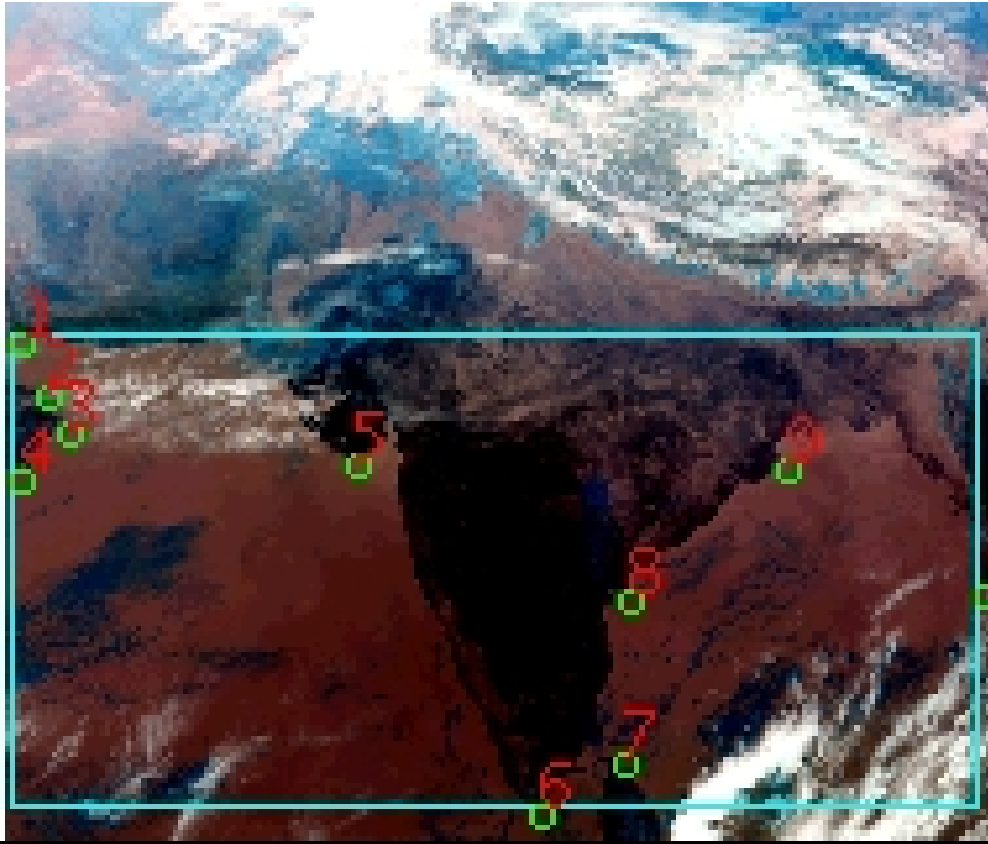


# DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND\_11JAN2019\_0500

<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>	11-01-19/05:00	<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)		

(41.21N,52.207W)

(41.21N,102.18E)



(6.825S,52.207W)

(6.825S,102.18E)

GCP Distribution overview for 3RSND11JAN20190500L1BSA1

**Image Width:** 384    **Image Height:** 320    **No Of GCPs:** 10

**GCP Coverage(%)**    56.41    **(N-S)** 96.16    **(E-W)**

### Location Error(E)

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

### Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.848	N	0.509	0.989
Across	-1.284	W	0.586	1.411

### Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.617	0.488	6.174
Along	10.777	1.370	7.770
Across	10.618	0.639	6.185

### Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.061	0.709	0.58	0.919
Across	2.139	0.252	0.74	0.784

### Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01899	-0.01433	0.08789

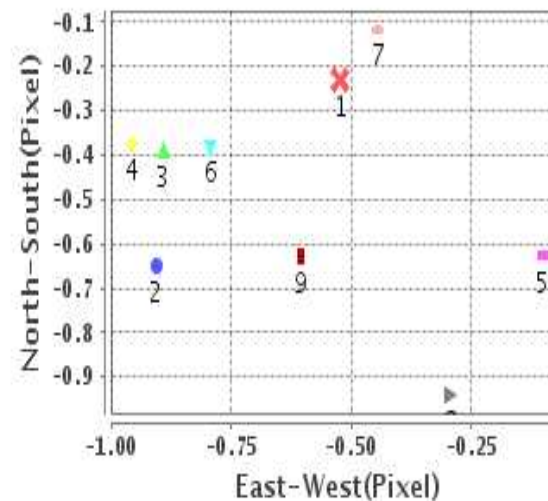
### Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

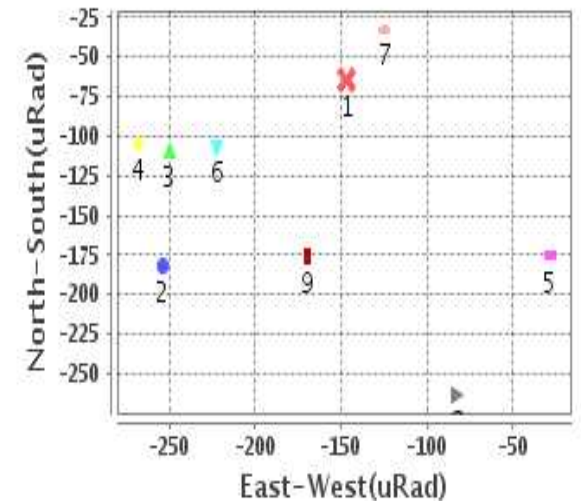
### Radial Error (in IR Pixels)

<b>Mean</b>	1.657
<b>Min</b>	.768
<b>Max</b>	2.182
<b>CE90</b>	2.040

### Location Error For GCPs(Pixel)



### Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	11-01-19
<b>Sensor</b>	SND	<b>DQE Date</b>	17-01-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	11-01-19
<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_11JAN20	<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>	24.017
<b>Center Lon(deg)</b>	77.194
<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>	41.21
<b>NW_Lon(deg)</b>	52.207
<b>SW_Lat(deg)</b>	6.825
<b>SW_Lon(deg)</b>	52.207
<b>NE_Lat(deg)</b>	41.21
<b>NE_Lon(deg)</b>	102.18
<b>SE_Lat(deg)</b>	6.825
<b>SE_Lon(deg)</b>	102.18

### 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>	meters	<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 : 3RSND11JAN20190500L1BSA1**

(-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

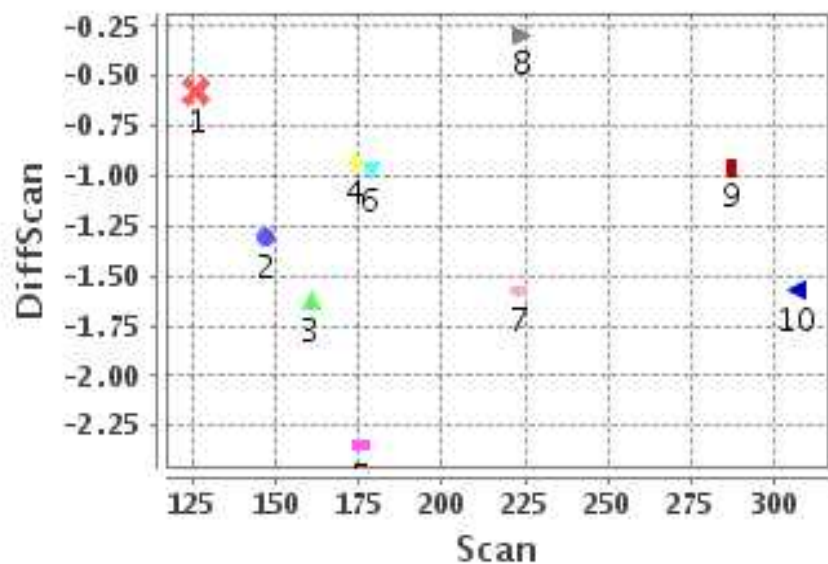
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 10

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	200.3	56.3	126.2	306.75	56.41 (N-S)
<b>GCP Pix</b>	158.8	128.6	10.0	379.25	96.16 (E-W)

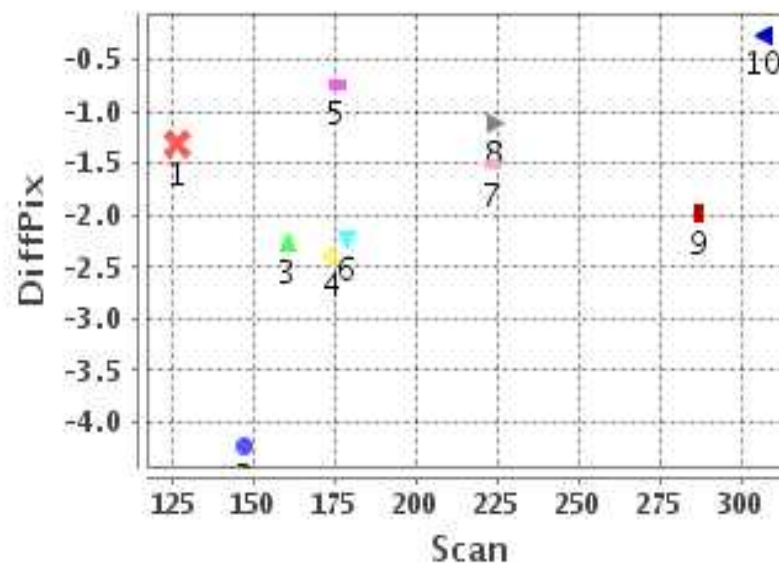
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	126.2	10.0	-0.6	-1.31	4.501	N	16.463	W	Accepted
2	147.2	21.5	-1.3	-4.23	13.603	N	43.962	W	Rejected
3	160.5	29.8	-1.6	-2.27	13.649	N	17.018	W	Accepted
4	178.5	11.5	-1.0	-2.23	5.988	N	19.503	W	Accepted
5	173.8	139.8	-0.9	-2.39	2.607	N	17.362	W	Accepted
6	306.8	209.0	-1.6	-0.25	7.875	N	3.256	W	Accepted
7	287.2	240.2	-1.0	-1.98	6.803	N	17.661	W	Accepted
8	224.0	243.2	-0.3	-1.11	3.194	N	6.983	W	Accepted
9	175.8	303.2	-2.4	-0.74	18.109	N	4.845	W	Accepted
10	223.2	379.2	-1.6	-1.51	13.564	N	12.448	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



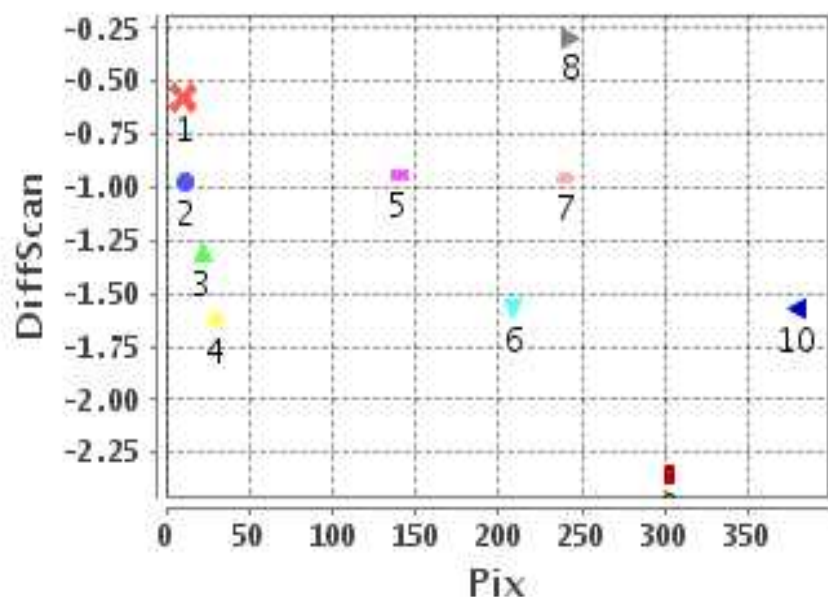
#### Number Of Points

North	9
South	0
East	0
West	9

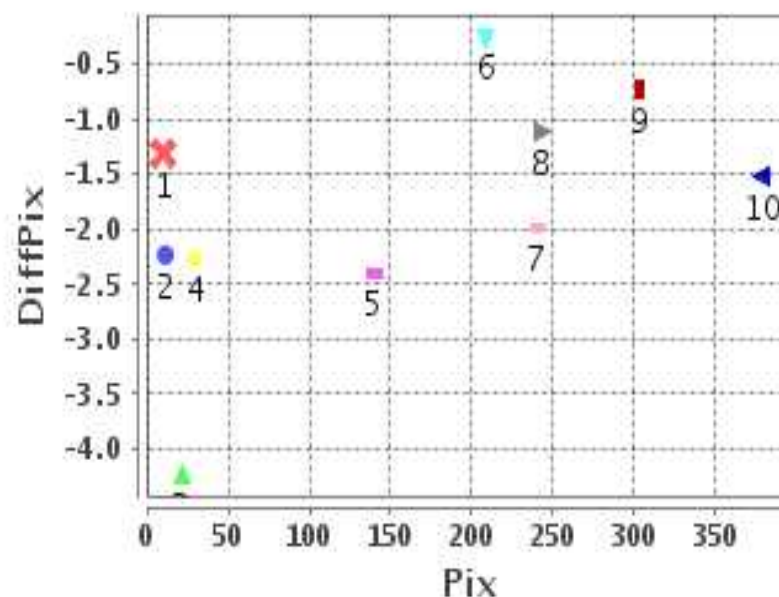
#### Radial Error ( Km )

Mean	1.657
Min	.768
Max	2.182
CE90	2.040

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.848	0.509	0.989	N	0.830	1.045
Across ( Km )	-1.284	0.586	1.411	W	1.328	1.492

## 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)	8.04667	N
Across(Mean,Dir)	-17.66	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	11.65	16.53
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.72	0.33
Across(Mean,Stddev)	0.94	0.02

<b>Scan Range-105-212; Pix Range-127-255</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	2.61	N
Across(Mean,Dir)	-17.36	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)	18.1	N
Across(Mean,Dir)	-4.85	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)	5.955	N
Across(Mean,Dir)	-9.30	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	9.84	1.57
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.97	0.31
Across(Mean,Stddev)	1.29	0.43

<b>Scan Range-212-320; Pix Range-255-384</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	13.57	N
Across(Mean,Dir)	-12.45	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

\*-999 : no gcp available

\* -999.99 : values are not computed