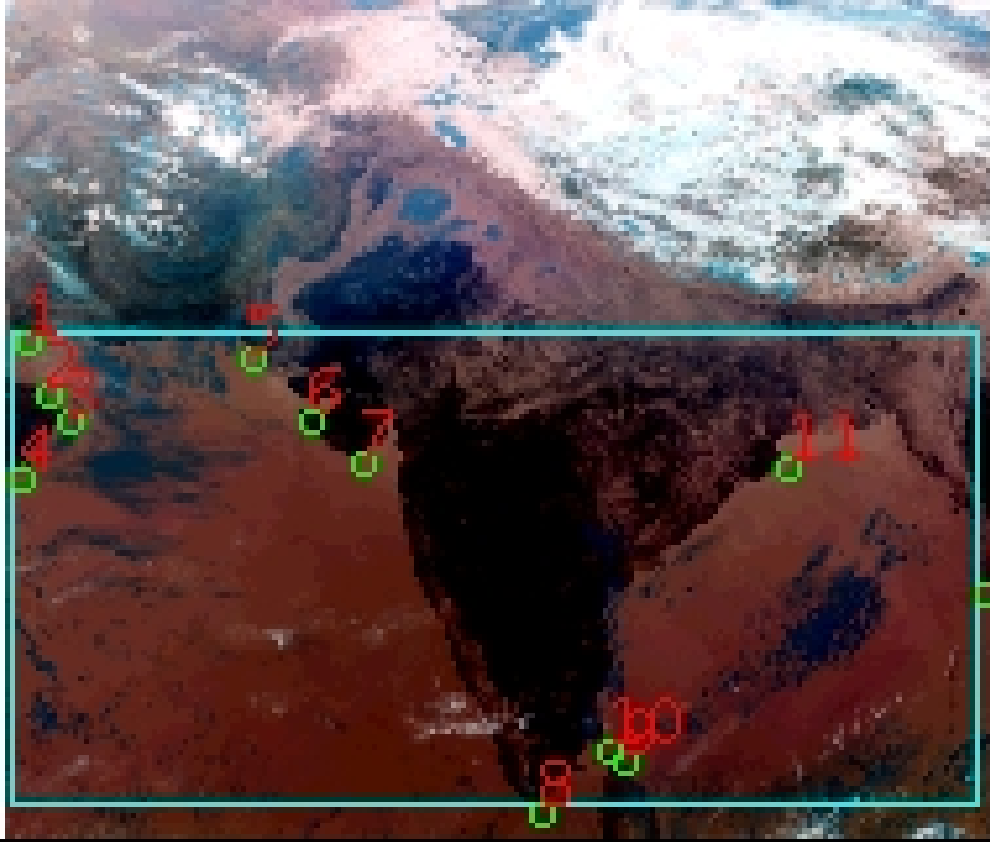


# DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND\_17JAN2019\_0500

Satellite	INSAT-3DR	No Of Bands	19	Product Type	STANDARD
Sensor	SND	LvlOfProcess	L1B	Selected Band	2-LWIR3
DOP/Time	17-01-19/05:00	Station ID	BES	Field View(deg)	6.136
Res(Y,X) [Km]	(10.0,10.0)	Res(Y,X) [uRad]	(280.0,280.0)		

(41.217N,52.152W)

(41.217N,102.093E)



(6.822S,52.152W)

(6.822S,102.093E)

GCP Distribution overview for 3RSND17JAN20190500L1BSA1

Image Width: 384 Image Height: 320 No Of GCPs: 12

GCP Coverage(%) 56.09 (N-S) 95.90 (E-W)

### Location Error(E)

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

### Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.789	N	0.496	0.932
Across	-1.454	W	0.988	1.758

### Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.644	0.643	6.441
Along	10.844	1.329	8.443
Across	10.614	0.607	6.139

### Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	1.590	-0.390	0.50	0.634
Across	3.034	-0.019	0.93	0.927

### Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01945	-0.01367	0.08615

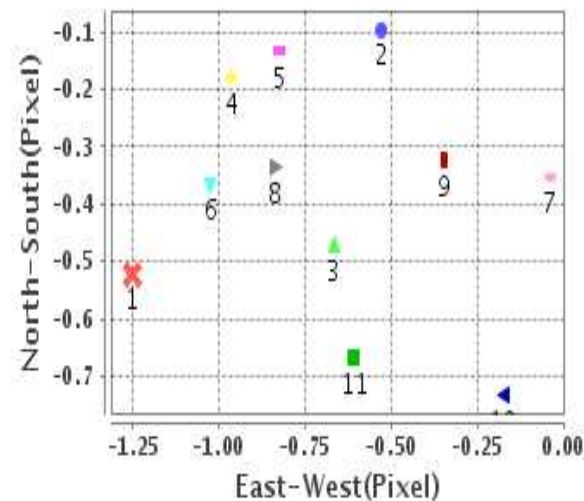
### Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

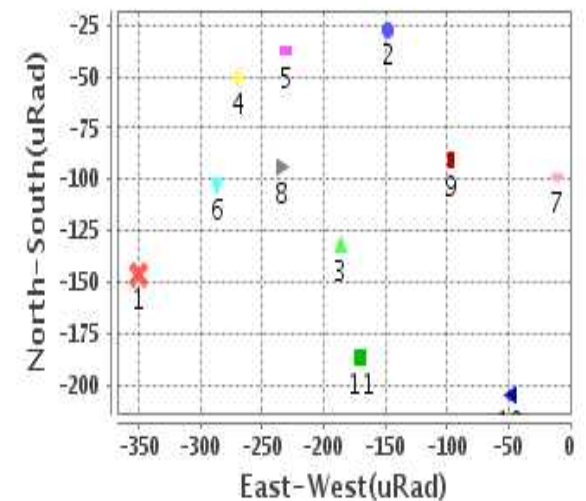
### Radial Error (in IR Pixels)

Mean	1.823
Min	.760
Max	3.759
CE90	2.244

### Location Error For GCPs(Pixel)



### Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	17-01-19
<b>Sensor</b>	SND	<b>DQE Date</b>	23-01-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	17-01-19
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	05:00
<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_17JAN20	<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>	24.019
<b>Center Lon(deg)</b>	77.122
<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>	41.217
<b>NW_Lon(deg)</b>	52.152
<b>SW_Lat(deg)</b>	6.822
<b>SW_Lon(deg)</b>	52.152
<b>NE_Lat(deg)</b>	41.217
<b>NE_Lon(deg)</b>	102.093
<b>SE_Lat(deg)</b>	6.822
<b>SE_Lon(deg)</b>	102.093

### 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 : 3RSND17JAN20190500L1BSA1**

(-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

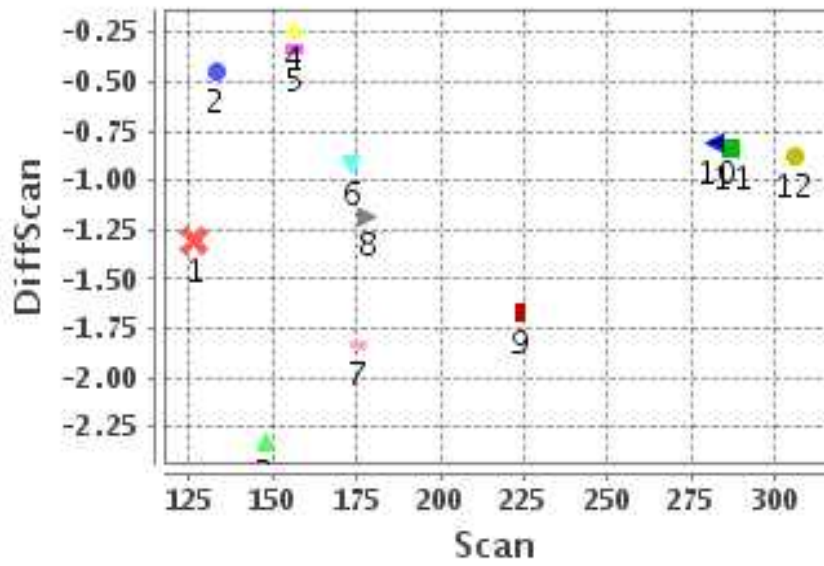
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 12

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	195.5	60.7	126.5	306.00	56.09 (N-S)
<b>GCP Pix</b>	150.1	118.3	11.2	379.50	95.90 (E-W)

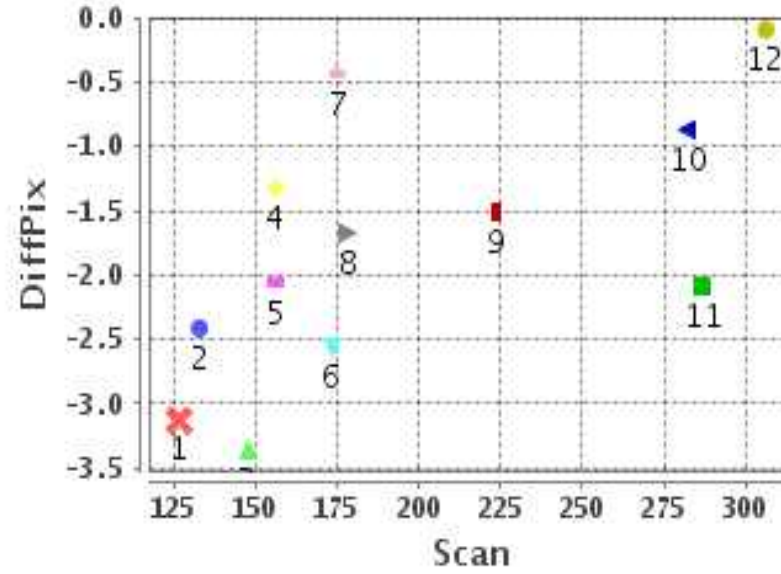
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	126.5	12.2	-1.3	-3.13	11.309	N	35.852	W	Accepted
2	147.8	21.0	-2.3	-3.36	19.616	N	41.210	W	Rejected
3	156.0	29.2	-0.2	-1.32	3.462	N	10.496	W	Accepted
4	178.2	11.2	-1.2	-1.67	10.504	N	17.817	W	Accepted
5	133.0	99.5	-0.5	-2.41	6.113	N	21.596	W	Accepted
6	156.5	120.5	-0.3	-2.06	1.408	S	15.535	W	Accepted
7	173.5	140.2	-0.9	-2.56	5.530	N	23.973	W	Accepted
8	306.0	209.0	-0.9	-0.09	8.943	N	0.904	W	Accepted
9	287.0	240.5	-0.8	-2.09	8.548	N	15.532	W	Accepted
10	282.5	235.2	-0.8	-0.86	3.679	N	6.648	W	Accepted
11	175.2	303.2	-1.8	-0.44	17.873	N	0.808	W	Accepted
12	223.5	379.5	-1.7	-1.52	12.235	N	10.762	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



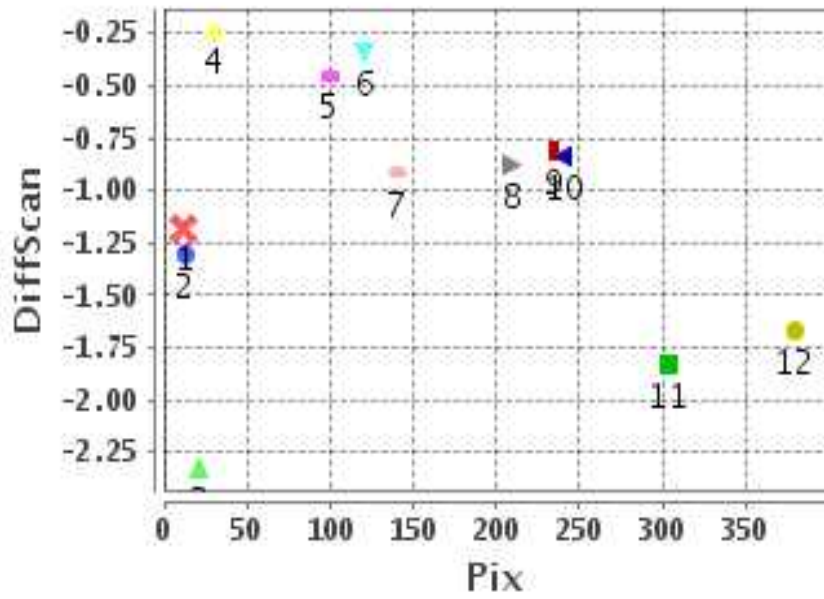
#### Number Of Points

North	10
South	1
East	0
West	11

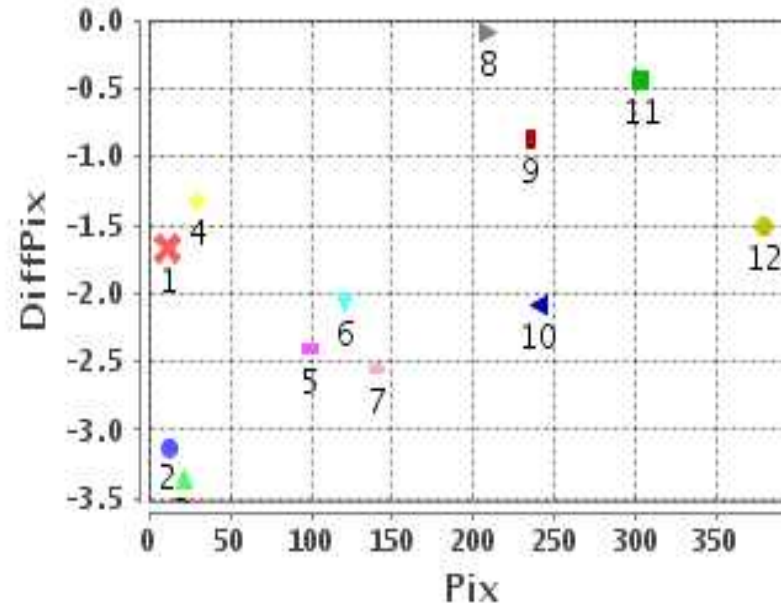
#### Radial Error ( Km )

Mean	1.823
Min	.760
Max	3.759
CE90	2.244

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.789	0.496	0.932	N	0.798	0.977
Across ( Km )	-1.454	0.988	1.758	W	1.454	1.843

## 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	5	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	5.996	N
Across(Mean,Dir)	-20.26	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	11.28	12.84
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.75	0.37
Across(Mean,Stddev)	0.56	0.65

<b>Scan Range-105-212; Pix Range-127-255</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	5.53	N
Across(Mean,Dir)	-23.97	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)	17.87	N
Across(Mean,Dir)	-0.80	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	3	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	7.05433	N
Across(Mean,Dir)	-7.69	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	9.23	7.73
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.05	0.02
Across(Mean,Stddev)	1.38	0.61

<b>Scan Range-212-320; Pix Range-255-384</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	12.24	N
Across(Mean,Dir)	-10.76	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