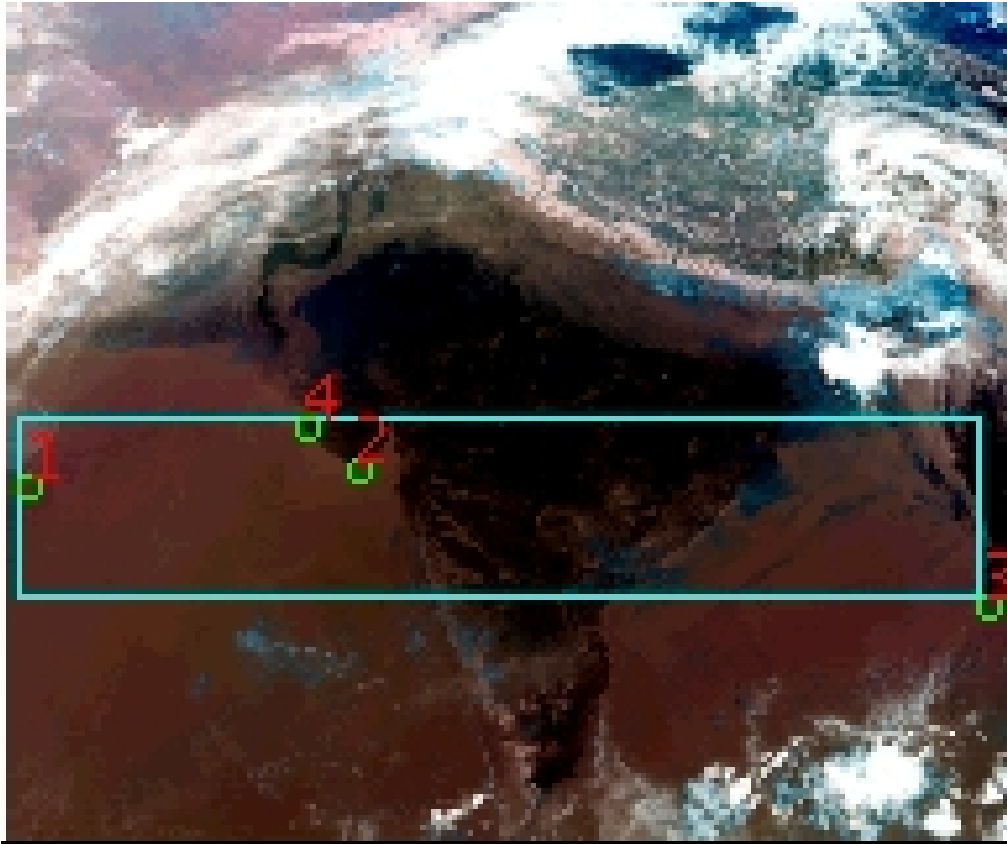


# DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND\_28MAR2017\_0330

**Satellite** INSAT-3DR    **No Of Bands** 19    **Product Type** STANDARD  
**Sensor** SND    **LvlOfProcess** L1B    **Selected Band** 2-LWIR3  
**DOP/Time** 28-03-17/03:30    **Station ID** BES    **Field View(deg)** 6.136  
**Res(Y,X) [Km]** (10.0,10.0)    **Res(Y,X) [uRad]** (280.0,280.0)

(41.649N,53.422W)

(41.649N,103.93E)



(7.045S,53.422W)

(7.045S,103.93E)

GCP Distribution overview for 3RSND28MAR20170330L1BSA1

**Image Width:** 384    **Image Height:** 320    **No Of GCPs:** 4

**GCP Coverage(%)**    21.02    **(N-S)** 94.99    **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.429	N	0.771	0.882
Across	-4.689	W	0.400	4.706

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.533	0.194	5.332
Along	9.865	0.000	1.349
Across	10.528	0.000	5.277

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	1.721	1.006	0.76	1.260
Across	0.807	-0.416	0.36	0.550

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.07229	-0.01151	0.28146

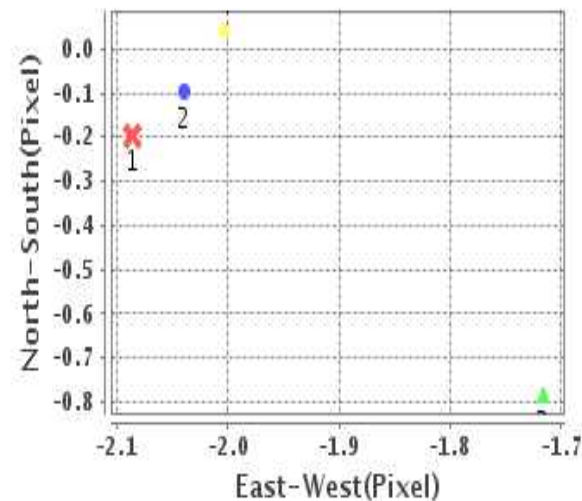
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

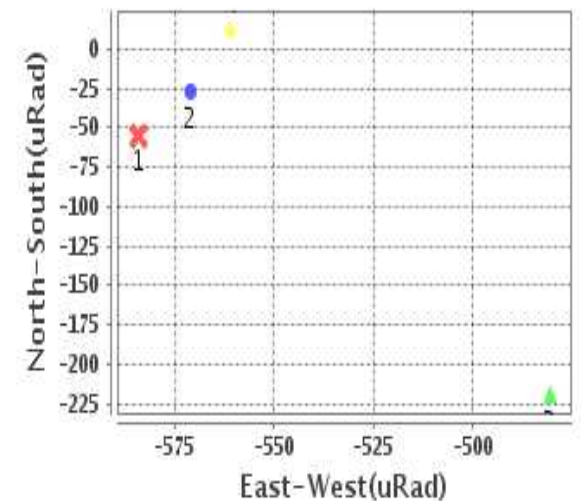
## Radial Error (in IR Pixels)

<b>Mean</b>	4.777
<b>Min</b>	4.398
<b>Max</b>	5.272
<b>CE90</b>	4.844

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	28-03-17
<b>Sensor</b>	SND	<b>DQE Date</b>	29-03-2017
<b>PassType</b>	NONE	<b>Aquisition Date</b>	28-03-17
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	03:30
<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_28MAR2	<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>	24.347
<b>Center Lon(deg)</b>	78.676
<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>	41.649
<b>NW_Lon(deg)</b>	53.422
<b>SW_Lat(deg)</b>	7.045
<b>SW_Lon(deg)</b>	53.422
<b>NE_Lat(deg)</b>	41.649
<b>NE_Lon(deg)</b>	103.93
<b>SE_Lat(deg)</b>	7.045
<b>SE_Lon(deg)</b>	103.93

### 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 : 3RSND28MAR20170330L1BSA1**

(-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

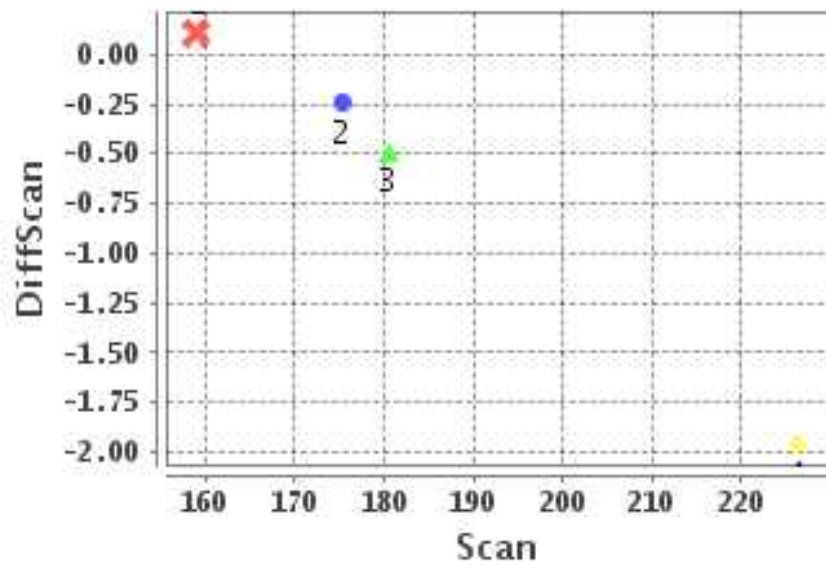
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 4

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	185.2	25.0	159.0	226.25	21.02 (N-S)
<b>GCP Pix</b>	156.4	133.4	7.5	372.25	94.99 (E-W)

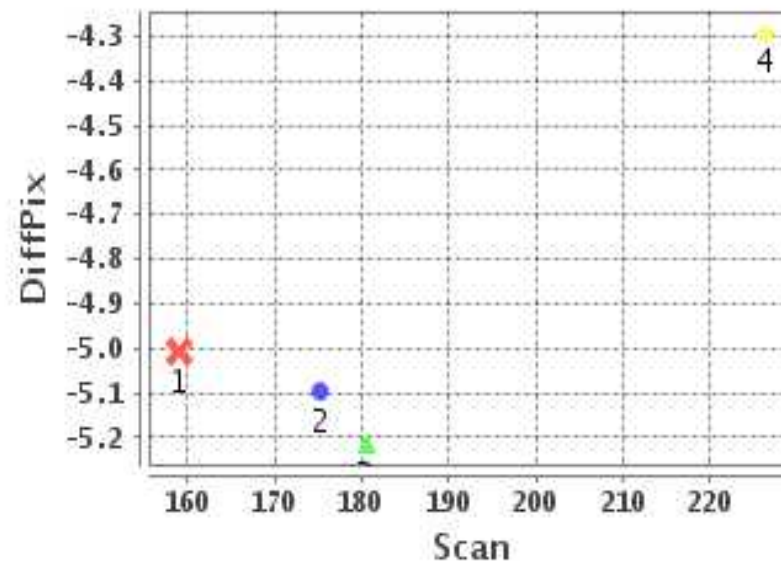
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	180.5	7.5	-0.5	-5.22	1.423	N	52.698	W	Accepted
2	175.2	132.8	-0.2	-5.10	0.127	S	43.984	W	Accepted
3	226.2	372.2	-2.0	-4.29	17.506	N	42.486	W	Accepted
4	159.0	113.2	0.1	-5.01	1.646	S	48.412	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



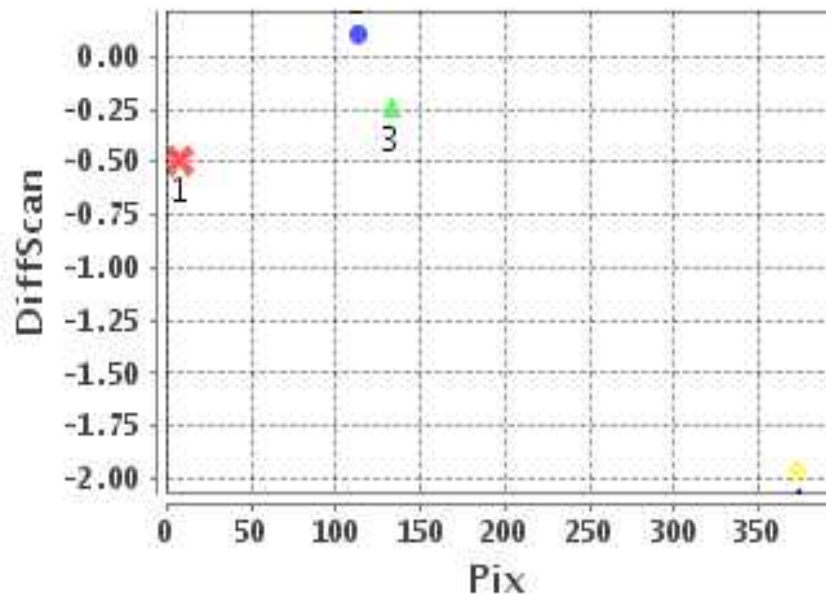
#### Number Of Points

North	2
South	2
East	0
West	4

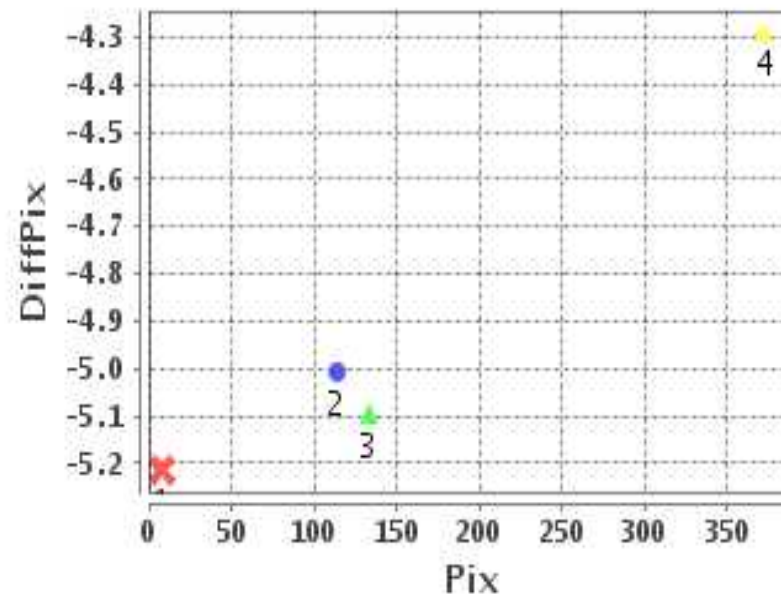
#### Radial Error ( Km )

Mean	4.777
Min	4.398
Max	5.272
CE90	4.844

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.429	0.771	0.882	N	0.126	1.019
Across ( Km )	-4.689	0.400	4.706	W	4.503	4.850

## Block-Wise Geo location Error Statistics

### Location Accuracy,Scale,ID

<b>Scan Range-0-105; Pix Range-0-127</b>		
Number of GCPs	<b>-999</b>	
<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	<b>-999</b>	
<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	<b>-999</b>	
<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	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-0.105	S
Across(Mean,Dir)	-50.56	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	10.54	5.39
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.60	0.00
Across(Mean,Stddev)	-0.21	0.00

<b>Scan Range-105-212; Pix Range-127-255</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-0.12	S
Across(Mean,Dir)	-43.98	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	<b>-999</b>	
<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	<b>-999</b>	
<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	<b>-999</b>	
<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-255-384</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	17.51	N
Across(Mean,Dir)	-42.48	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

\*-999 : no gcp available

\* -999.99 : values are not computed