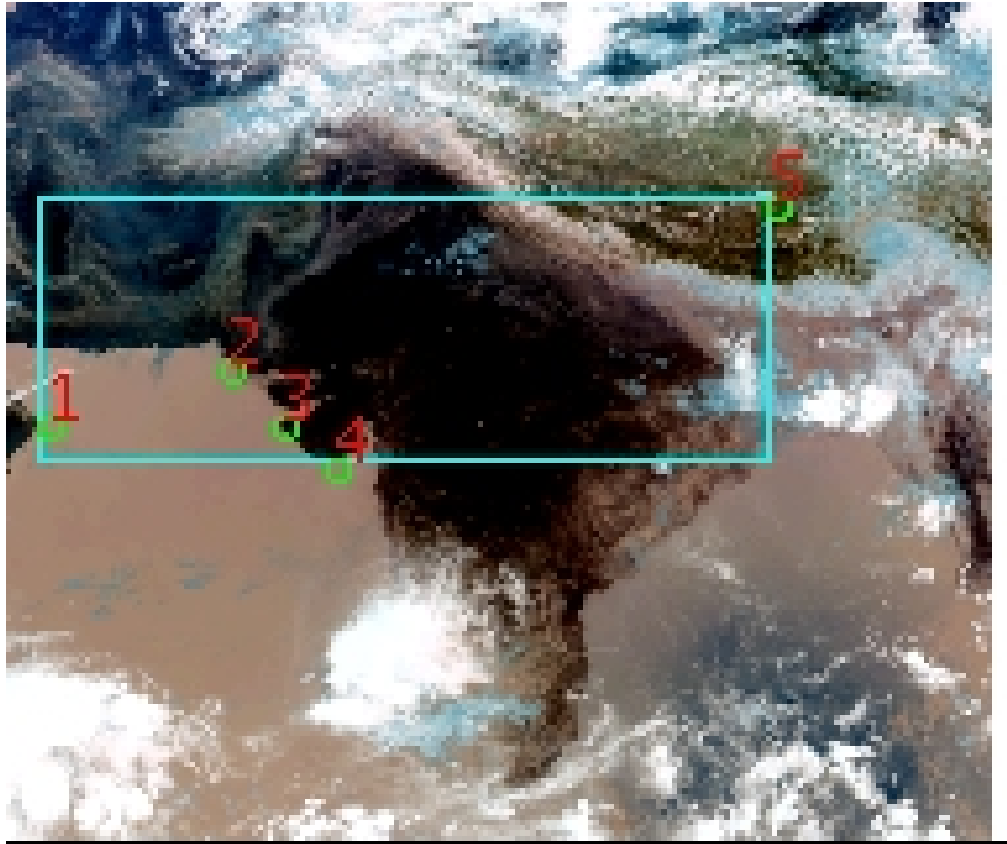


# DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND\_20MAY2018\_0500

<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>	20-05-18/05:00	<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)		

(41.793N,54.339W)

(41.793N,105.121E)



(7.063S,54.339W)

(7.063S,105.121E)

GCP Distribution overview for 3RSND20MAY20180500L1BSA1

**Image Width:** 384    **Image Height:** 320    **No Of GCPs:** 5

**GCP Coverage(%)**    31.56    **(N-S)** 72.14    **(E-W)**

### Location Error(E)

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

### Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-0.085	S	0.746	0.750
Across	-1.799	W	0.348	1.832

### Scale (Km)

	Pixel Size	Stddev	%variation
Average	11.378	0.499	13.779
Along	17.401	6.933	74.014
Across	12.753	2.750	27.533

### Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	1.652	-0.743	0.61	0.959
Across	0.401	0.086	0.15	0.171

### Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02912	-0.00367	0.19412

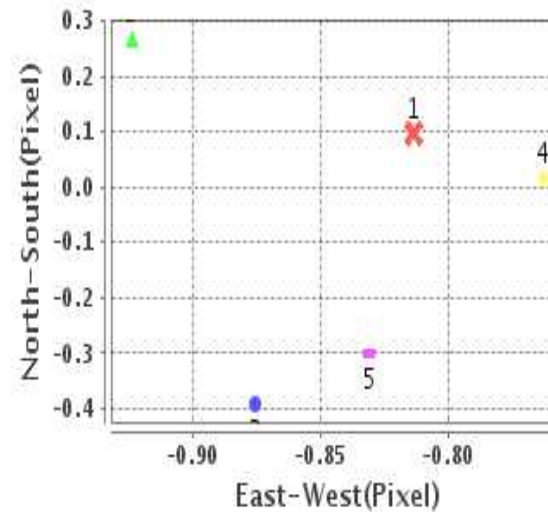
### Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

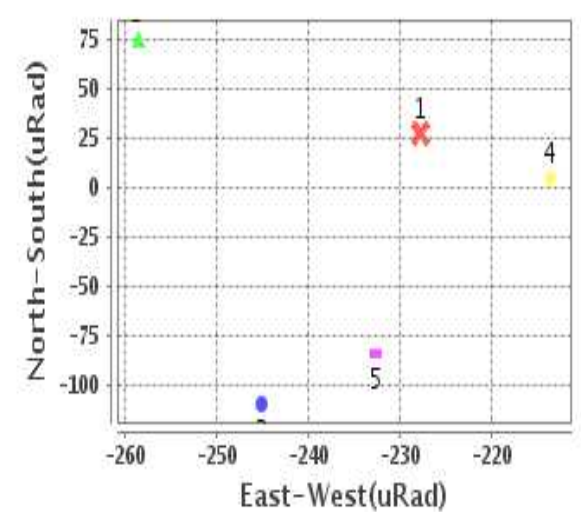
### Radial Error (in IR Pixels)

<b>Mean</b>	1.948
<b>Min</b>	1.372
<b>Max</b>	2.436
<b>CE90</b>	2.130

### Location Error For GCPs(Pixel)



### Location Error For GCPs(uRad)



## Detailed Product Information

### Ancillary Info

<b>Satellite</b>	INSAT-3DR	<b>Generation Date</b>	20-05-18
<b>Sensor</b>	SND	<b>DQE Date</b>	28-05-2018
<b>PassType</b>	NONE	<b>Aquisition Date</b>	20-05-18
<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_20MAY2	<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>	24.428
<b>Center Lon(deg)</b>	79.73
<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>	41.793
<b>NW_Lon(deg)</b>	54.339
<b>SW_Lat(deg)</b>	7.063
<b>SW_Lon(deg)</b>	54.339
<b>NE_Lat(deg)</b>	41.793
<b>NE_Lon(deg)</b>	105.121
<b>SE_Lat(deg)</b>	7.063
<b>SE_Lon(deg)</b>	105.121

### 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 : 3RSND20MAY20180500L1BSA1**

(-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

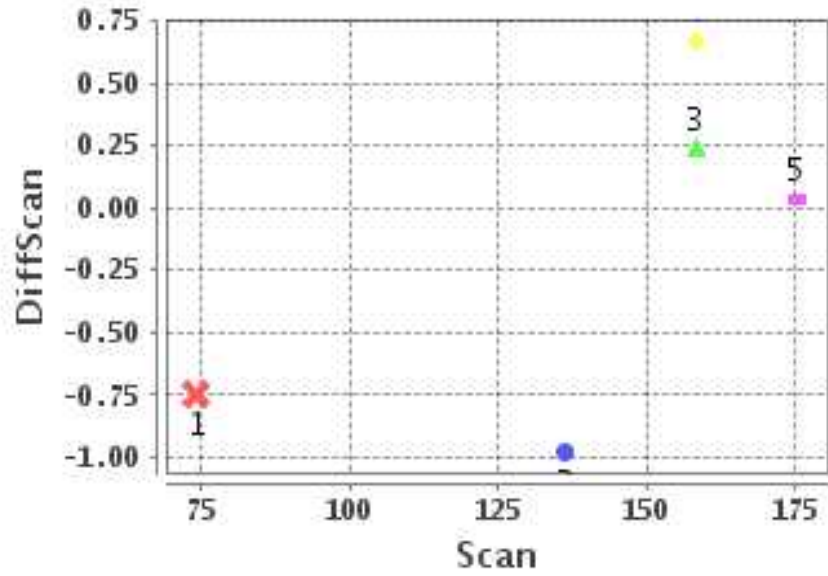
Image Width (pixels) : 384      Image Height (pixels) : 320      No of GCPs : 5

	Mean	StdDev	Min	Max	Coverage(in %)
<b>GCP Scan</b>	140.4	35.3	74.2	175.25	31.56 (N-S)
<b>GCP Pix</b>	122.4	91.7	13.2	290.25	72.14 (E-W)

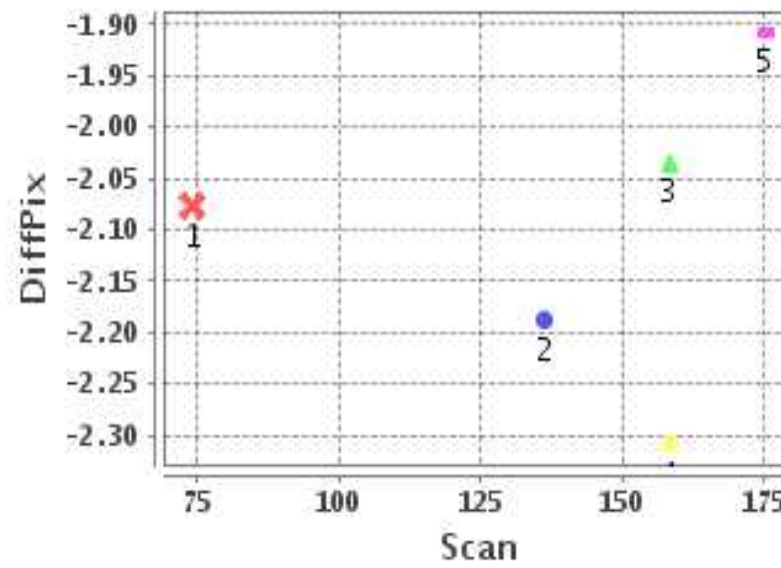
### Identified Control Point details : ( Differences are Reference - Product )

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	158.2	13.2	0.2	-2.03	5.947	S	19.015	W	Accepted
2	136.2	82.2	-1.0	-2.19	8.932	N	22.661	W	Accepted
3	158.2	103.8	0.7	-2.31	10.571	S	14.692	W	Accepted
4	175.2	122.5	0.0	-1.91	3.287	S	13.325	W	Accepted
5	74.2	290.2	-0.7	-2.08	6.619	N	20.249	W	Accepted

### Error(Pixels) Vs. GCPScan



### Error(Pixels) Vs. GCPScan



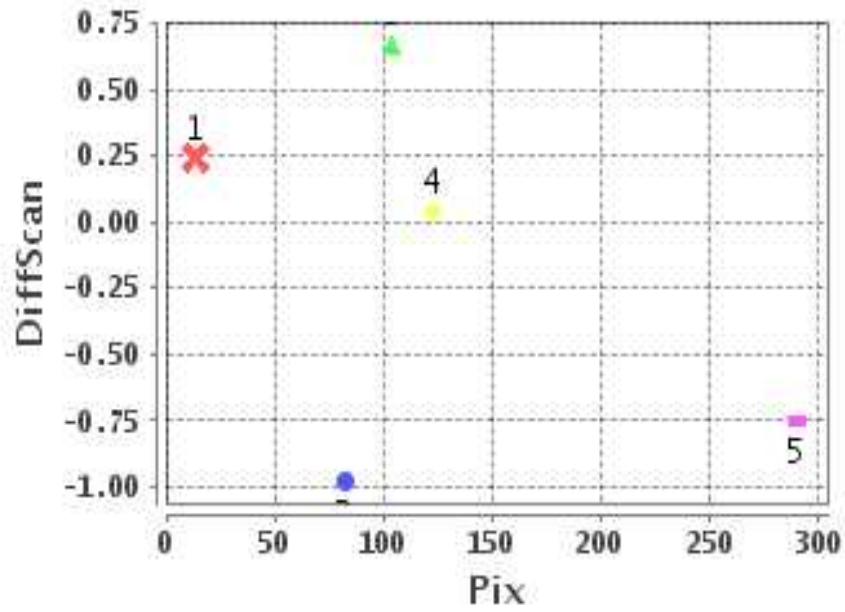
#### Number Of Points

North	2
South	3
East	0
West	5

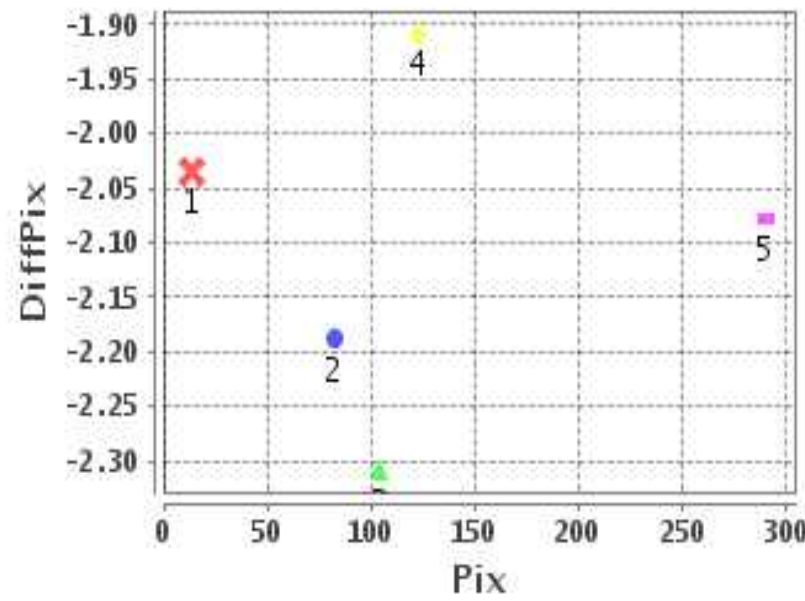
#### Radial Error ( Km )

Mean	1.948
Min	1.372
Max	2.436
CE90	2.130

### Error(Pixels) Vs. GCPPix



### Error(Pixels) Vs. GCPPix



#### Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along( Km )	-0.085	0.746	0.750	S	0.651	0.823
Across ( Km )	-1.799	0.348	1.832	W	1.707	1.937

## 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	1	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	6.62	N
Across(Mean,Dir)	-20.25	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-0-127</b>		
Number of GCPs	4	
<b>Location Error(Km)</b>		
Along(Mean,Dir)	-2.7175	S
Across(Mean,Dir)	-17.43	W
<b>Scale(Km)</b>		
Average Scale (Mean,%Variation)	11.19	11.94
<b>Internal Distortion(Pixel)</b>		
Along(Mean,Stddev)	-1.30	0.26
Across(Mean,Stddev)	0.10	0.17

<b>Scan Range-105-212; 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-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	-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-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

\*-999 : no gcp available

\* -999.99 : values are not computed