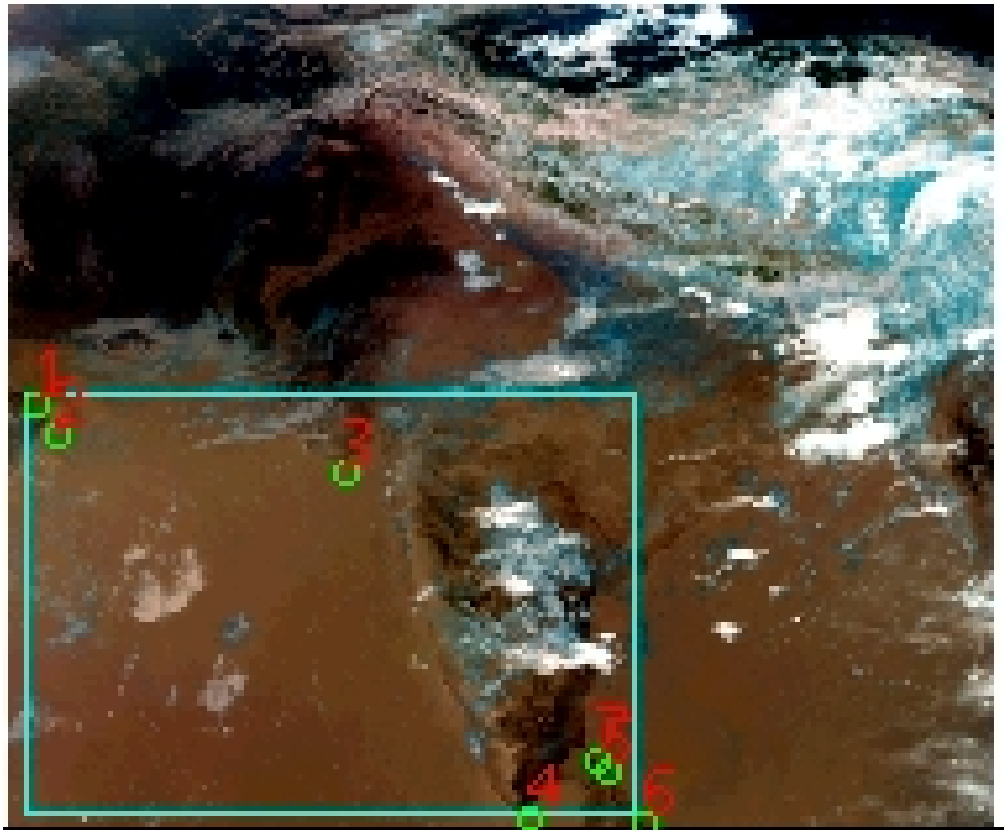


# DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND\_12SEP2018\_0300

Satellite	INSAT-3DR	No Of Bands	19	Product Type	STANDARD
Sensor	SND	LvlOfProcess	L1B	Selected Band	2-LWIR3
DOP/Time	12-09-18/03:00	Station ID	BES	Field View(deg)	6.136
Res(Y,X) [Km]	(10.0,10.0)	Res(Y,X) [uRad]	(280.0,280.0)		

(41.804N,54.134W)

(41.804N,104.918E)



(7.002S,54.134W)

(7.002S,104.918E)

GCP Distribution overview for 3RSND12SEP20180300L1BSA1

Image Width: 384 Image Height: 320 No Of GCPs: 7

GCP Coverage(%) 50.00 (N-S) 60.68 (E-W)

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	6.005	N	1.021	6.091
Across	-4.098	W	1.509	4.367

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.519	0.820	5.191
Along	10.025	0.122	0.248
Across	10.714	0.542	7.145

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	1.561	-1.462	0.55	1.563
Across	1.494	-1.634	0.55	1.724

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.04846	-0.08575	-0.48544

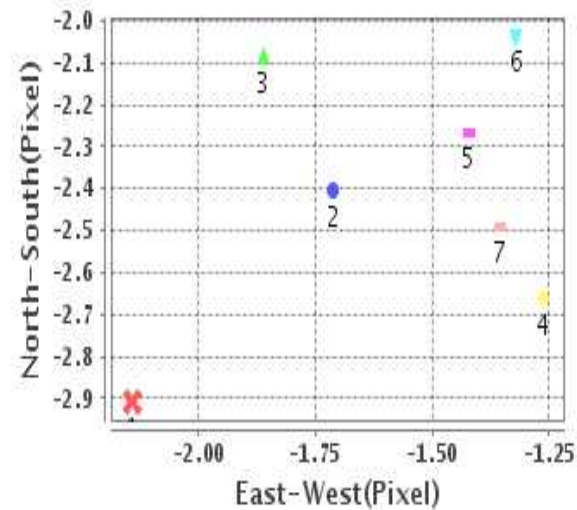
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

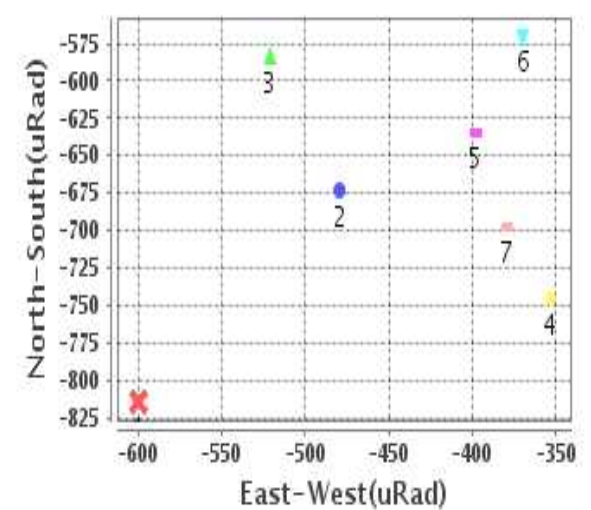
## Radial Error (in IR Pixels)

Mean	7.325
Min	5.251
Max	10.423
CE90	8.330

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	12-09-18
<b>Sensor</b>	SND	<b>DQE Date</b>	14-09-2018
<b>PassType</b>	NONE	<b>Aquisition Date</b>	12-09-18
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	03:00
<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_12SEP20	<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>	24.403
<b>Center Lon(deg)</b>	79.526
<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>	41.804
<b>NW_Lon(deg)</b>	54.134
<b>SW_Lat(deg)</b>	7.002
<b>SW_Lon(deg)</b>	54.134
<b>NE_Lat(deg)</b>	41.804
<b>NE_Lon(deg)</b>	104.918
<b>SE_Lat(deg)</b>	7.002
<b>SE_Lon(deg)</b>	104.918

### 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 : 3RSND12SEP20180300L1BSA1**

(-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

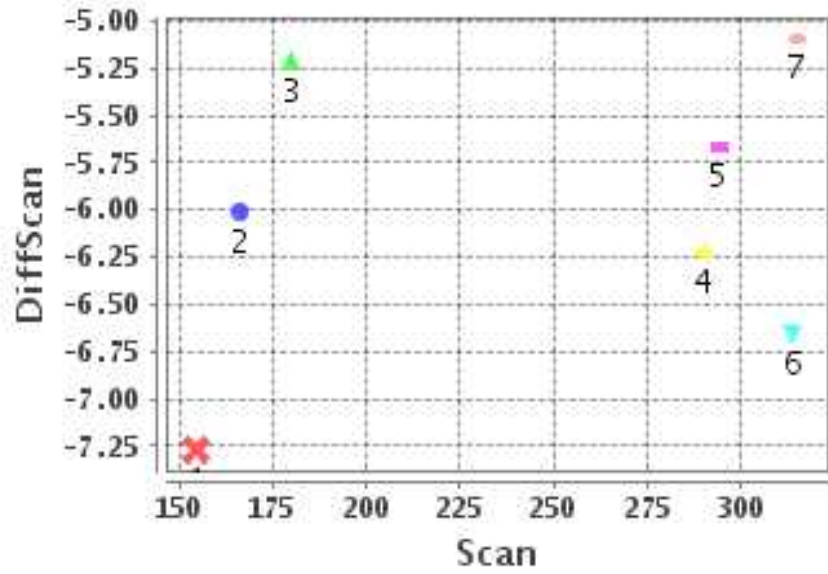
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 7

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	244.8	68.2	154.8	314.75	50.00 (N-S)
<b>GCP Pix</b>	148.3	92.5	8.0	241.00	60.68 (E-W)

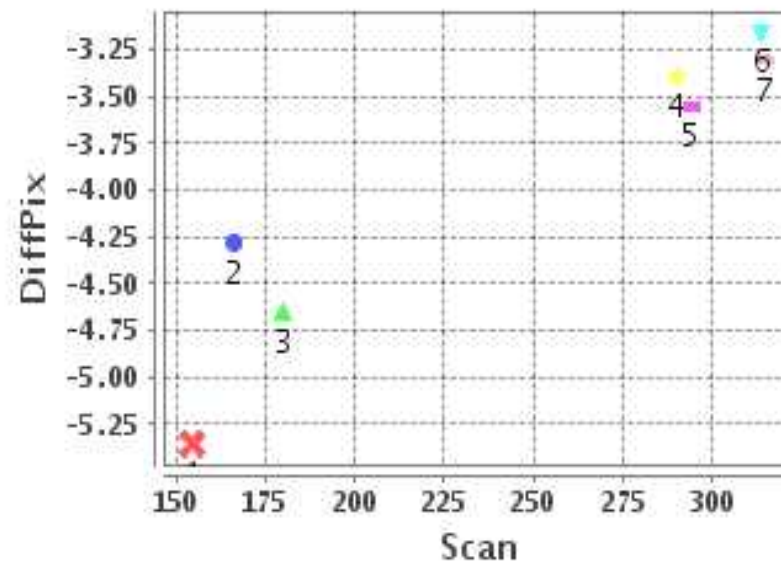
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	154.8	8.0	-7.3	-5.36	78.606	N	68.453	W	Accepted
2	166.5	17.0	-6.0	-4.28	64.764	N	52.381	W	Accepted
3	180.0	127.0	-5.2	-4.65	59.982	N	50.595	W	Accepted
4	313.8	196.5	-6.7	-3.16	57.211	N	24.553	W	Accepted
5	294.0	226.5	-5.7	-3.55	56.149	N	28.931	W	Accepted
6	314.8	241.0	-5.1	-3.30	41.712	N	31.895	W	Accepted
7	290.0	222.2	-6.2	-3.39	61.903	N	30.075	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



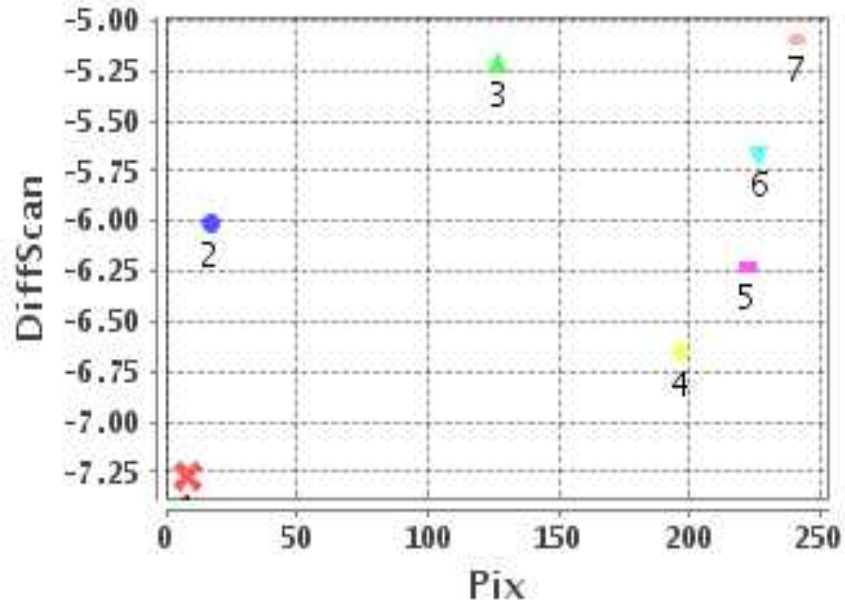
#### Number Of Points

North	7
South	0
East	0
West	7

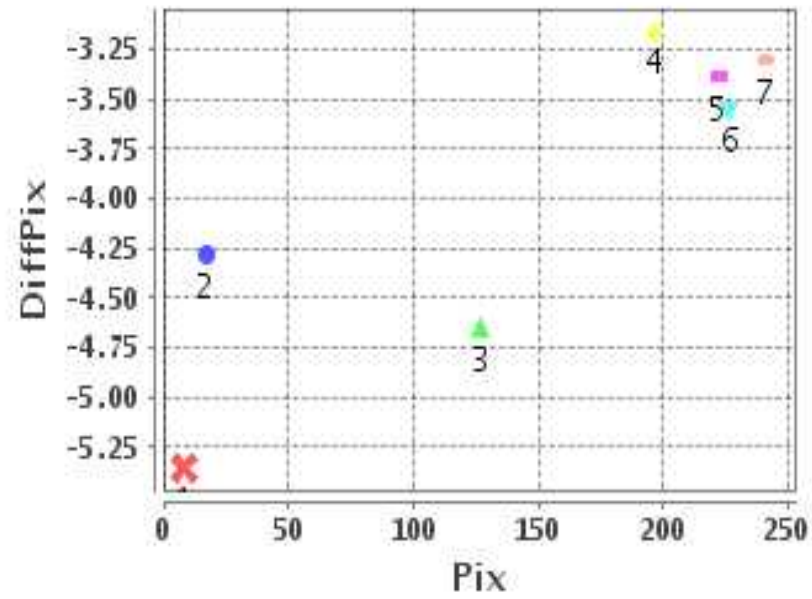
#### Radial Error ( Km )

Mean	7.325
Min	5.251
Max	10.423
CE90	8.330

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	6.005	1.021	6.091	N	5.743	6.355
Across ( Km )	-4.098	1.509	4.367	W	3.800	4.609

## 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	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	67.78	N
Across(Mean,Dir)	-57.14	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	11.87	18.74
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-1.66	0.40
Across(Mean,Stddev)	-0.89	0.19

<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	-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	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	54.242	N
Across(Mean,Dir)	-28.86	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	9.91	0.92
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.42	0.64
Across(Mean,Stddev)	0.26	0.10

<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