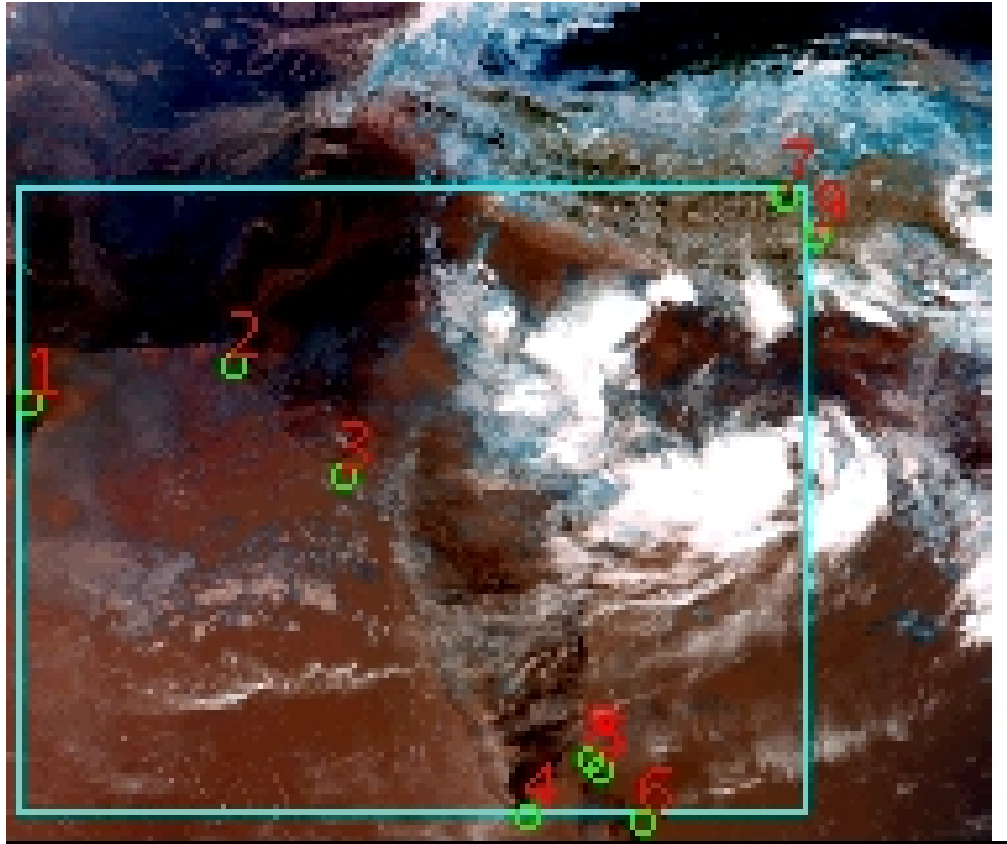


# DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND\_06SEP2018\_0300

<b>Satellite</b>	INSAT-3DR	<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>	06-09-18/03:00	<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)		

(41.801N,54.152W)

(41.801N,104.939E)



(7.006S,54.152W)

(7.006S,104.939E)

GCP Distribution overview for 3RSND06SEP20180300L1BSA1

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

**GCP Coverage(%)**    74.38    **(N-S)** 77.73    **(E-W)**

### Location Error(E)

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

### Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.467	N	0.836	0.957
Across	-1.100	W	1.205	1.631

### Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.967	0.798	9.669
Along	11.231	0.594	12.311
Across	11.092	0.335	10.917

### Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	3.053	0.973	0.81	1.268
Across	2.819	-2.396	0.85	2.543

### Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01498	-0.00590	-0.21572

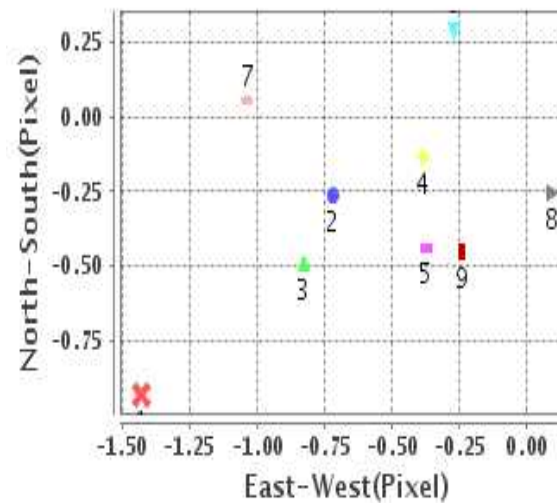
### Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

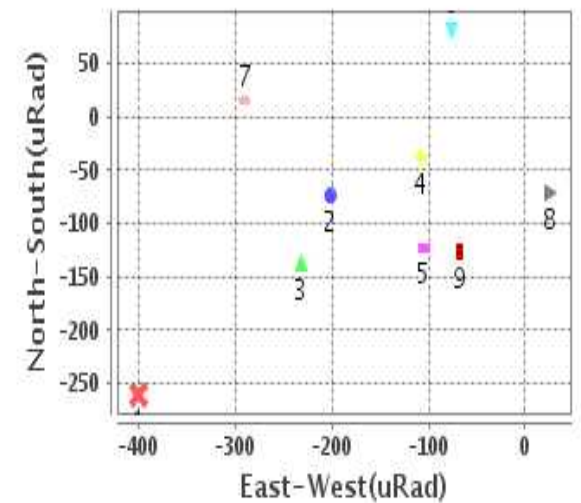
### Radial Error (in IR Pixels)

<b>Mean</b>	1.573
<b>Min</b>	.620
<b>Max</b>	3.885
<b>CE90</b>	2.431

### Location Error For GCPs(Pixel)



### Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	06-09-18
<b>Sensor</b>	SND	<b>DQE Date</b>	10-09-2018
<b>PassType</b>	NONE	<b>Aquisition Date</b>	06-09-18
<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_06SEP20	<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>	24.404
<b>Center Lon(deg)</b>	79.545
<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>	41.801
<b>NW_Lon(deg)</b>	54.152
<b>SW_Lat(deg)</b>	7.006
<b>SW_Lon(deg)</b>	54.152
<b>NE_Lat(deg)</b>	41.801
<b>NE_Lon(deg)</b>	104.939
<b>SE_Lat(deg)</b>	7.006
<b>SE_Lon(deg)</b>	104.939

### 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 : 3RSND06SEP20180300L1BSA1**

(-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

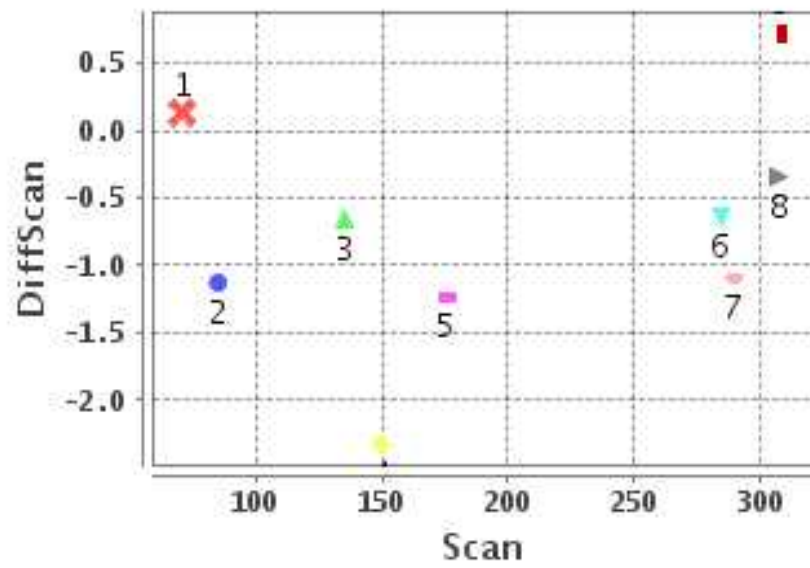
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 9

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	200.9	91.7	71.0	309.00	74.38 (N-S)
<b>GCP Pix</b>	187.2	92.7	5.8	304.25	77.73 (E-W)

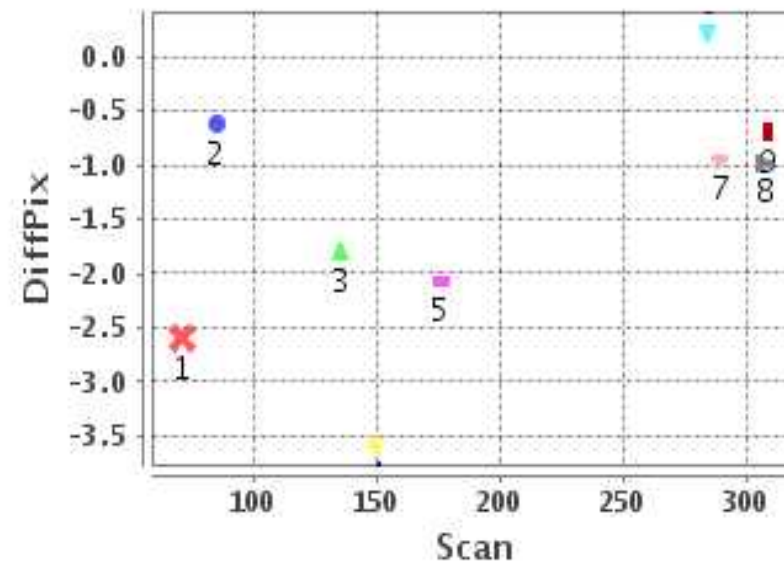
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	149.8	5.8	-2.3	-3.58	18.993	N	33.889	W	Accepted
2	135.5	83.5	-0.7	-1.80	1.447	N	12.855	W	Accepted
3	176.0	124.2	-1.2	-2.08	13.919	N	19.936	W	Accepted
4	307.5	194.2	-0.3	-0.97	1.518	S	6.007	W	Accepted
5	289.5	223.8	-1.1	-0.94	5.730	N	2.531	W	Accepted
6	309.0	238.2	0.7	-0.68	7.393	S	4.209	W	Accepted
7	71.0	292.5	0.1	-2.59	3.304	S	23.712	W	Accepted
8	284.5	218.5	-0.6	0.23	1.305	N	7.195	E	Accepted
9	85.2	304.2	-1.1	-0.61	12.878	N	3.026	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



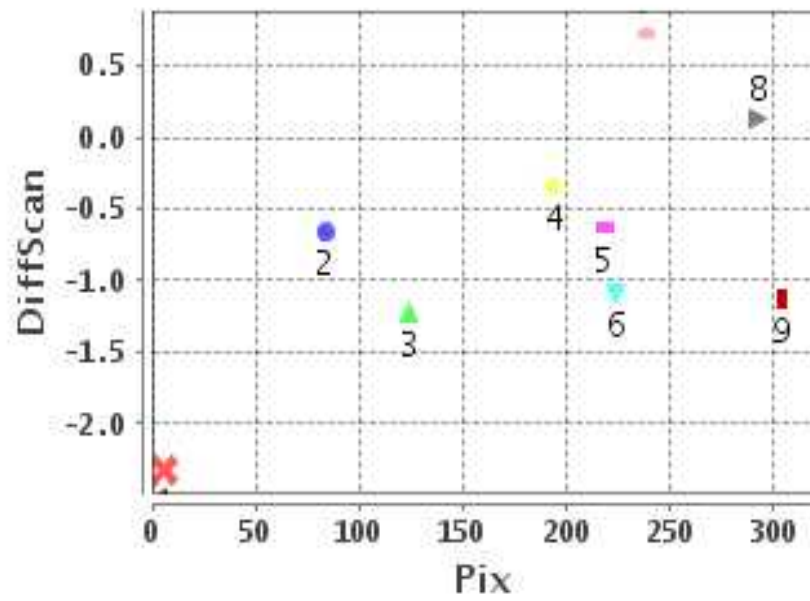
#### Number Of Points

North	6
South	3
East	1
West	8

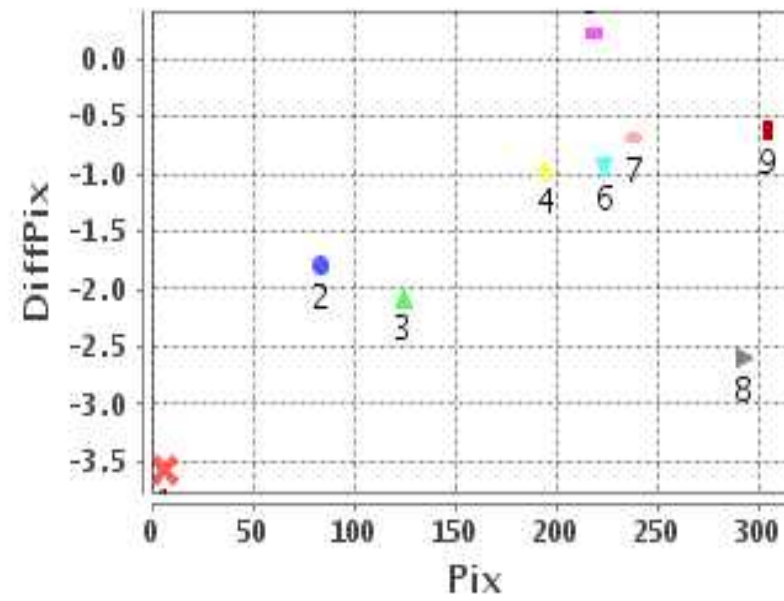
#### Radial Error ( Km )

Mean	1.573
Min	.620
Max	3.885
CE90	2.431

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.467	0.836	0.957	N	0.762	1.014
Across ( Km )	-1.100	1.205	1.631	W	1.248	1.728

## 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	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	4.79	N
Across(Mean,Dir)	-13.38	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	12.26	22.61
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	1.26	0.00
Across(Mean,Stddev)	-1.98	0.00

<b>Scan Range-105-212; Pix Range-0-127</b>		
Number of GCPs	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	11.45329999	N
Across(Mean,Dir)	-22.23	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	11.18	11.80
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	1.11	0.55
Across(Mean,Stddev)	-1.64	0.14

<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)	-0.46775	S
Across(Mean,Dir)	-1.39	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	9.76	2.41
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.40	0.75
Across(Mean,Stddev)	-0.51	0.50

<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