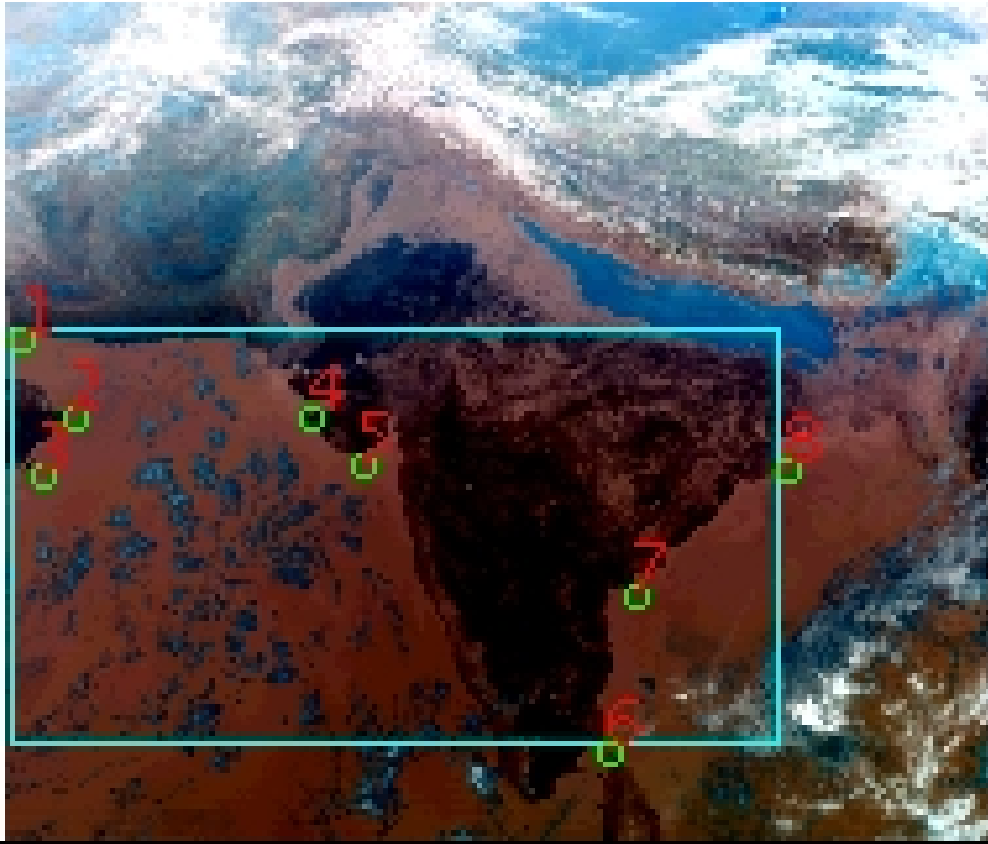


# DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND\_07JAN2018\_0500

Satellite	INSAT-3DR	No Of Bands	19	Product Type	STANDARD
Sensor	SND	LvlOfProcess	L1B	Selected Band	2-LWIR3
DOP/Time	07-01-18/05:00	Station ID	BES	Field View(deg)	6.136
Res(Y,X) [Km]	(10.0,10.0)	Res(Y,X) [uRad]	(280.0,280.0)		

(41.269N,52.053W)

(41.269N,102.05E)



(6.826S,52.053W)

(6.826S,102.05E)

GCP Distribution overview for 3RSND07JAN20180500L1BSA1

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

GCP Coverage(%) 48.91 (N-S) 76.11 (E-W)

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-0.275	S	0.542	0.608
Across	-1.427	W	0.602	1.549

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.766	0.663	7.656
Along	10.216	0.601	2.155
Across	11.123	1.030	11.226

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	1.784	-0.350	0.60	0.697
Across	1.532	0.662	0.58	0.878

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02152	0.00227	0.07897

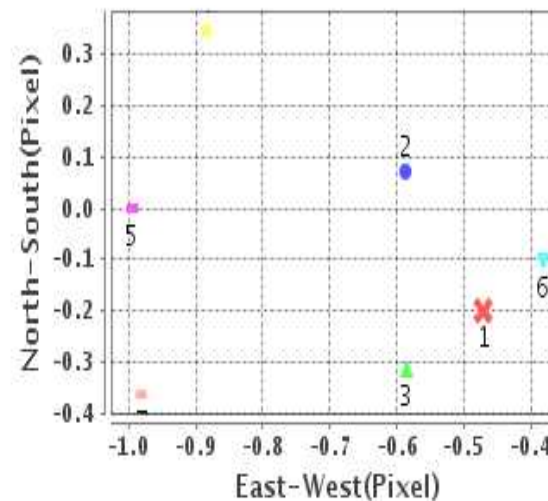
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

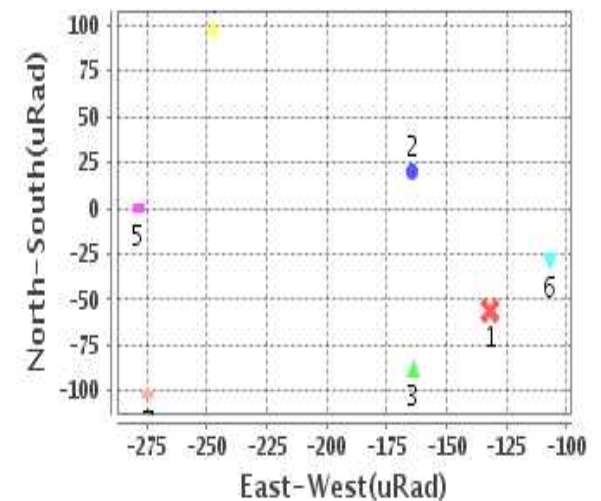
## Radial Error (in IR Pixels)

Mean	1.539
Min	.322
Max	2.438
CE90	1.936

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	07-01-18
<b>Sensor</b>	SND	<b>DQE Date</b>	09-01-2018
<b>PassType</b>	NONE	<b>Aquisition Date</b>	07-01-18
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	05:00
<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>	74.0
<b>LvlOfProcessing</b>	STANDARD	<b>Predicted Center Lat(deg)</b>	-999.99
<b>DP JobId</b>	3RSND_07JAN20	<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>	24.047
<b>Center Lon(deg)</b>	77.051
<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>	41.269
<b>NW_Lon(deg)</b>	52.053
<b>SW_Lat(deg)</b>	6.826
<b>SW_Lon(deg)</b>	52.053
<b>NE_Lat(deg)</b>	41.269
<b>NE_Lon(deg)</b>	102.05
<b>SE_Lat(deg)</b>	6.826
<b>SE_Lon(deg)</b>	102.05

### 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 : 3RSND07JAN20180500L1BSA1**

(-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

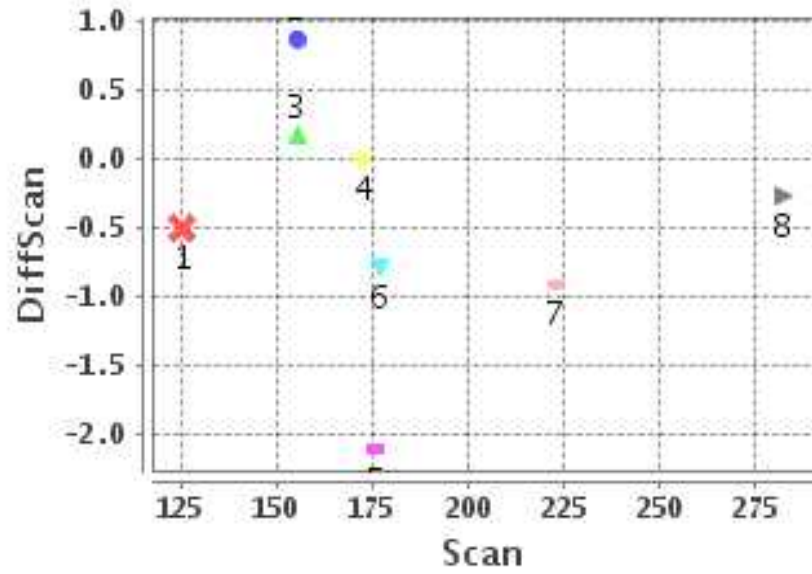
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 8

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	183.2	45.3	125.5	282.00	48.91 (N-S)
<b>GCP Pix</b>	138.2	106.3	11.0	303.25	76.11 (E-W)

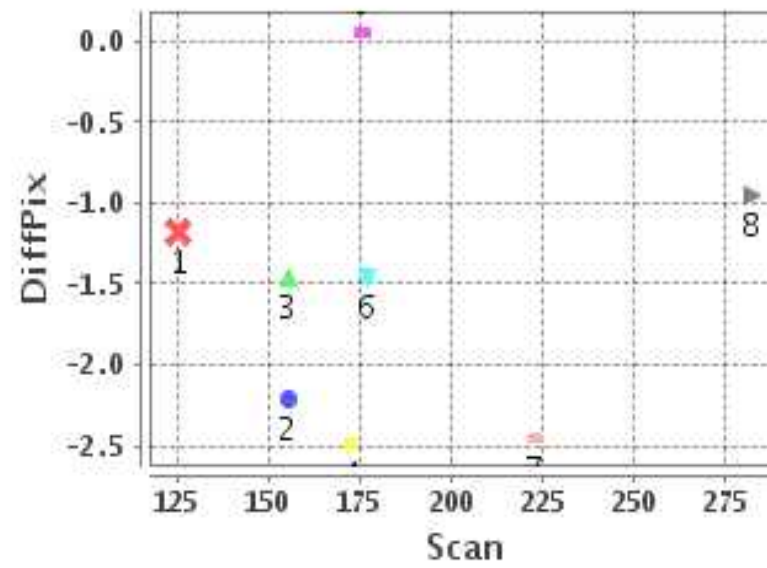
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	125.5	11.0	-0.5	-1.18	0.203	S	13.268	W	Accepted
2	155.5	30.0	0.2	-1.47	7.333	S	16.042	W	Accepted
3	176.8	19.2	-0.8	-1.46	1.378	N	11.360	W	Accepted
4	155.2	121.2	0.9	-2.21	12.624	S	20.859	W	Accepted
5	172.5	140.8	-0.0	-2.49	5.551	S	17.584	W	Accepted
6	282.0	235.8	-0.3	-0.96	2.828	N	1.545	W	Accepted
7	222.8	244.5	-0.9	-2.45	2.236	N	19.227	W	Accepted
8	175.8	303.2	-2.1	0.05	15.376	N	3.673	E	Rejected

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



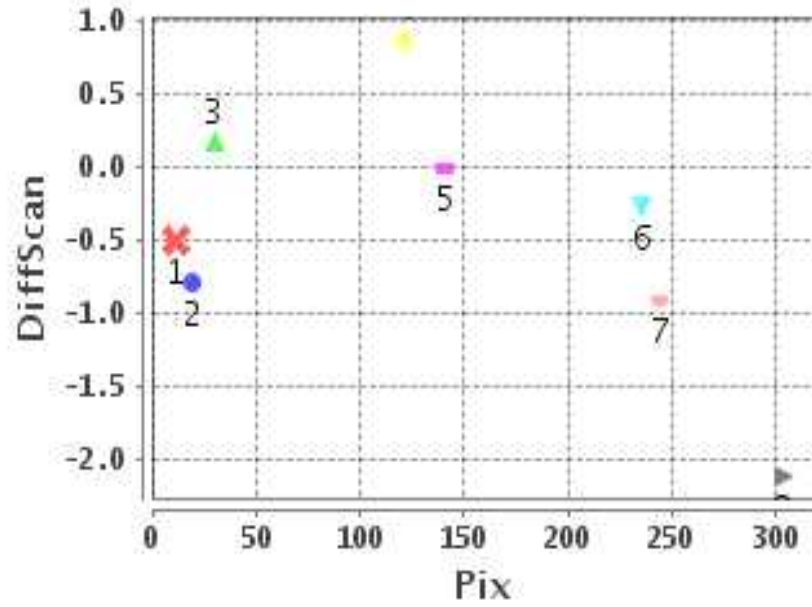
#### Number Of Points

North	3
South	4
East	0
West	7

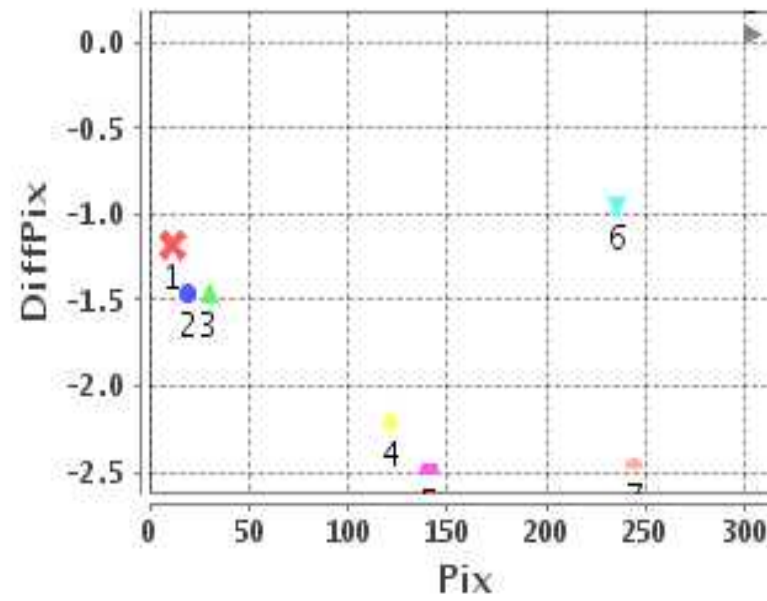
#### Radial Error ( Km )

Mean	1.539
Min	.322
Max	2.438
CE90	1.936

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	-0.275	0.542	0.608	S	0.407	0.657
Across ( Km )	-1.427	0.602	1.549	W	1.440	1.672

## 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)	-4.695	S
Across(Mean,Dir)	-15.38	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	11.34	13.40
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.59	0.68
Across(Mean,Stddev)	0.54	0.35

<b>Scan Range-105-212; Pix Range-127-255</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-5.55	S
Across(Mean,Dir)	-17.58	W
<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	-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-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)	2.53	N
Across(Mean,Dir)	-10.39	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	10.35	3.53
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.65	0.00
Across(Mean,Stddev)	1.50	0.00

<b>Scan Range-212-320; 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

\*-999 : no gcp available

\* -999.99 : values are not computed