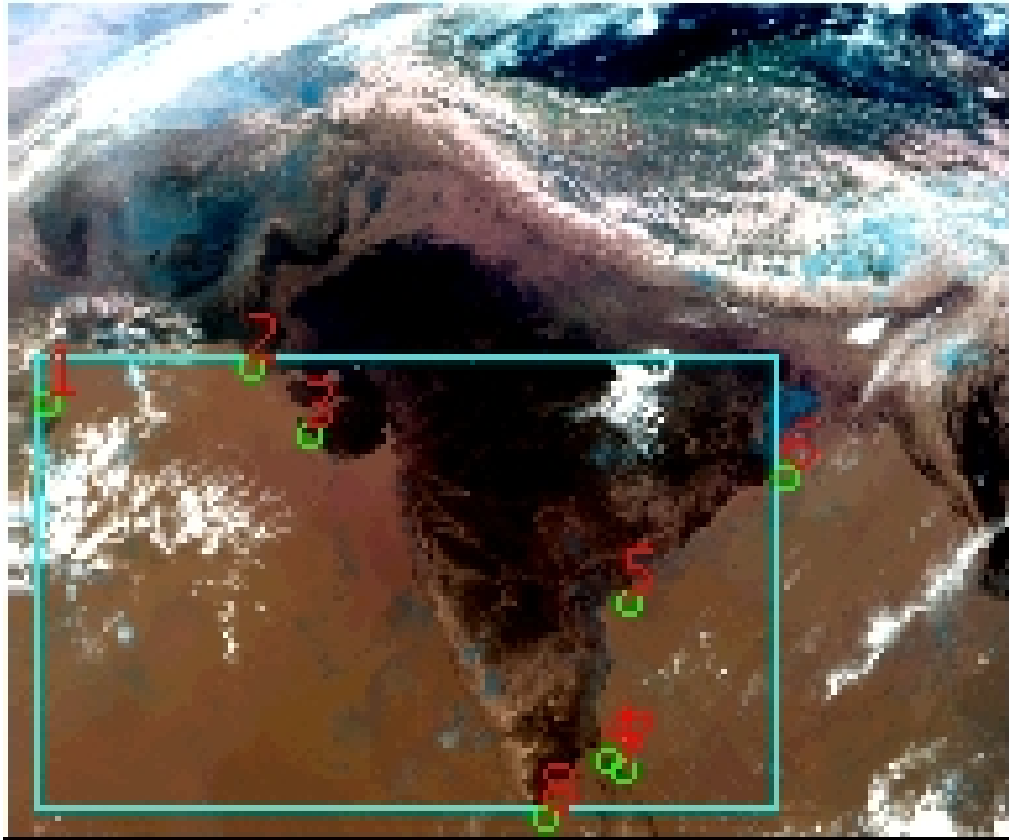


# DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND\_01APR2018\_0300

Satellite	INSAT-3DR	No Of Bands	19	Product Type	STANDARD
Sensor	SND	LvlOfProcess	L1B	Selected Band	2-LWIR3
DOP/Time	01-04-18/03:00	Station ID	BES	Field View(deg)	6.136
Res(Y,X) [Km]	(10.0,10.0)	Res(Y,X) [uRad]	(280.0,280.0)		

(41.661N,54.39W)

(41.661N,105.003E)



(7.002S,54.39W)

(7.002S,105.003E)

GCP Distribution overview for 3RSND01APR20180300L1BSA1

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

GCP Coverage(%) 53.83 (N-S) 73.44 (E-W)

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	2.189	N	0.674	2.290
Across	-9.822	W	0.641	9.843

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.562	0.302	5.619
Along	10.526	0.271	5.255
Across	10.603	0.512	6.033

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	1.782	0.869	0.65	1.082
Across	1.277	-0.055	0.41	0.409

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.15341	-0.03522	0.05382

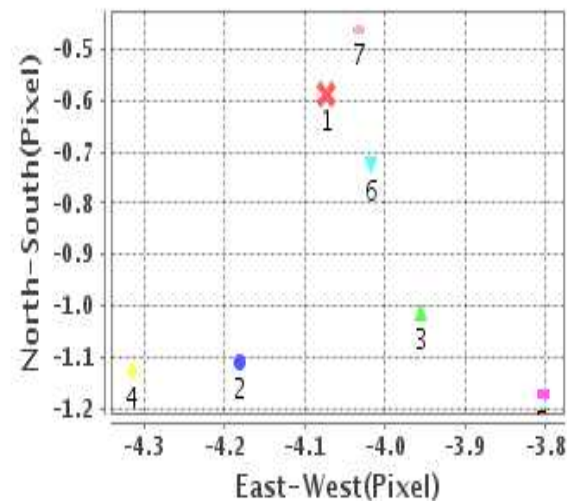
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

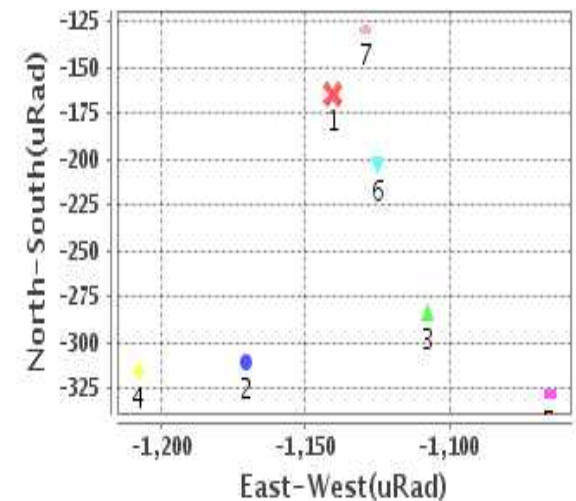
## Radial Error (in IR Pixels)

Mean	10.084
Min	9.153
Max	11.125
CE90	10.828

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	01-04-18
<b>Sensor</b>	SND	<b>DQE Date</b>	02-04-2018
<b>PassType</b>	NONE	<b>Aquisition Date</b>	01-04-18
<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_01APR20	<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>	24.332
<b>Center Lon(deg)</b>	79.696
<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>	41.661
<b>NW_Lon(deg)</b>	54.39
<b>SW_Lat(deg)</b>	7.002
<b>SW_Lon(deg)</b>	54.39
<b>NE_Lat(deg)</b>	41.661
<b>NE_Lon(deg)</b>	105.003
<b>SE_Lat(deg)</b>	7.002
<b>SE_Lon(deg)</b>	105.003

### 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 : 3RSND01APR20180300L1BSA1**

(-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

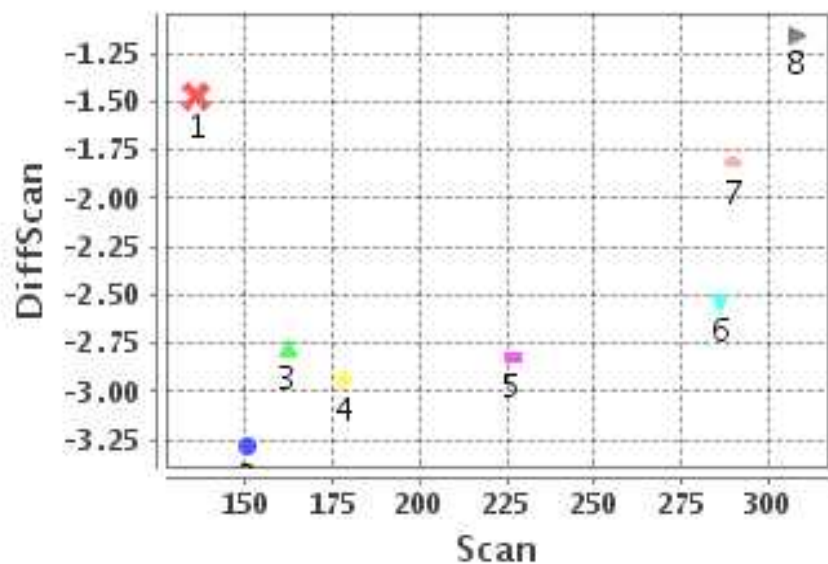
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 8

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	217.3	65.2	136.0	308.25	53.83 (N-S)
<b>GCP Pix</b>	176.2	88.1	13.5	295.50	73.44 (E-W)

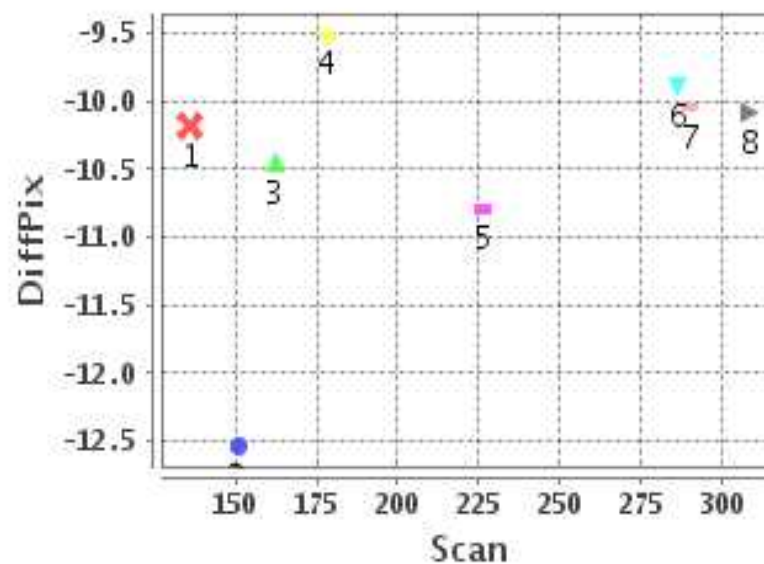
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	150.8	13.5	-3.3	-12.53	32.978	N	137.270	W	Rejected
2	136.0	90.5	-1.5	-10.18	19.180	N	106.563	W	Accepted
3	162.2	112.2	-2.8	-10.45	30.209	N	107.069	W	Accepted
4	286.2	227.8	-2.5	-9.89	22.799	N	88.642	W	Accepted
5	226.5	235.8	-2.8	-10.79	24.458	N	99.935	W	Accepted
6	178.2	295.5	-2.9	-9.51	29.408	N	93.450	W	Accepted
7	290.0	232.0	-1.8	-10.04	17.984	N	98.369	W	Accepted
8	308.2	202.5	-1.2	-10.08	9.166	N	93.547	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



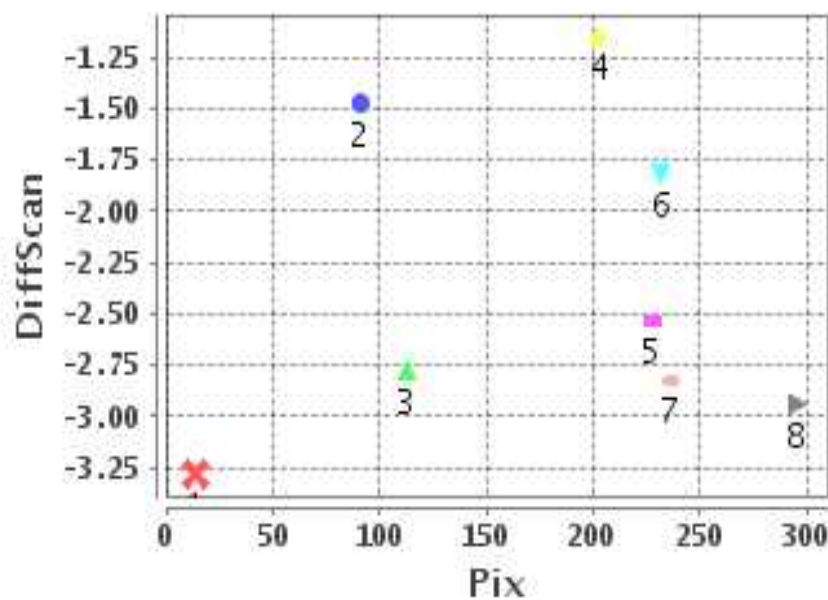
#### Number Of Points

North	7
South	0
East	0
West	7

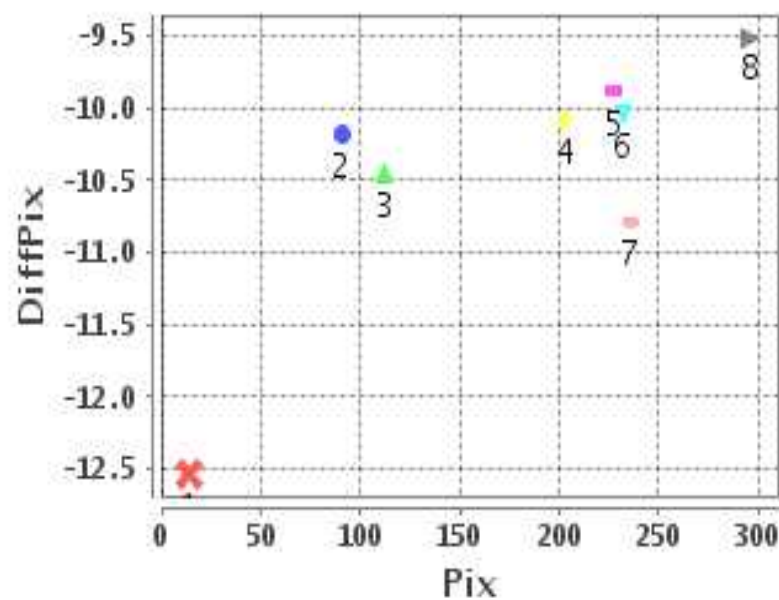
#### Radial Error ( Km )

Mean	10.084
Min	9.153
Max	11.125
CE90	10.828

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	2.189	0.674	2.290	N	2.144	2.445
Across ( Km )	-9.822	0.641	9.843	W	9.692	9.997

## 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	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	24.695	N
Across(Mean,Dir)	-106.82	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	11.36	13.59
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	1.30	0.00
Across(Mean,Stddev)	0.27	0.00

<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)	29.4	N
Across(Mean,Dir)	-93.45	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-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)	18.60120000	N
Across(Mean,Dir)	-95.12	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	10.28	2.78
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.99	0.56
Across(Mean,Stddev)	0.16	0.39

<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