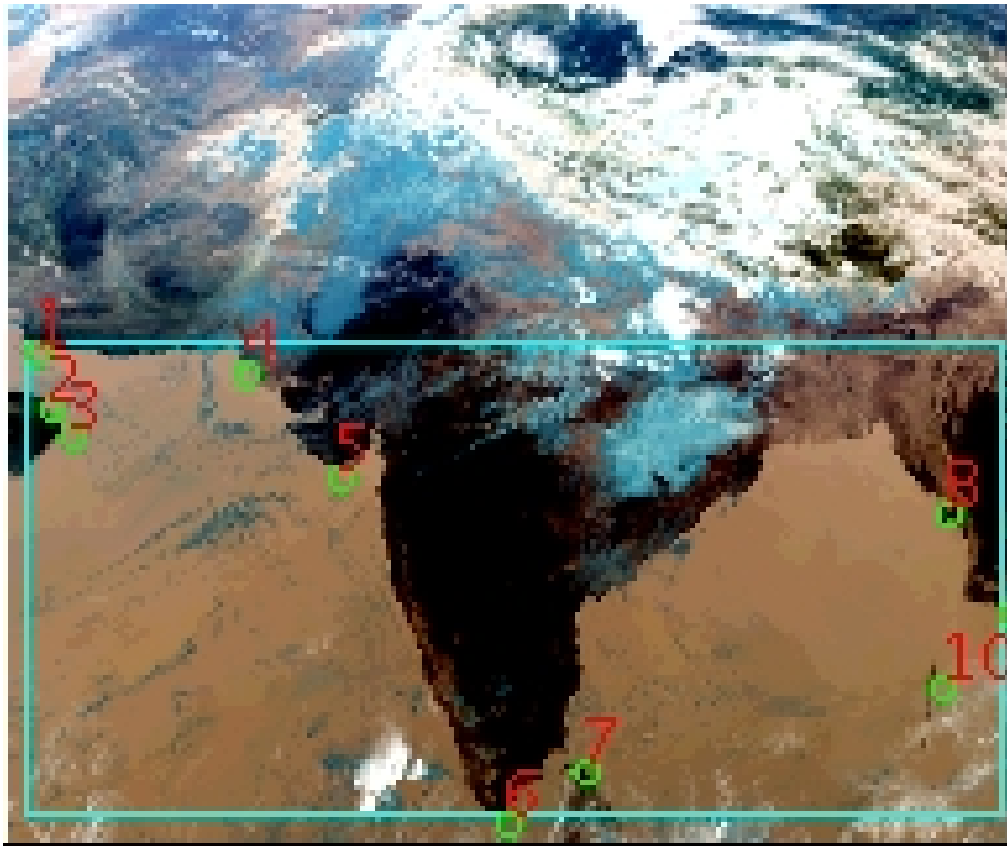


# DQE Report: Location Accuracy of INSAT-3D-SND STANDARD Product 3DSND\_03MAR2019\_0601

Satellite	INSAT-3D	No Of Bands	19	Product Type	STANDARD
Sensor	SND	LvlOfProcess	L1B	Selected Band	2-LWIR3
DOP/Time	03-03-19/06:01	Station ID	BES	Field View(deg)	6.136
Res(Y,X) [Km]	(10.0,10.0)	Res(Y,X) [uRad]	(280.0,280.0)		

(41.52N,49.597W)

(41.52N,100.292E)



(6.888S,49.597W)

(6.888S,100.292E)

GCP Distribution overview for 3DSND03MAR20190601L1BSA1

Image Width: 384 Image Height: 320 No Of GCPs: 10

GCP Coverage(%) 56.17 (N-S) 96.88 (E-W)

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	2.552	N	0.705	2.647
Across	-0.974	W	1.091	1.462

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	11.007	0.929	10.072
Along	11.513	4.440	15.127
Across	10.676	1.417	6.764

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.076	1.288	0.65	1.443
Across	1.968	-0.780	0.69	1.038

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01572	-0.04060	0.01238

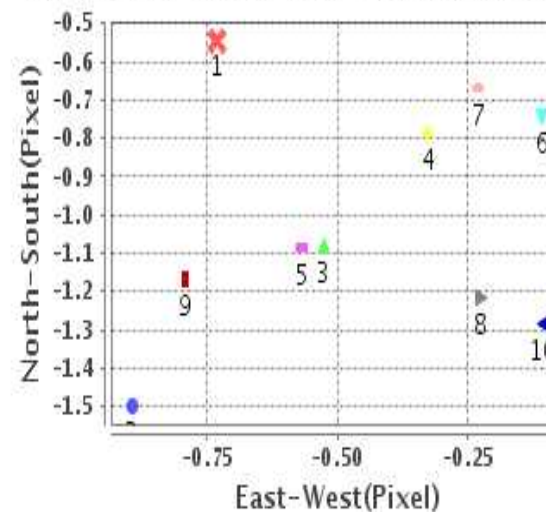
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

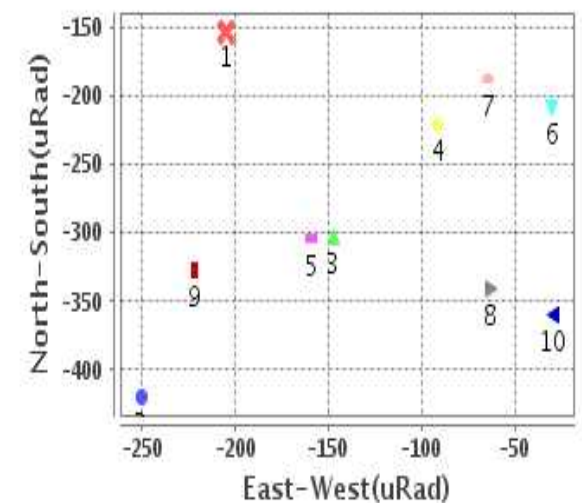
## Radial Error (in IR Pixels)

Mean	2.881
Min	1.680
Max	5.131
CE90	3.458

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3D	<b>Generation Date</b>	03-03-19
<b>Sensor</b>	SND	<b>DQE Date</b>	04-03-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	03-03-19
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	06:01
<b>Sat Altitude(m)</b>	3.6E7	<b>Nominal Altitude(Km)</b>	3.6E7
<b>Station</b>	BES	<b>Predicted Altitude(Km)</b>	-999.99
<b>Sat Location(deg)</b>	-999.99 E	<b>Nominal Center Lat(deg)</b>	0.0
<b>Format</b>	hdf5-1.8.8	<b>Nominal Center Lon(deg)</b>	82.0
<b>LvlOfProcessing</b>	STANDARD	<b>Predicted Center Lat(deg)</b>	-999.99
<b>DP JobId</b>	3DSND_03MAR2	<b>Predicted Center Lon(deg)</b>	-999.99
<b>ProductCode</b>	NONE		
<b>Field View(deg)</b>	6.136		

### Projection Parameters

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

### Scene Center Desc

<b>Centre Lat(deg)</b>	24.204
<b>Center Lon(deg)</b>	74.944
<b>Centre Roll(deg)</b>	-999.0
<b>Centre Pitch(deg)</b>	-999.0
<b>Center Yaw(deg)</b>	-999.0
<b>SunElevation(deg)</b>	-999.99
<b>SunAzimuth(deg)</b>	-999.99
<b>SatElevation(deg)</b>	-999.99
<b>SatAzimuth(deg)</b>	-999.99

### Scene Corner Desc

<b>NW_Lat(deg)</b>	41.52
<b>NW_Lon(deg)</b>	49.597
<b>SW_Lat(deg)</b>	6.888
<b>SW_Lon(deg)</b>	49.597
<b>NE_Lat(deg)</b>	41.52
<b>NE_Lon(deg)</b>	100.292
<b>SE_Lat(deg)</b>	6.888
<b>SE_Lon(deg)</b>	100.292

### Band Wise Details

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

## GDQE Computation Base

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

\* -999.99 : Not Applicable/Not Available

## References

**JobId : 3DSND03MAR20190601L1BSA1**

(-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

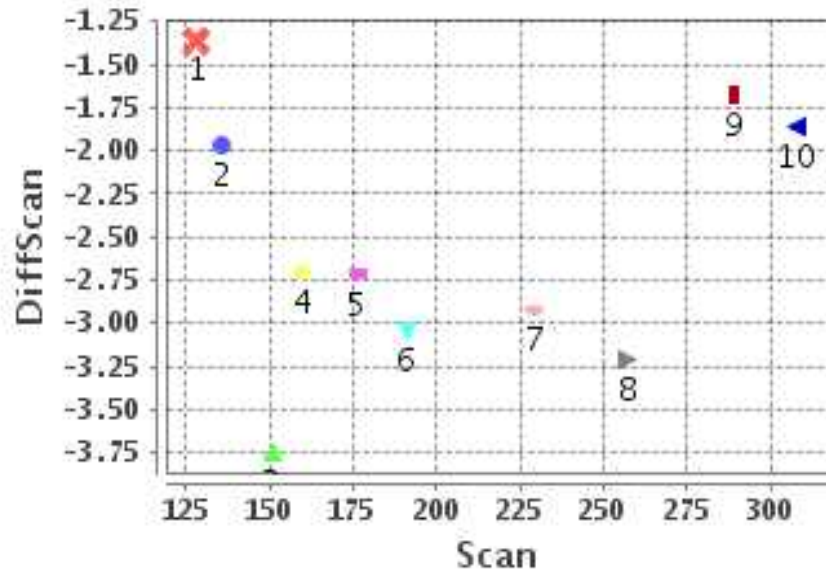
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 10

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	202.6	61.3	128.2	308.00	56.17 (N-S)
<b>GCP Pix</b>	176.0	140.0	8.5	380.50	96.88 (E-W)

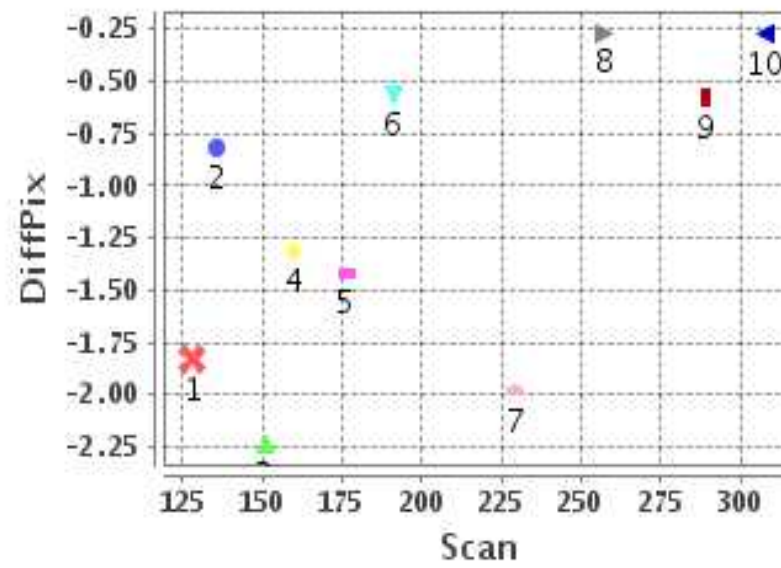
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	128.2	8.5	-1.4	-1.83	14.149	N	19.036	W	Accepted
2	150.8	15.0	-3.7	-2.24	36.678	N	35.886	W	Accepted
3	160.0	22.8	-2.7	-1.32	32.514	N	11.782	W	Accepted
4	136.0	89.2	-2.0	-0.82	25.006	N	8.152	W	Accepted
5	176.5	125.8	-2.7	-1.42	25.223	N	8.000	W	Accepted
6	308.0	188.0	-1.9	-0.27	17.934	N	1.969	W	Accepted
7	289.0	218.2	-1.7	-0.57	16.509	N	3.107	W	Accepted
8	191.2	356.5	-3.0	-0.56	30.658	N	0.393	E	Accepted
9	229.5	380.5	-2.9	-1.98	25.578	N	13.768	W	Accepted
10	257.2	355.5	-3.2	-0.27	30.913	N	3.956	E	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



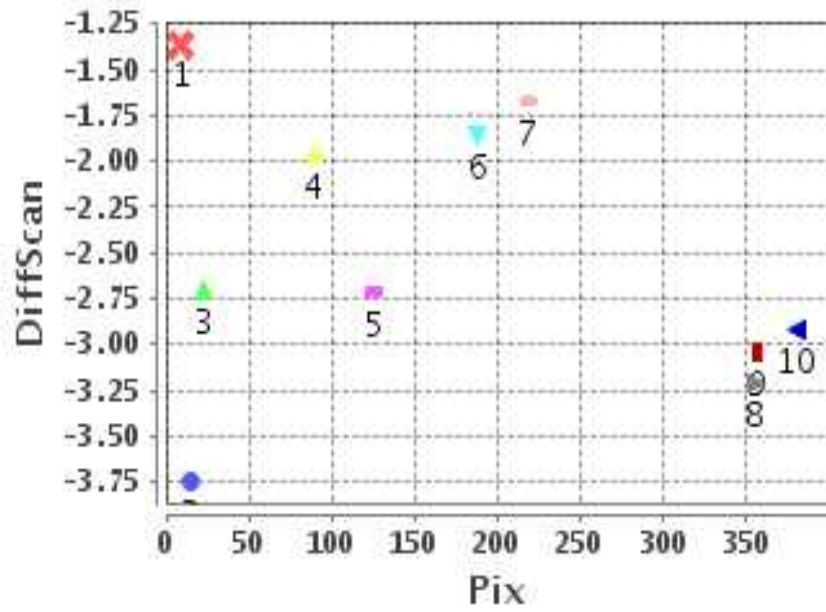
#### Number Of Points

North	10
South	0
East	2
West	8

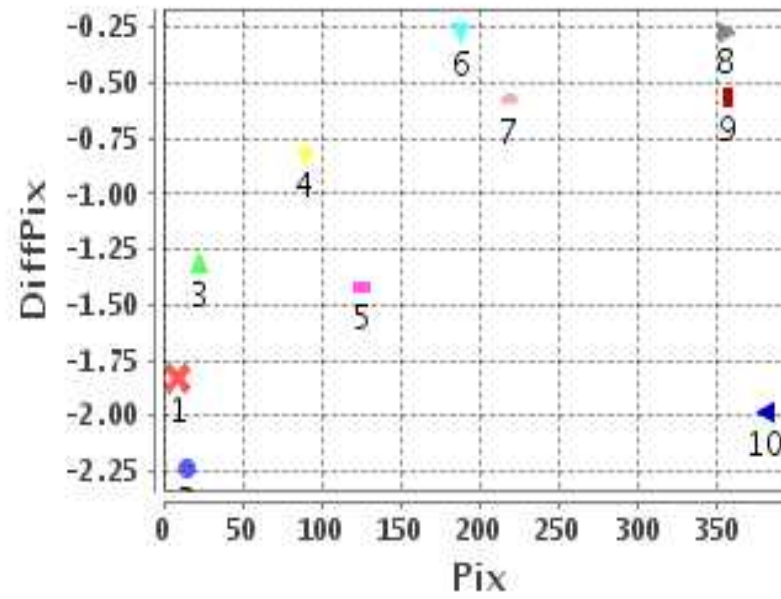
#### Radial Error ( Km )

Mean	2.881
Min	1.680
Max	5.131
CE90	3.458

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	2.552	0.705	2.647	N	2.508	2.750
Across ( Km )	-0.974	1.091	1.462	W	0.972	1.541

## Block-Wise Geo location Error Statistics

### Location Accuracy,Scale,ID

<b>Scan Range-0-105; Pix Range-0-127</b>		
Number of GCPs	-999	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-999.99	NotAvail
Across(Mean,Dir)	-999.99	NotAvail
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	-999.99	-999.9
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-999.99	-999.99
Across(Mean,Stddev)	-999.99	-999.99

<b>Scan Range-0-105; Pix Range-127-255</b>		
Number of GCPs	-999	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-999.99	NotAvail
Across(Mean,Dir)	-999.99	NotAvail
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	-999.99	-999.9
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-999.99	-999.99
Across(Mean,Stddev)	-999.99	-999.99

<b>Scan Range-0-105; Pix Range-255-384</b>		
Number of GCPs	-999	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-999.99	NotAvail
Across(Mean,Dir)	-999.99	NotAvail
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	-999.99	-999.9
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-999.99	-999.99
Across(Mean,Stddev)	-999.99	-999.99

<b>Scan Range-105-212; Pix Range-0-127</b>		
Number of GCPs	5	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	26.716	N
Across(Mean,Dir)	-16.57	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	12.27	22.70
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	1.42	0.63
Across(Mean,Stddev)	-0.38	0.51

<b>Scan Range-105-212; Pix Range-127-255</b>		
Number of GCPs	-999	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-999.99	NotAvail
Across(Mean,Dir)	-999.99	NotAvail
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	-999.99	-999.9
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-999.99	-999.99
Across(Mean,Stddev)	-999.99	-999.99

<b>Scan Range-105-212; Pix Range-255-384</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	30.66	N
Across(Mean,Dir)	0.39	E
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	-999.99	-999.9
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-999.99	-999.99
Across(Mean,Stddev)	-999.99	-999.99

<b>Scan Range-212-320; Pix Range-0-127</b>		
Number of GCPs	-999	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-999.99	NotAvail
Across(Mean,Dir)	-999.99	NotAvail
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	-999.99	-999.9
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-999.99	-999.99
Across(Mean,Stddev)	-999.99	-999.99

<b>Scan Range-212-320; Pix Range-105-255</b>		
Number of GCPs	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	17.222	N
Across(Mean,Dir)	-2.54	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	9.60	4.01
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.19	0.00
Across(Mean,Stddev)	0.30	0.00

<b>Scan Range-212-320; Pix Range-255-384</b>		
Number of GCPs	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	28.245	N
Across(Mean,Dir)	-4.90	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	10.34	3.42
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.29	0.00
Across(Mean,Stddev)	1.72	0.00

\*-999 : no gcp available

\* -999.99 : values are not computed