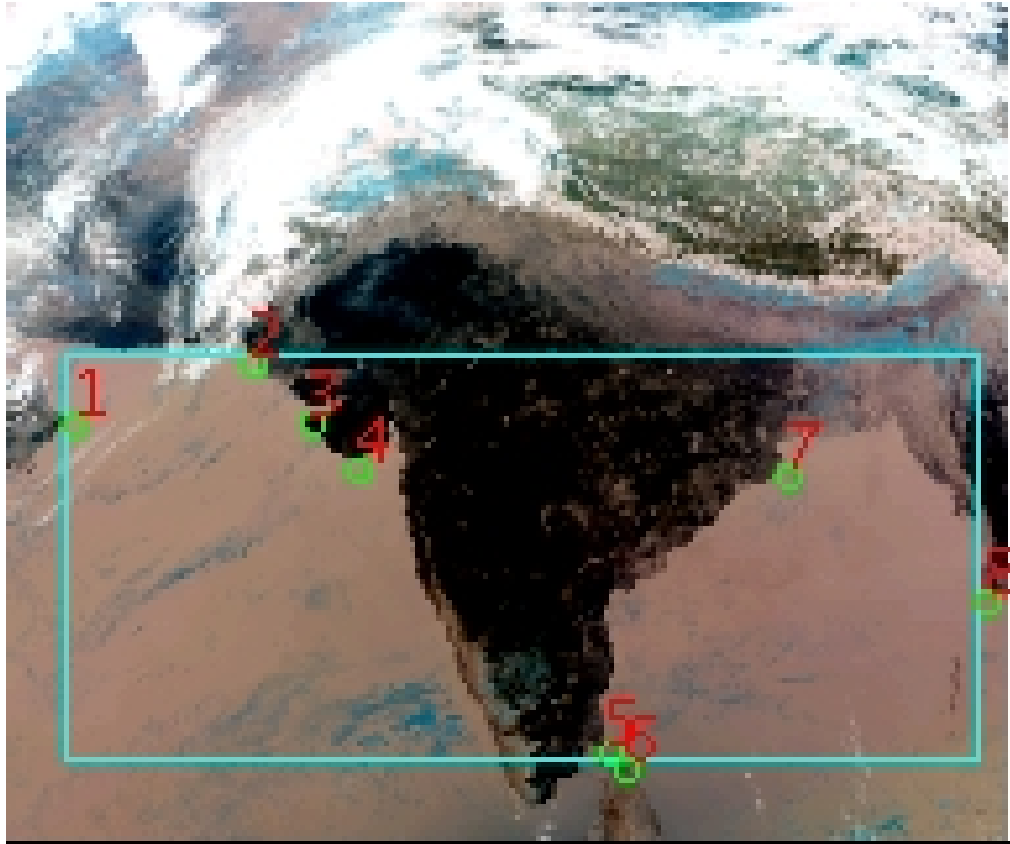


# DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND\_22MAR2017\_0530

**Satellite** INSAT-3DR    **No Of Bands** 19    **Product Type** STANDARD  
**Sensor** SND    **LvlOfProcess** L1B    **Selected Band** 2-LWIR3  
**DOP/Time** 22-03-17/05:30    **Station ID** BES    **Field View(deg)** 6.136  
**Res(Y,X) [Km]** (10.0,10.0)    **Res(Y,X) [uRad]** (280.0,280.0)

(41.385N,53.164W)

(41.385N,103.359E)



(6.871S,53.164W)

(6.871S,103.359E)

GCP Distribution overview for 3RSND22MAR20170530L1BSA1

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

**GCP Coverage(%)** 47.97    **(N-S)** 90.95    **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.938	N	0.753	1.203
Across	-1.230	W	0.658	1.395

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.582	0.563	5.825
Along	11.120	1.602	11.206
Across	10.537	0.307	5.372

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.271	-0.281	0.74	0.791
Across	1.554	-0.829	0.49	0.964

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01778	-0.01716	0.31961

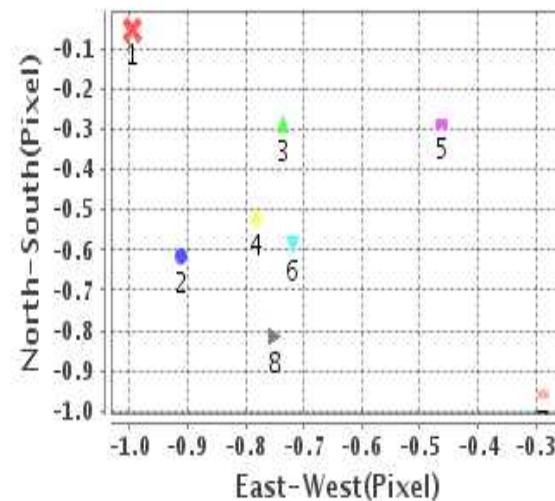
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

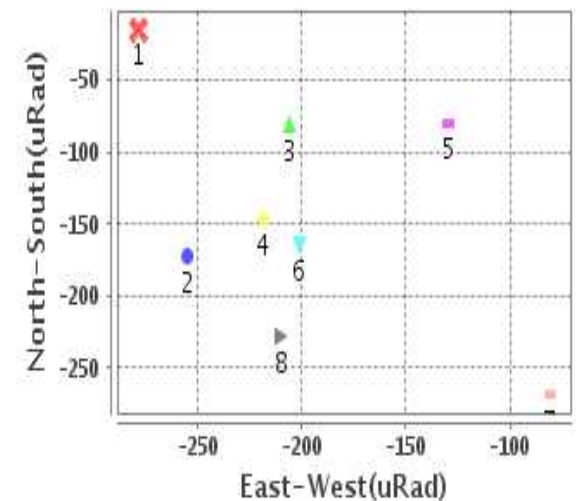
## Radial Error (in IR Pixels)

<b>Mean</b>	1.796
<b>Min</b>	.958
<b>Max</b>	2.247
<b>CE90</b>	2.193

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	22-03-17
<b>Sensor</b>	SND	<b>DQE Date</b>	23-03-2017
<b>PassType</b>	NONE	<b>Aquisition Date</b>	22-03-17
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	05:30
<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_22MAR2	<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>	24.128
<b>Center Lon(deg)</b>	78.262
<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>	41.385
<b>NW_Lon(deg)</b>	53.164
<b>SW_Lat(deg)</b>	6.871
<b>SW_Lon(deg)</b>	53.164
<b>NE_Lat(deg)</b>	41.385
<b>NE_Lon(deg)</b>	103.359
<b>SE_Lat(deg)</b>	6.871
<b>SE_Lon(deg)</b>	103.359

### 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 : 3RSND22MAR20170530L1BSA1**

(-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

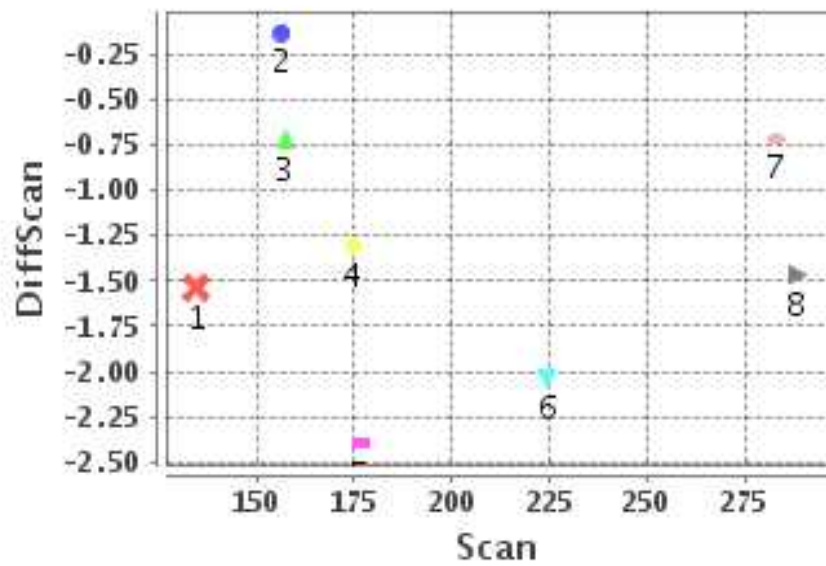
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 8

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	199.4	55.3	134.8	288.25	47.97 (N-S)
<b>GCP Pix</b>	185.7	108.6	22.5	371.75	90.95 (E-W)

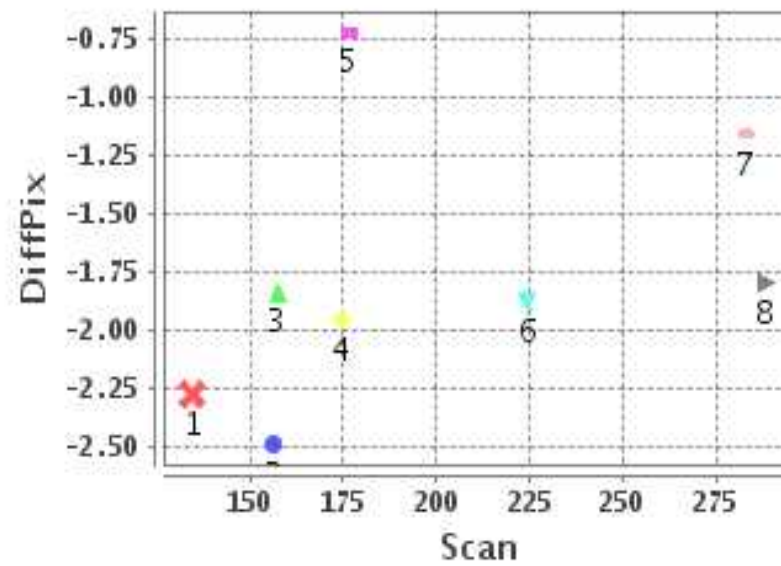
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	156.5	22.5	-0.1	-2.49	4.084	S	20.611	W	Accepted
2	134.8	91.5	-1.5	-2.28	9.612	N	20.309	W	Accepted
3	157.5	112.5	-0.7	-1.84	2.504	N	14.470	W	Accepted
4	174.5	131.8	-1.3	-1.95	9.159	N	12.881	W	Accepted
5	283.0	227.5	-0.7	-1.16	6.904	N	6.648	W	Accepted
6	288.2	232.2	-1.5	-1.80	12.394	N	14.467	W	Accepted
7	176.5	295.5	-2.4	-0.72	21.922	N	0.479	E	Accepted
8	224.5	371.8	-2.0	-1.88	16.636	N	9.475	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



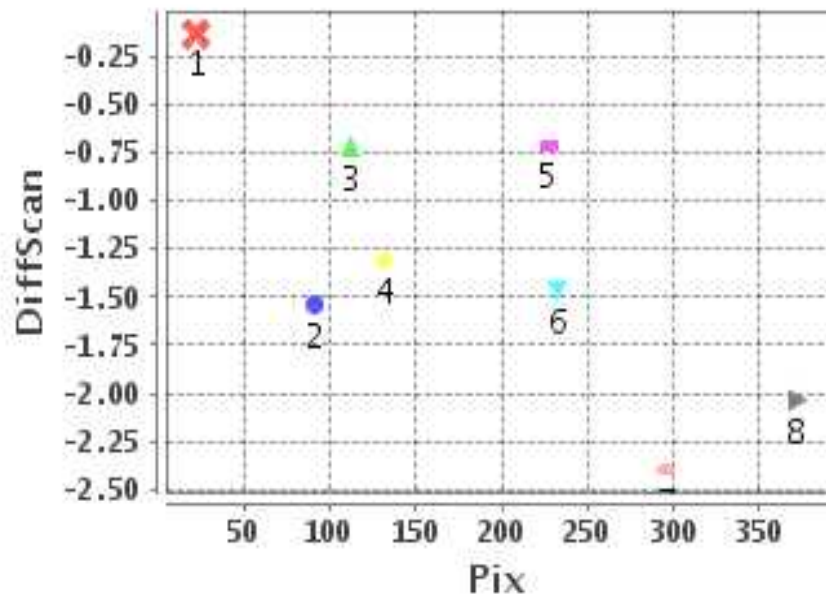
#### Number Of Points

North	7
South	1
East	1
West	7

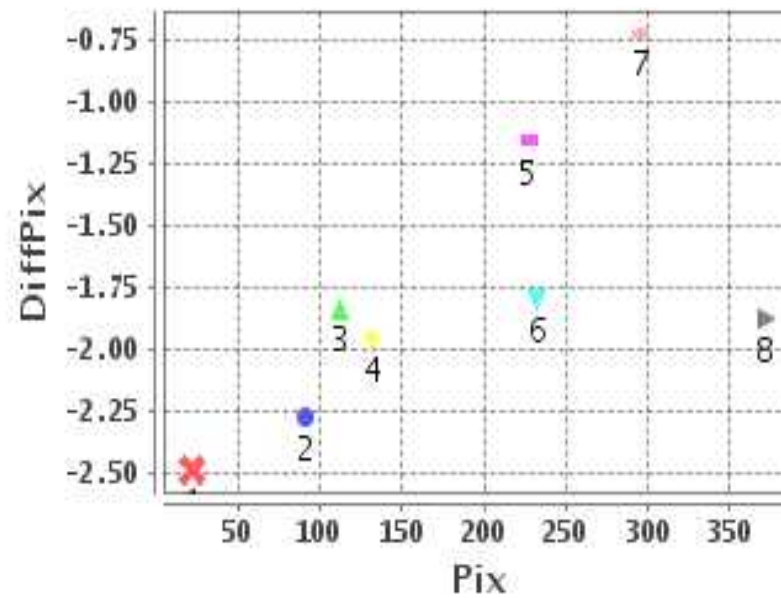
#### Radial Error ( Km )

Mean	1.796
Min	.958
Max	2.247
CE90	2.193

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.938	0.753	1.203	N	0.984	1.283
Across ( Km )	-1.230	0.658	1.395	W	1.271	1.491

## 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)	2.67667	N
Across(Mean,Dir)	-18.46	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	11.22	12.20
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-1.11	0.30
Across(Mean,Stddev)	-0.43	0.22

<b>Scan Range-105-212; Pix Range-127-255</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	9.16	N
Across(Mean,Dir)	-12.88	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	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	21.92	N
Across(Mean,Dir)	0.48	E
<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)	9.65	N
Across(Mean,Dir)	-10.56	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	8.41	15.87
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.75	0.00
Across(Mean,Stddev)	0.64	0.00

<b>Scan Range-212-320; Pix Range-255-384</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	16.64	N
Across(Mean,Dir)	-9.47	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