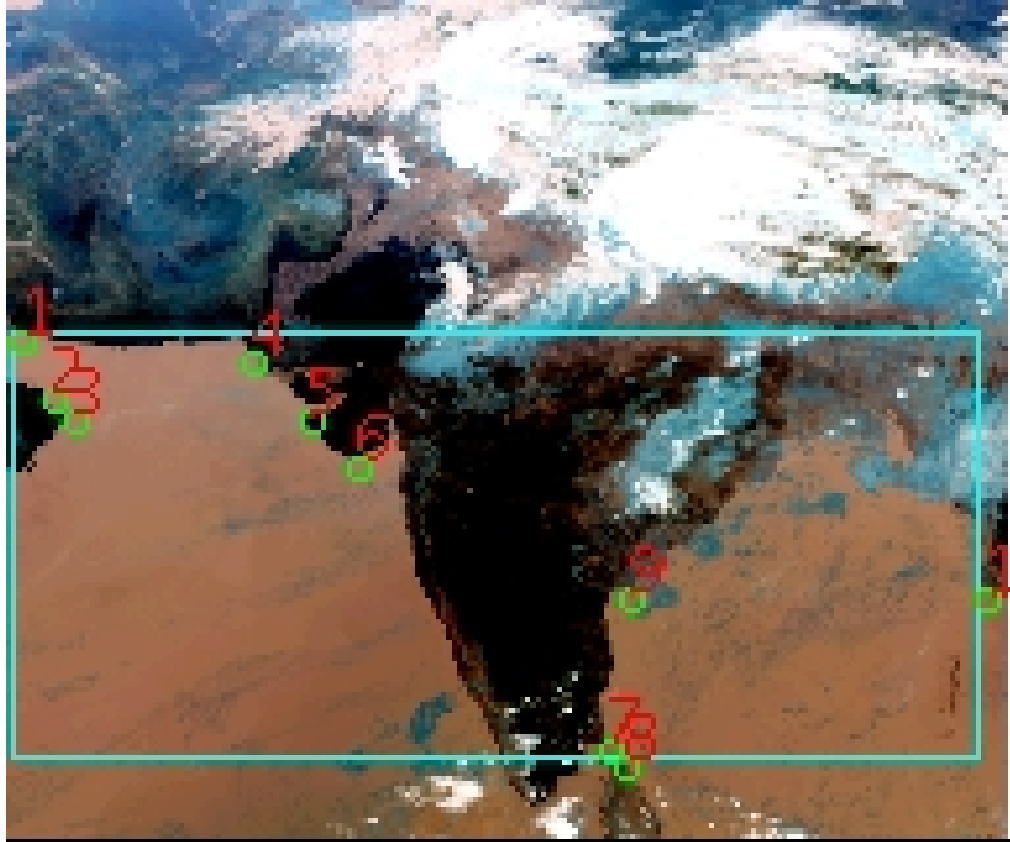


# DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND\_10MAR2017\_0630

Satellite	INSAT-3DR	No Of Bands	19	Product Type	STANDARD
Sensor	SND	LvlOfProcess	L1B	Selected Band	2-LWIR3
DOP/Time	10-03-17/06:30	Station ID	BES	Field View(deg)	6.136
Res(Y,X) [Km]	(10.0,10.0)	Res(Y,X) [uRad]	(280.0,280.0)		

(41.399N,53.175W)

(41.399N,103.372E)



(6.884S,53.175W)

(6.884S,103.372E)

GCP Distribution overview for 3RSND10MAR20170630L1BSA1

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

GCP Coverage(%) 50.39 (N-S) 95.70 (E-W)

### Location Error(E)

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

### Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.980	N	0.486	1.094
Across	-1.735	W	0.513	1.809

### Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.696	0.684	6.964
Along	11.039	1.727	10.390
Across	10.880	1.037	8.795

### Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	1.835	-0.119	0.60	0.616
Across	1.229	-0.651	0.39	0.757

### Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02439	-0.01675	0.07604

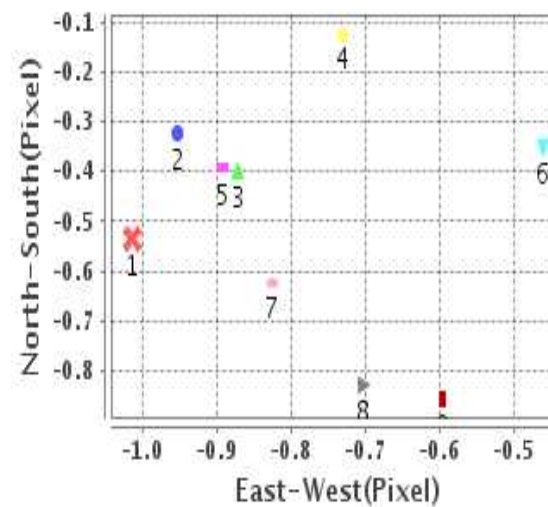
### Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

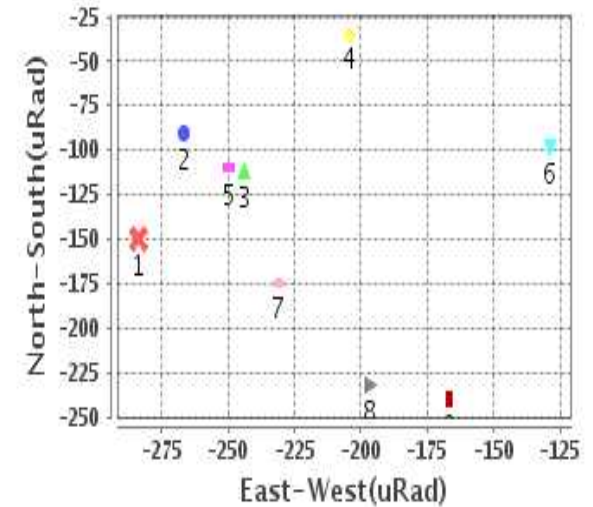
### Radial Error (in IR Pixels)

Mean	2.054
Min	1.066
Max	2.820
CE90	2.566

### Location Error For GCPs(Pixel)



### Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	10-03-17
<b>Sensor</b>	SND	<b>DQE Date</b>	15-03-2017
<b>PassType</b>	NONE	<b>Aquisition Date</b>	10-03-17
<b>Imaging Mode</b>	FULL_FRAME	<b>Aquisition Time(GMT)</b>	06:30
<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_10MAR2	<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>	24.141
<b>Center Lon(deg)</b>	78.273
<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>	41.399
<b>NW_Lon(deg)</b>	53.175
<b>SW_Lat(deg)</b>	6.884
<b>SW_Lon(deg)</b>	53.175
<b>NE_Lat(deg)</b>	41.399
<b>NE_Lon(deg)</b>	103.372
<b>SE_Lat(deg)</b>	6.884
<b>SE_Lon(deg)</b>	103.372

### 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 : 3RSND10MAR20170630L1BSA1**

(-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

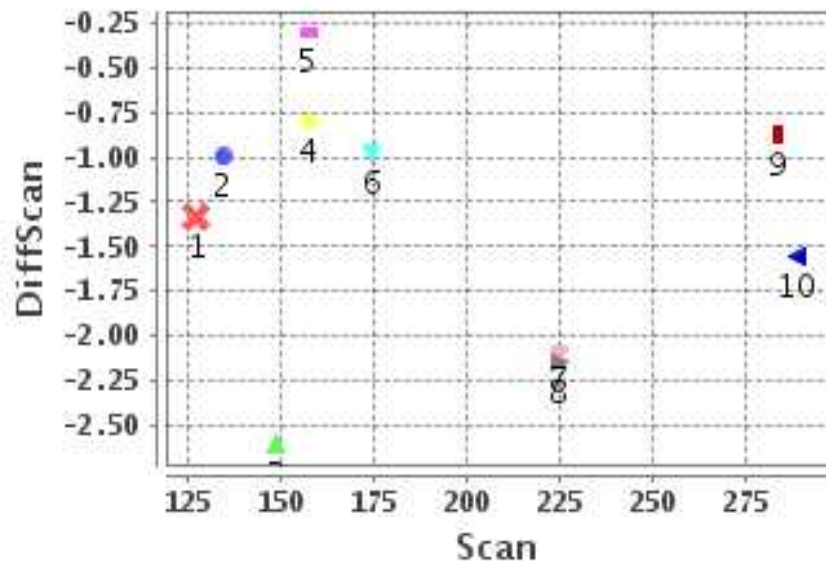
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 10

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	192.0	56.5	127.2	288.50	50.39 (N-S)
<b>GCP Pix</b>	144.2	114.0	3.8	371.25	95.70 (E-W)

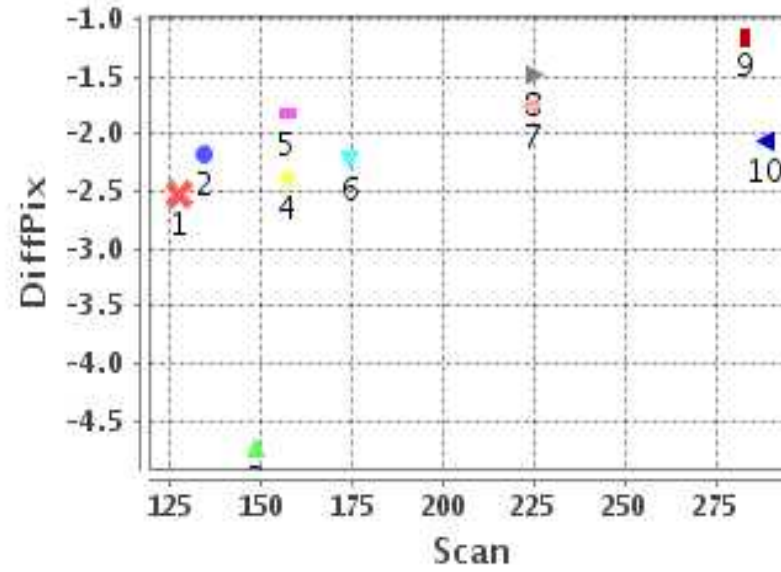
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	127.2	3.8	-1.3	-2.53	14.588	N	24.139	W	Accepted
2	148.8	14.5	-2.6	-4.74	23.991	N	48.443	W	Rejected
3	157.2	22.2	-0.8	-2.38	7.139	N	24.649	W	Accepted
4	134.2	91.2	-1.0	-2.18	9.175	N	22.217	W	Accepted
5	157.2	112.2	-0.3	-1.82	0.643	N	16.822	W	Accepted
6	174.2	131.8	-1.0	-2.23	8.264	N	15.676	W	Accepted
7	283.2	227.2	-0.9	-1.15	6.053	N	8.777	W	Accepted
8	288.5	232.2	-1.6	-2.06	10.024	N	16.818	W	Accepted
9	224.5	235.0	-2.1	-1.76	16.992	N	15.411	W	Accepted
10	224.8	371.2	-2.1	-1.49	15.306	N	11.605	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



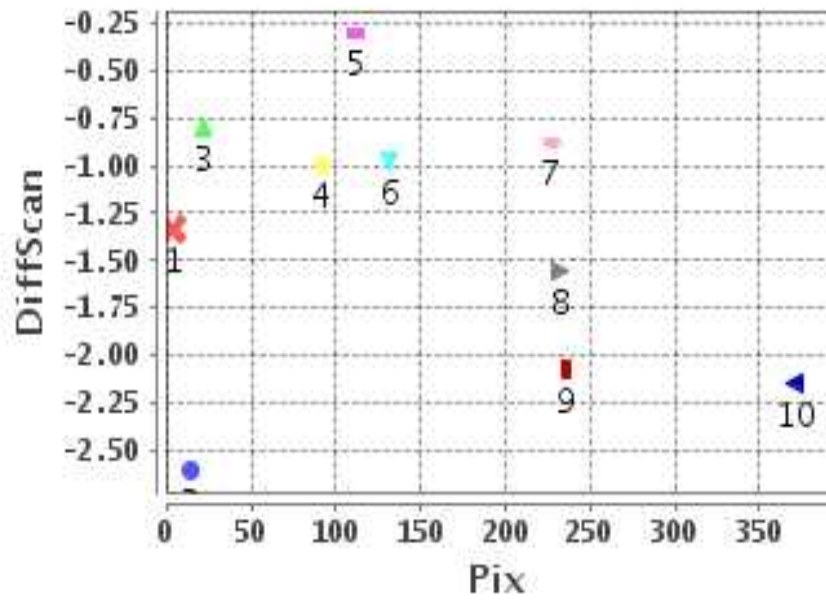
#### Number Of Points

North	9
South	0
East	0
West	9

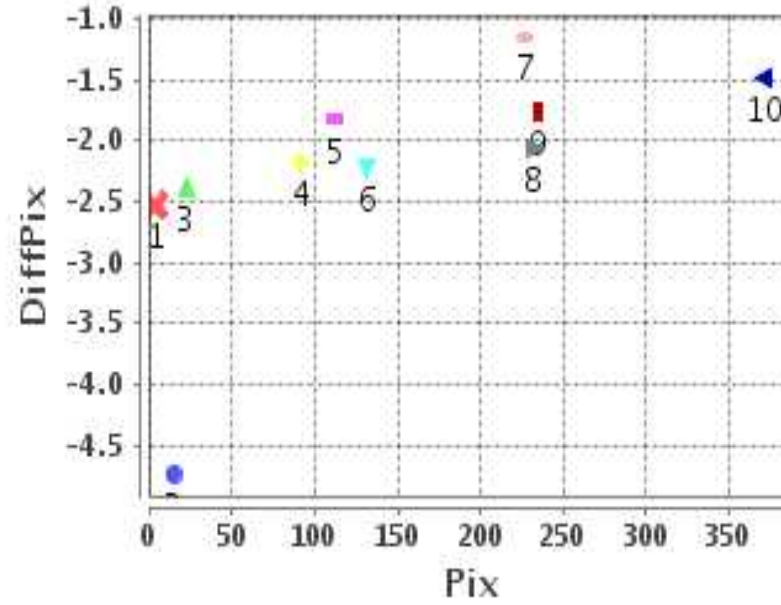
#### Radial Error ( Km )

Mean	2.054
Min	1.066
Max	2.820
CE90	2.566

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	0.980	0.486	1.094	N	0.993	1.160
Across ( Km )	-1.735	0.513	1.809	W	1.709	1.893

## 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)	7.8875	N
Across(Mean,Dir)	-21.96	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	11.57	15.69
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.63	0.29
Across(Mean,Stddev)	-0.41	0.23

<b>Scan Range-105-212; Pix Range-127-255</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	8.27	N
Across(Mean,Dir)	-15.68	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)	11.02329999	N
Across(Mean,Dir)	-13.67	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	9.68	3.22
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-0.86	0.34
Across(Mean,Stddev)	0.76	0.15

<b>Scan Range-212-320; Pix Range-255-384</b>		
Number of GCPs	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	15.31	N
Across(Mean,Dir)	-11.60	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