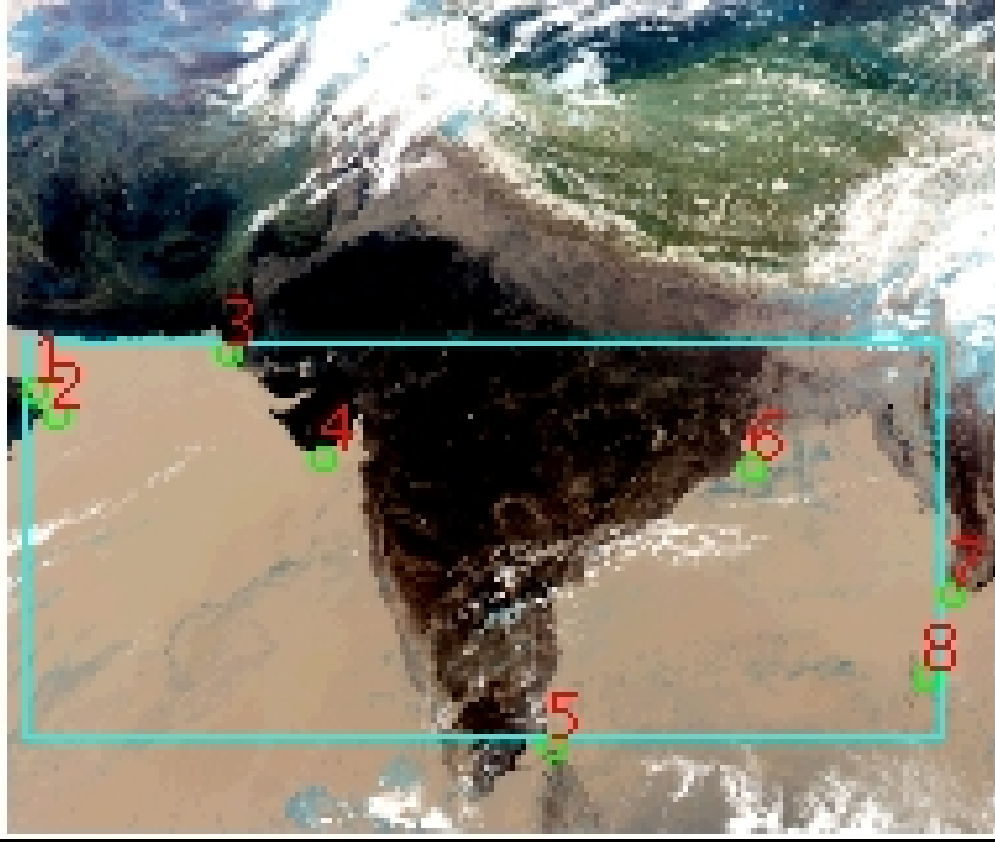


# DQE Report: Location Accuracy of INSAT-3D-SND STANDARD Product 3DSND\_27MAR2018\_0600

<b>Satellite</b>	INSAT-3D	<b>No Of Bands</b>	19	<b>Product Type</b>	STANDARD
<b>Sensor</b>	SND	<b>LvlOfProcess</b>	L1B	<b>Selected Band</b>	2-LWIR3
<b>DOP/Time</b>	27-03-18/06:00	<b>Station ID</b>	BES	<b>Field View(deg)</b>	6.136
<b>Res(Y,X) [Km]</b>	(10.0,10.0)	<b>Res(Y,X) [uRad]</b>	(280.0,280.0)		

(41.384N,49.85W)

(41.384N,100.519E)



(6.799S,49.85W)

(6.799S,100.519E)

GCP Distribution overview for 3DSND27MAR20180600L1BSA1

**Image Width:** 384    **Image Height:** 320    **No Of GCPs:** 8

**GCP Coverage(%)**    46.80    **(N-S)** 91.41    **(E-W)**

### Location Error(E)

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

### Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-1.600	S	0.942	1.856
Across	0.254	E	0.561	0.616

### Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.937	0.926	9.367
Along	11.292	1.462	12.919
Across	10.587	0.565	5.872

### Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.172	0.832	0.68	1.077
Across	1.406	-1.198	0.48	1.292

### Attitude Residuals (Deg)

Pitch	Roll	Yaw
0.00366	0.02606	0.20132

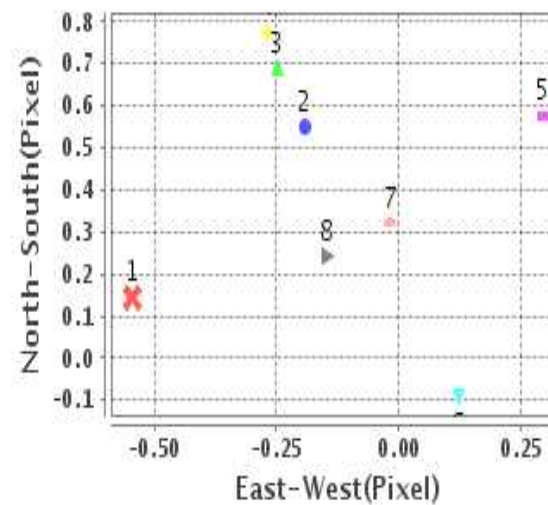
### Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

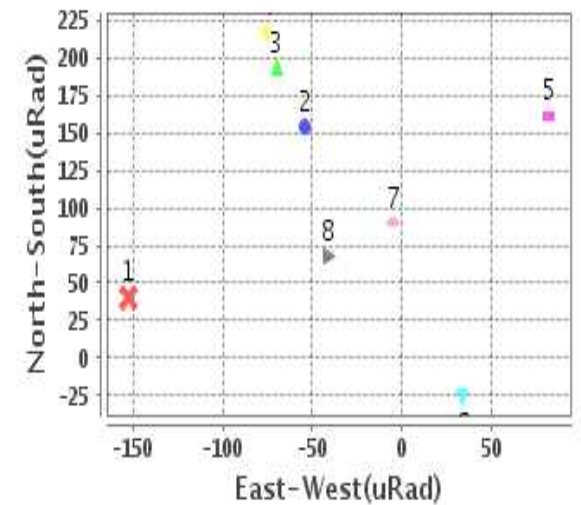
### Radial Error (in IR Pixels)

<b>Mean</b>	1.807
<b>Min</b>	.937
<b>Max</b>	3.133
<b>CE90</b>	2.802

### Location Error For GCPs(Pixel)



### Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3D	<b>Generation Date</b>	27-03-18
<b>Sensor</b>	SND	<b>DQE Date</b>	28-03-2018
<b>PassType</b>	NONE	<b>Aquisition Date</b>	27-03-18
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	06:00
<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_27MAR2	<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>	24.092
<b>Center Lon(deg)</b>	75.184
<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>	41.384
<b>NW_Lon(deg)</b>	49.85
<b>SW_Lat(deg)</b>	6.799
<b>SW_Lon(deg)</b>	49.85
<b>NE_Lat(deg)</b>	41.384
<b>NE_Lon(deg)</b>	100.519
<b>SE_Lat(deg)</b>	6.799
<b>SE_Lon(deg)</b>	100.519

### 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 : 3DSND27MAR20180600L1BSA1**

(-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

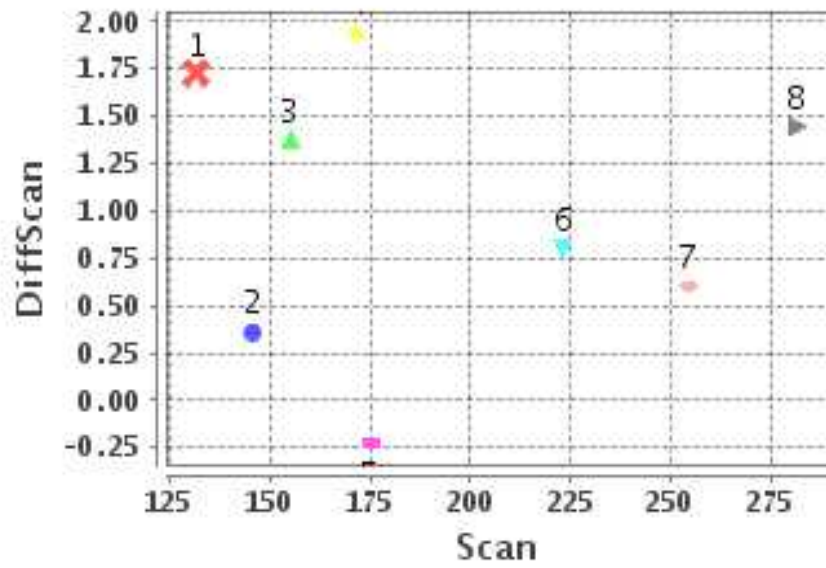
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 8

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	192.3	50.9	131.8	281.50	46.80 (N-S)
<b>GCP Pix</b>	182.4	133.1	12.5	363.50	91.41 (E-W)

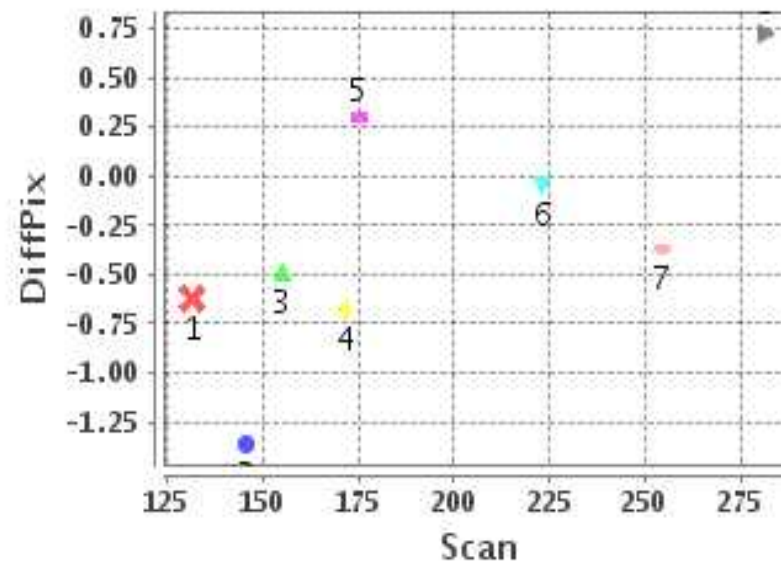
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	145.8	12.5	0.4	-1.36	13.218	S	8.200	W	Accepted
2	155.0	20.2	1.4	-0.48	16.509	S	1.218	E	Accepted
3	131.8	87.5	1.7	-0.62	31.017	S	4.404	E	Accepted
4	171.5	123.2	1.9	-0.67	27.971	S	1.611	W	Accepted
5	281.5	211.0	1.4	0.73	19.127	S	7.195	E	Accepted
6	175.2	287.8	-0.2	0.30	0.222	S	11.970	E	Accepted
7	223.2	363.5	0.8	-0.04	10.656	S	3.924	E	Accepted
8	254.2	353.5	0.6	-0.37	9.259	S	1.426	E	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



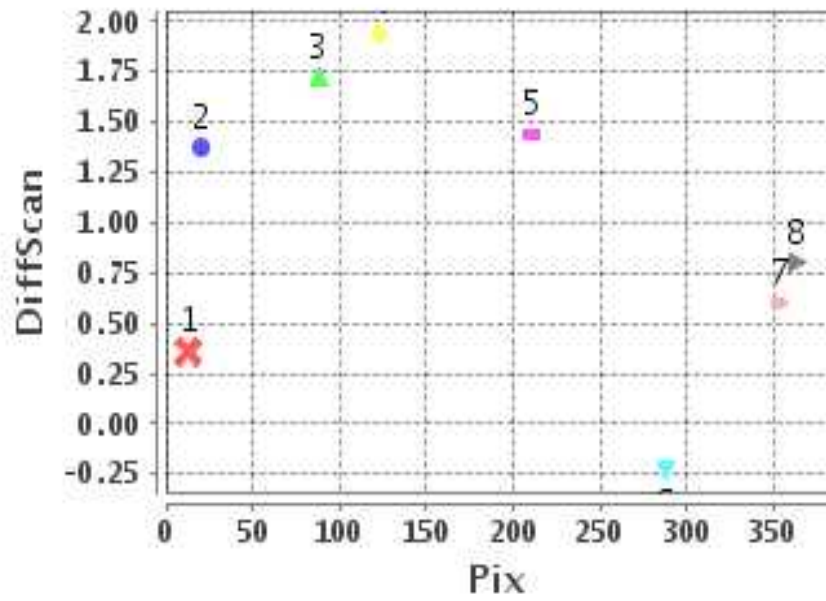
#### Number Of Points

North	0
South	8
East	6
West	2

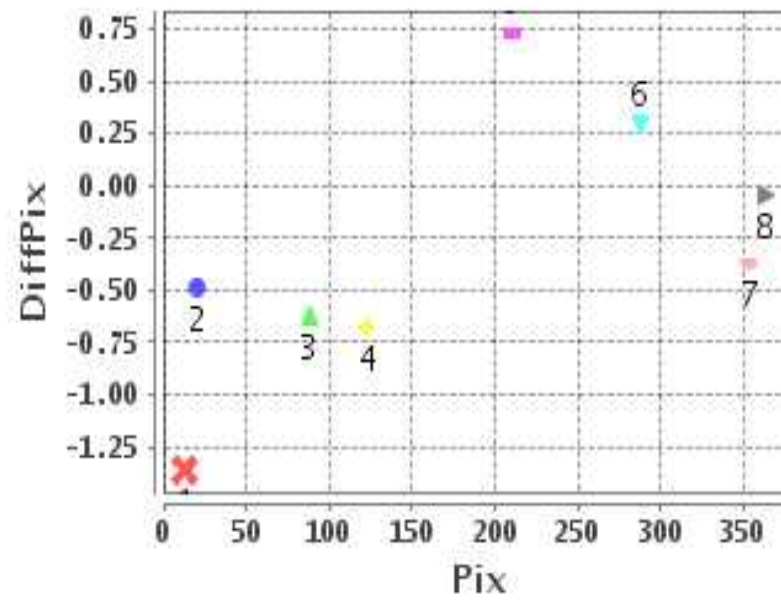
#### Radial Error ( Km )

Mean	1.807
Min	.937
Max	3.133
CE90	2.802

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	-1.600	0.942	1.856	S	1.601	1.985
Across ( Km )	0.254	0.561	0.616	E	0.478	0.657

## 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	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-22.18	S
Across(Mean,Dir)	-1.05	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	12.13	21.31
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.51	0.65
Across(Mean,Stddev)	-0.77	0.08

<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)	-0.22	S
Across(Mean,Dir)	11.97	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	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-19.12	S
Across(Mean,Dir)	7.20	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-255-384</b>		
Number of GCPs	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-9.955	S
Across(Mean,Dir)	2.68	E
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	10.61	6.10
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.20	0.00
Across(Mean,Stddev)	-0.32	0.00

\*-999 : no gcp available

\* -999.99 : values are not computed