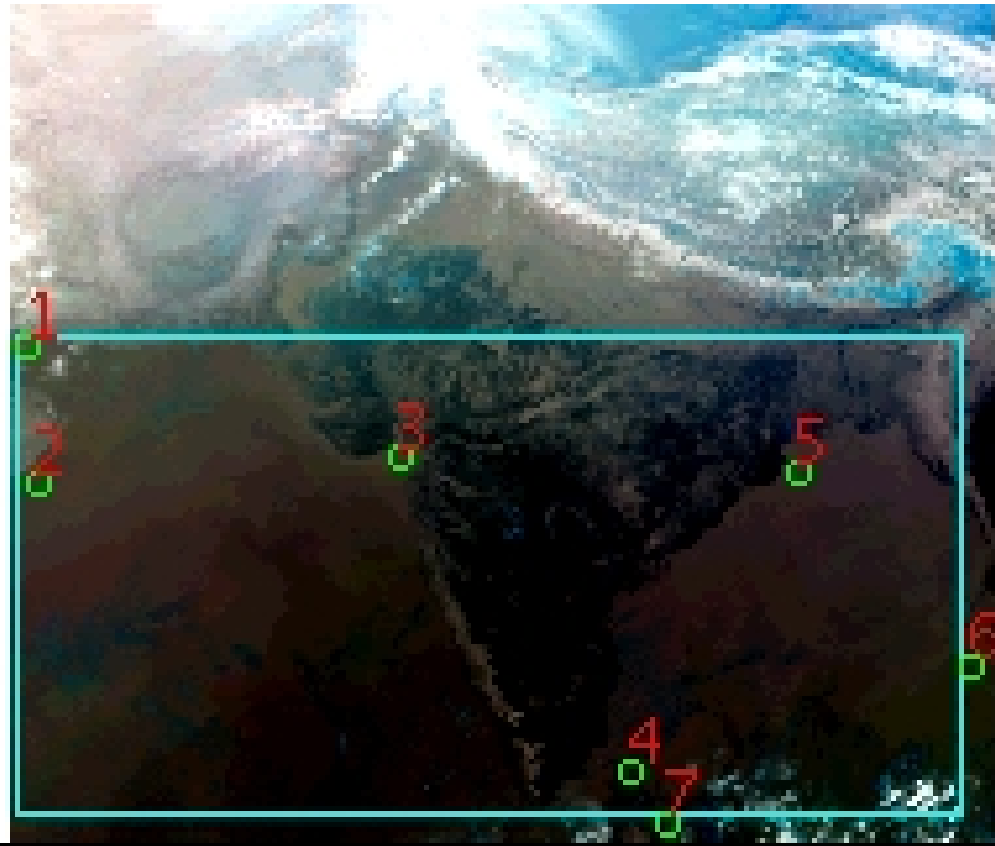


# DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND\_21FEB2018\_0300

<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>	21-02-18/03:00	<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)		

(41.294N,52.072W)

(41.294N,102.096E)



(6.861S,52.072W)

(6.861S,102.096E)

GCP Distribution overview for 3RSND21FEB20180300L1BSA1

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

**GCP Coverage(%)**    56.72    **(N-S)**    93.68    **(E-W)**

### Location Error(E)

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

### Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.747	N	0.579	0.945
Across	-1.749	W	0.534	1.829

### Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.611	0.438	6.106
Along	10.748	1.021	7.484
Across	10.847	1.228	8.466

### Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.016	0.021	0.68	0.682
Across	1.859	0.186	0.69	0.712

### Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02734	-0.01245	0.12908

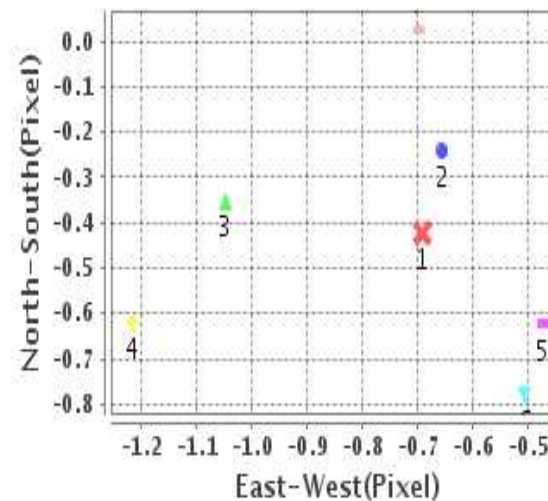
### Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

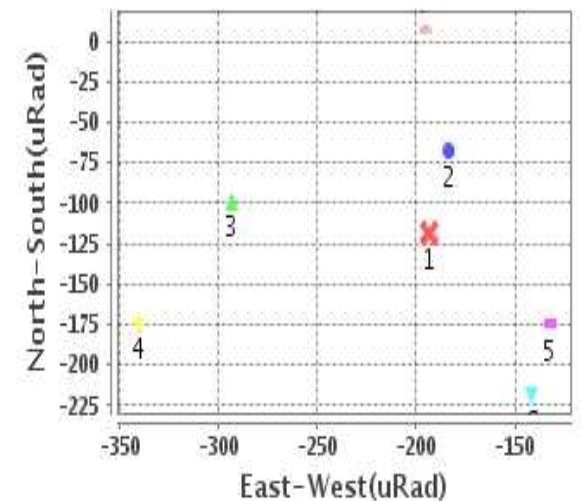
### Radial Error (in IR Pixels)

<b>Mean</b>	2.012
<b>Min</b>	1.469
<b>Max</b>	2.732
<b>CE90</b>	2.542

### Location Error For GCPs(Pixel)



### Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	21-02-18
<b>Sensor</b>	SND	<b>DQE Date</b>	28-02-2018
<b>PassType</b>	NONE	<b>Aquisition Date</b>	21-02-18
<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_21FEB20	<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>	24.077
<b>Center Lon(deg)</b>	77.084
<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>	102.096
<b>SE_Lat(deg)</b>	6.861
<b>SE_Lon(deg)</b>	102.096

### 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 : 3RSND21FEB20180300L1BSA1**

(-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

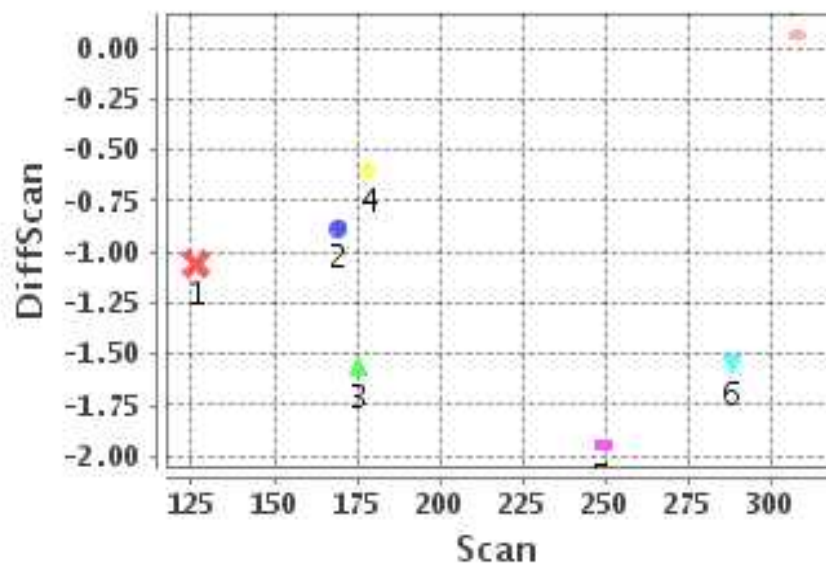
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 7

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	213.7	63.2	126.5	308.00	56.72 (N-S)
<b>GCP Pix</b>	192.8	129.3	11.2	371.00	93.68 (E-W)

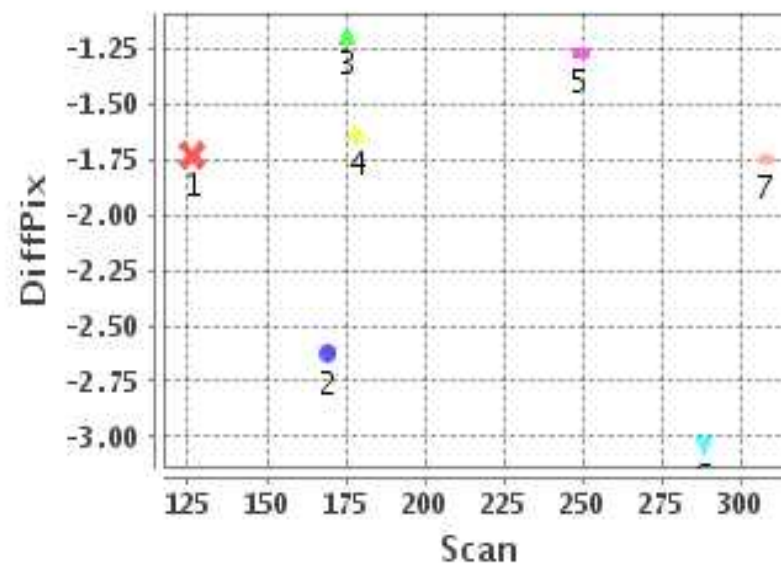
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	126.5	11.2	-1.1	-1.73	7.783	N	18.815	W	Accepted
2	178.5	14.0	-0.6	-1.64	1.188	N	18.001	W	Accepted
3	169.5	152.0	-0.9	-2.62	4.319	N	26.976	W	Accepted
4	288.2	241.8	-1.5	-3.04	13.244	N	21.699	W	Accepted
5	175.5	304.2	-1.6	-1.18	11.985	N	10.170	W	Accepted
6	249.5	371.0	-1.9	-1.27	14.986	N	12.151	W	Accepted
7	308.0	255.2	0.1	-1.75	1.207	S	14.636	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



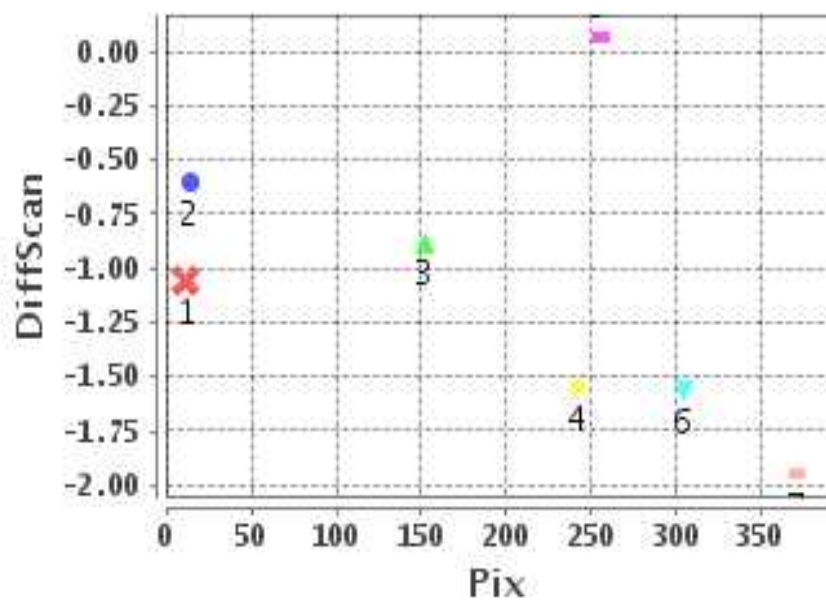
#### Number Of Points

North	6
South	1
East	0
West	7

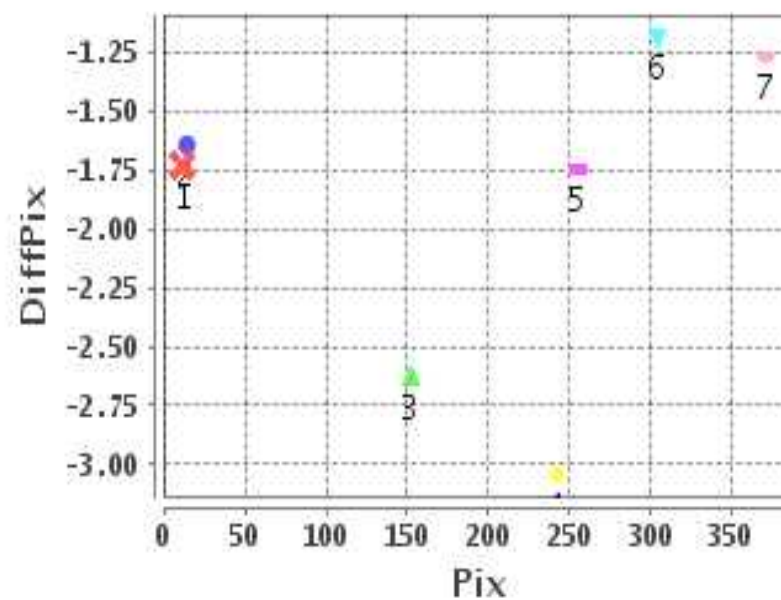
#### Radial Error ( Km )

Mean	2.012
Min	1.469
Max	2.732
CE90	2.542

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.747	0.579	0.945	N	0.818	1.020
Across ( Km )	-1.749	0.534	1.829	W	1.640	1.932

## 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)	4.49	N
Across(Mean,Dir)	-18.40	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	12.23	22.26
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.45	0.00
Across(Mean,Stddev)	-0.09	0.00

<b>Scan Range-105-212; Pix Range-127-255</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	4.32	N
Across(Mean,Dir)	-26.98	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	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	11.98	N
Across(Mean,Dir)	-10.17	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	<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	2	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	6.0165	N
Across(Mean,Dir)	-18.17	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	10.57	5.66
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-1.62	0.00
Across(Mean,Stddev)	-1.30	0.00

<b>Scan Range-212-320; Pix Range-255-384</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	14.99	N
Across(Mean,Dir)	-12.15	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