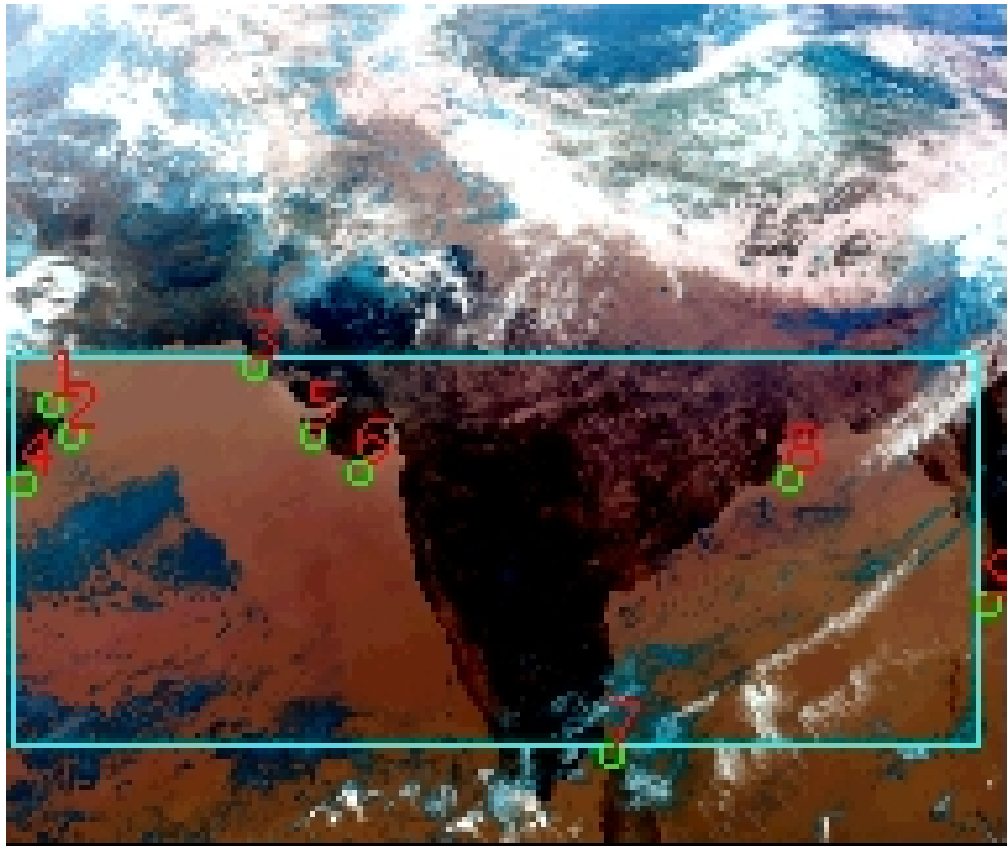


# DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND\_10FEB2019\_0500

<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>	10-02-19/05:00	<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)		

(41.188N,52.25W)

(41.188N,102.197E)



(6.797S,52.25W)

(6.797S,102.197E)

GCP Distribution overview for 3RSND10FEB20190500L1BSA1

**Image Width:** 384    **Image Height:** 320    **No Of GCPs:** 9

**GCP Coverage(%)**    46.48    **(N-S)** 96.03    **(E-W)**

### Location Error(E)

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

### Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	2.202	N	0.647	2.295
Across	6.659	E	0.667	6.692

### Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.600	0.304	5.999
Along	10.719	1.258	7.194
Across	10.501	0.144	5.011

### Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	1.767	0.588	0.58	0.824
Across	1.418	0.049	0.43	0.433

### Attitude Residuals (Deg)

Pitch	Roll	Yaw
0.10860	-0.03707	0.16759

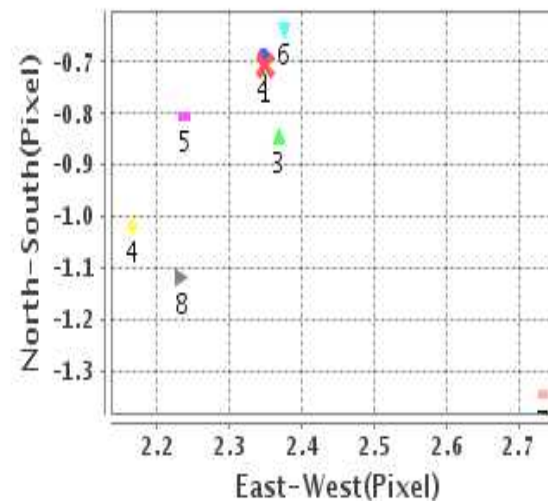
### Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

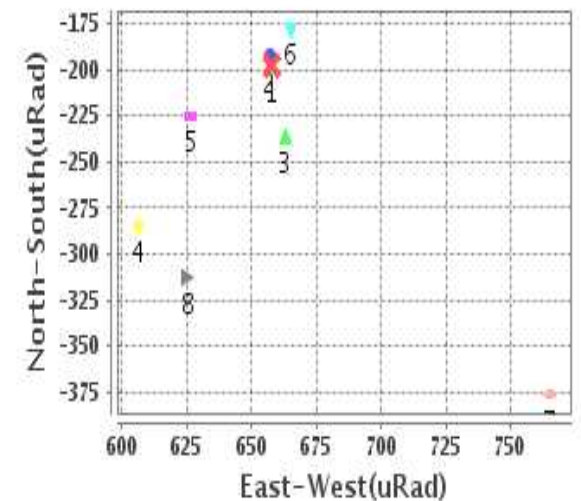
### Radial Error (in IR Pixels)

<b>Mean</b>	7.033
<b>Min</b>	6.231
<b>Max</b>	8.683
<b>CE90</b>	7.881

### Location Error For GCPs(Pixel)



### Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	10-02-19
<b>Sensor</b>	SND	<b>DQE Date</b>	11-02-2019
<b>PassType</b>	NONE	<b>Aquisition Date</b>	10-02-19
<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_10FEB20	<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>	23.993
<b>Center Lon(deg)</b>	77.224
<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>	41.188
<b>NW_Lon(deg)</b>	52.25
<b>SW_Lat(deg)</b>	6.797
<b>SW_Lon(deg)</b>	52.25
<b>NE_Lat(deg)</b>	41.188
<b>NE_Lon(deg)</b>	102.197
<b>SE_Lat(deg)</b>	6.797
<b>SE_Lon(deg)</b>	102.197

### 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 : 3RSND10FEB20190500L1BSA1**

(-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

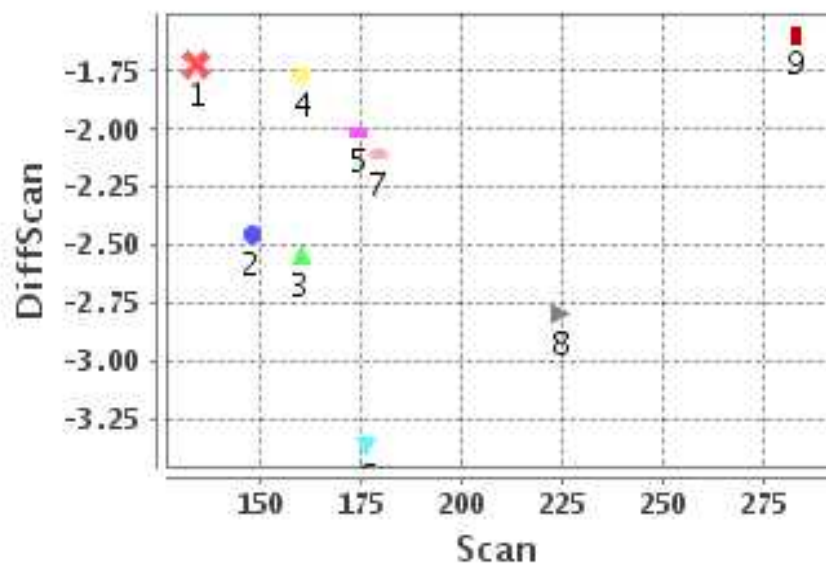
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 9

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	182.2	42.8	134.2	283.00	46.48 (N-S)
<b>GCP Pix</b>	140.8	123.7	3.0	371.75	96.03 (E-W)

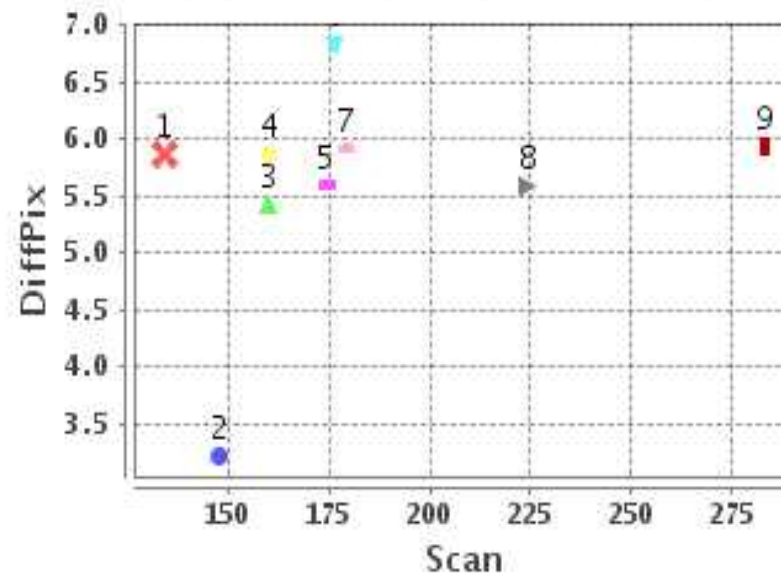
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	148.0	13.8	-2.5	3.22	28.606	N	41.005	E	Rejected
2	160.2	21.2	-1.8	5.87	17.078	N	66.040	E	Accepted
3	134.2	90.5	-1.7	5.87	16.850	N	66.166	E	Accepted
4	179.2	3.0	-2.1	5.92	19.296	N	61.426	E	Accepted
5	160.0	112.2	-2.5	5.41	29.067	N	59.670	E	Accepted
6	174.5	131.2	-2.0	5.59	17.075	N	59.929	E	Accepted
7	283.0	227.8	-1.6	5.94	15.726	N	65.541	E	Accepted
8	176.5	295.2	-3.4	6.83	33.454	N	80.121	E	Accepted
9	224.2	371.8	-2.8	5.58	27.634	N	73.806	E	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



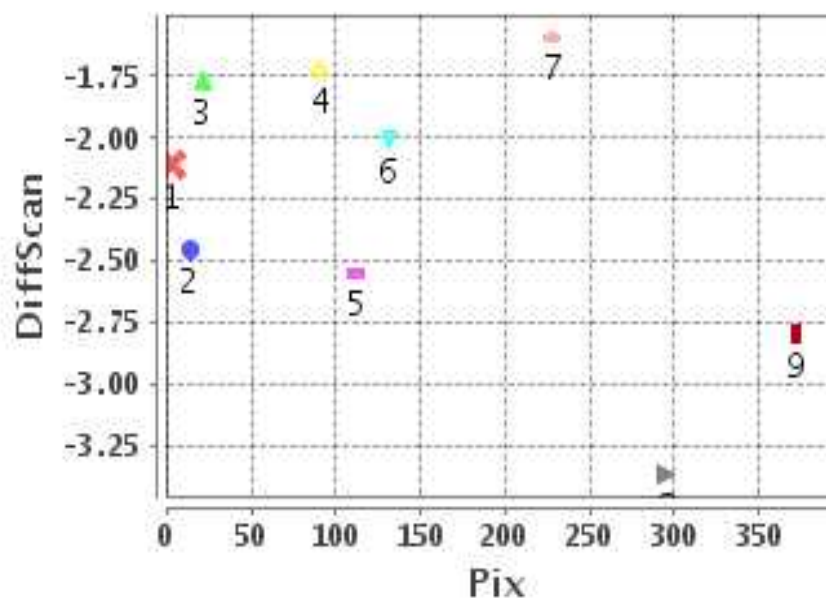
#### Number Of Points

North	8
South	0
East	8
West	0

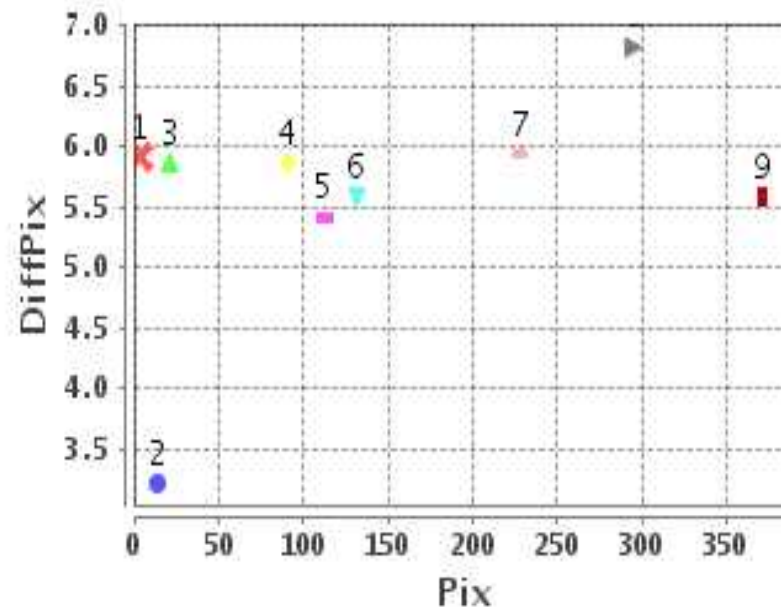
#### Radial Error ( Km )

Mean	7.033
Min	6.231
Max	8.683
CE90	7.881

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	2.202	0.647	2.295	N	2.103	2.381
Across ( Km )	6.659	0.667	6.692	E	6.482	6.789

## 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	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	20.5725	N
Across(Mean,Dir)	63.32	E
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	10.70	6.95
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	0.42	0.32
Across(Mean,Stddev)	0.20	0.21

<b>Scan Range-105-212; Pix Range-127-255</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	17.07	N
Across(Mean,Dir)	59.93	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-105-212; Pix Range-255-384</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	33.45	N
Across(Mean,Dir)	80.12	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	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	15.72	N
Across(Mean,Dir)	65.54	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-255-384</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	27.64	N
Across(Mean,Dir)	73.81	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

\*-999 : no gcp available

\* -999.99 : values are not computed