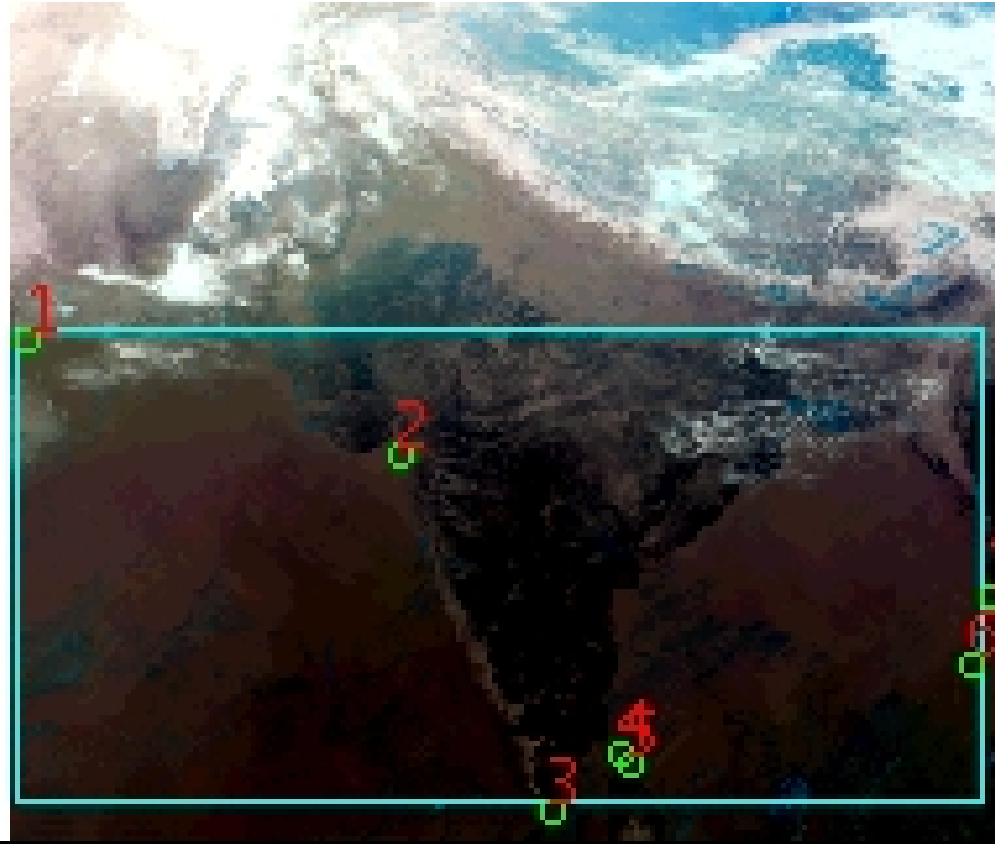


# DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND\_20FEB2018\_0300

**Satellite** INSAT-3DR      **No Of Bands** 19      **Product Type** STANDARD  
**Sensor** SND      **LvlOfProcess** L1B      **Selected Band** 2-LWIR3  
**DOP/Time** 20-02-18/03:00      **Station ID** BES      **Field View(deg)** 6.136  
**Res(Y,X) [Km]** (10.0,10.0)      **Res(Y,X) [uRad]** (280.0,280.0)

(41.294N,52.072W)

(41.294N,102.098E)



(6.861S,52.072W)

(6.861S,102.098E)

GCP Distribution overview for 3RSND20FEB20180300L1BSA1

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

**GCP Coverage(%)** 56.41      **(N-S)** 95.96      **(E-W)**

## Location Error(E)

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

## Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-0.068	S	0.491	0.495
Across	-1.411	W	0.820	1.633

## Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.438	0.432	4.383
Along	11.420	3.335	14.202
Across	10.772	1.257	7.720

## Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.036	0.792	0.70	1.055
Across	2.133	0.180	0.75	0.773

## Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02364	0.00217	0.18158

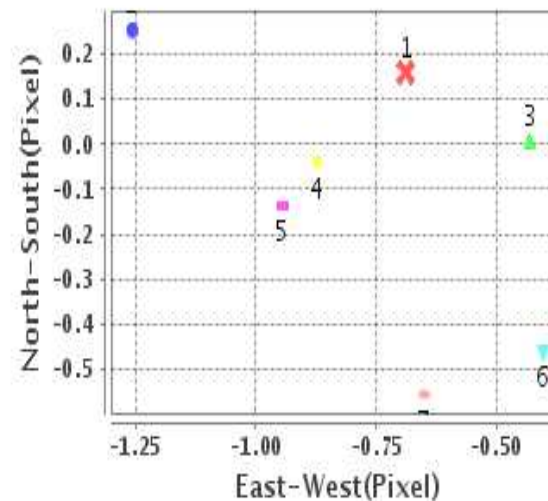
## Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

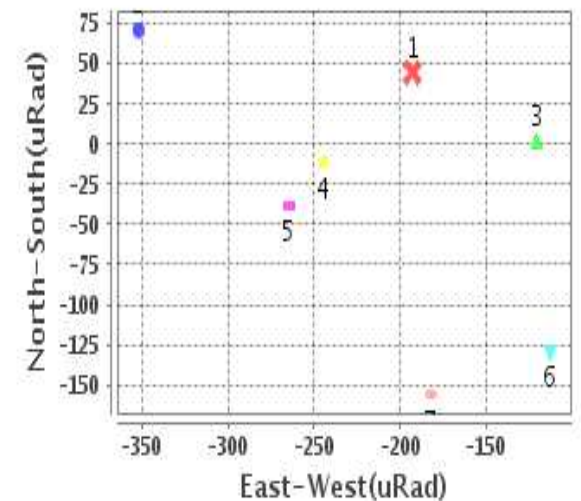
## Radial Error (in IR Pixels)

<b>Mean</b>	1.526
<b>Min</b>	.395
<b>Max</b>	2.815
<b>CE90</b>	2.317

## Location Error For GCPs(Pixel)



## Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	20-02-18
<b>Sensor</b>	SND	<b>DQE Date</b>	27-02-2018
<b>PassType</b>	NONE	<b>Aquisition Date</b>	20-02-18
<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_20FEB20	<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>	24.078
<b>Center Lon(deg)</b>	77.085
<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>	41.294
<b>NW_Lon(deg)</b>	52.072
<b>SW_Lat(deg)</b>	6.861
<b>SW_Lon(deg)</b>	52.072
<b>NE_Lat(deg)</b>	41.294
<b>NE_Lon(deg)</b>	102.098
<b>SE_Lat(deg)</b>	6.861
<b>SE_Lon(deg)</b>	102.098

### 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 : 3RSND20FEB20180300L1BSA1**

(-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

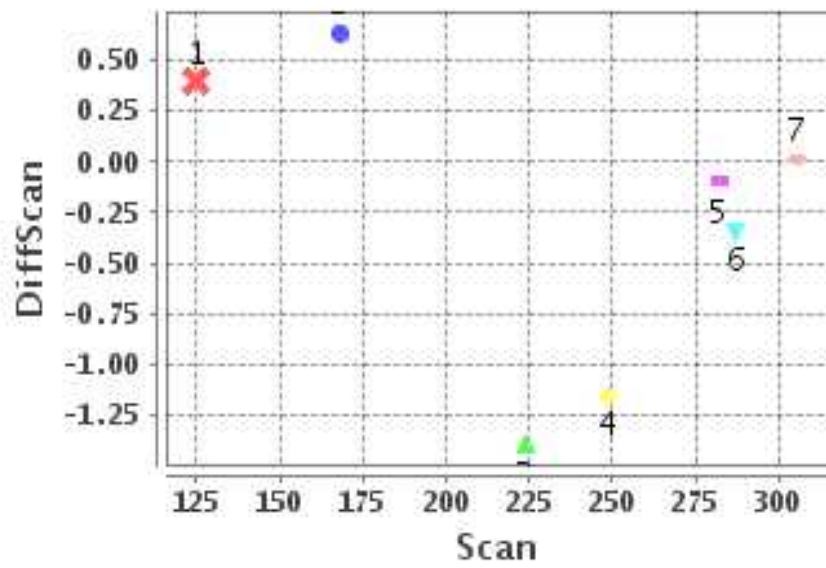
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 7

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	234.3	61.9	125.0	305.50	56.41 (N-S)
<b>GCP Pix</b>	228.9	117.5	11.2	379.75	95.96 (E-W)

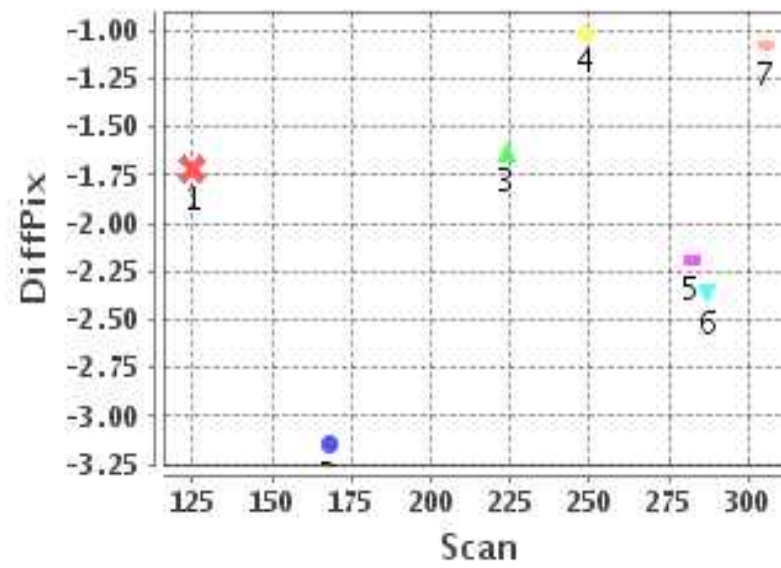
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	125.0	11.2	0.4	-1.72	4.663	S	15.620	W	Accepted
2	168.0	152.5	0.6	-3.14	7.268	S	27.198	W	Accepted
3	305.5	210.2	0.0	-1.08	4.947	S	7.915	W	Accepted
4	282.2	236.8	-0.1	-2.19	1.472	S	14.102	W	Accepted
5	287.0	241.0	-0.3	-2.36	2.957	N	22.986	W	Accepted
6	248.8	370.8	-1.2	-1.01	3.651	N	1.502	W	Accepted
7	223.8	379.8	-1.4	-1.63	6.962	N	9.475	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



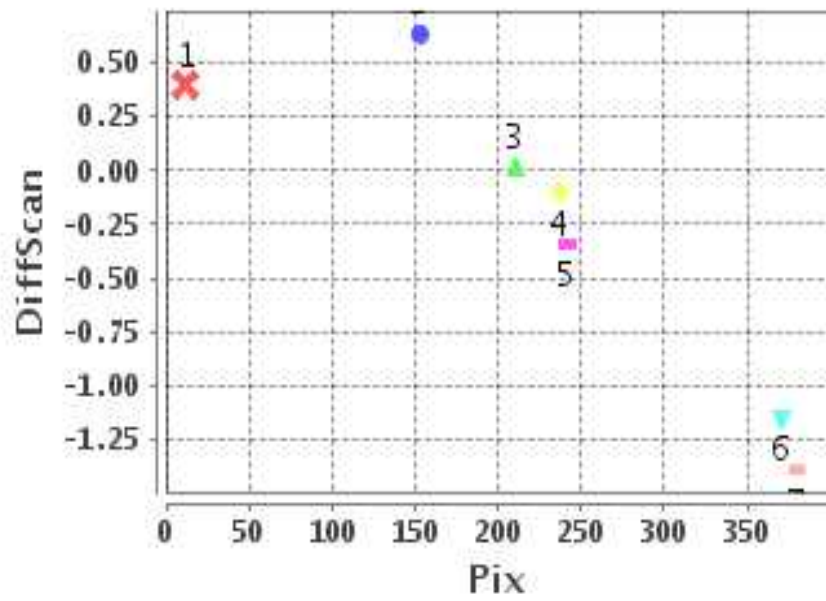
#### Number Of Points

North	3
South	4
East	0
West	7

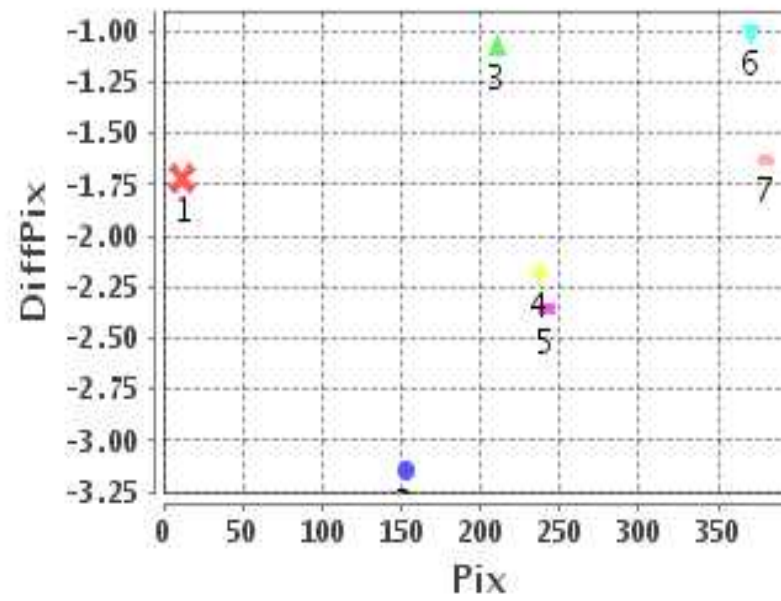
#### Radial Error ( Km )

Mean	1.526
Min	.395
Max	2.815
CE90	2.317

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	-0.068	0.491	0.495	S	0.445	0.532
Across ( Km )	-1.411	0.820	1.633	W	1.370	1.762

## 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	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-4.66	S
Across(Mean,Dir)	-15.62	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-127-255</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-7.27	S
Across(Mean,Dir)	-27.20	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	-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	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-1.15533	S
Across(Mean,Dir)	-15.00	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	9.56	4.43
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.07	0.18
Across(Mean,Stddev)	1.20	0.09

<b>Scan Range-212-320; Pix Range-255-384</b>		
Number of GCPs	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	5.31	N
Across(Mean,Dir)	-5.49	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	11.03	10.32
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.24	0.00
Across(Mean,Stddev)	0.62	0.00

\*-999 : no gcp available

\* -999.99 : values are not computed