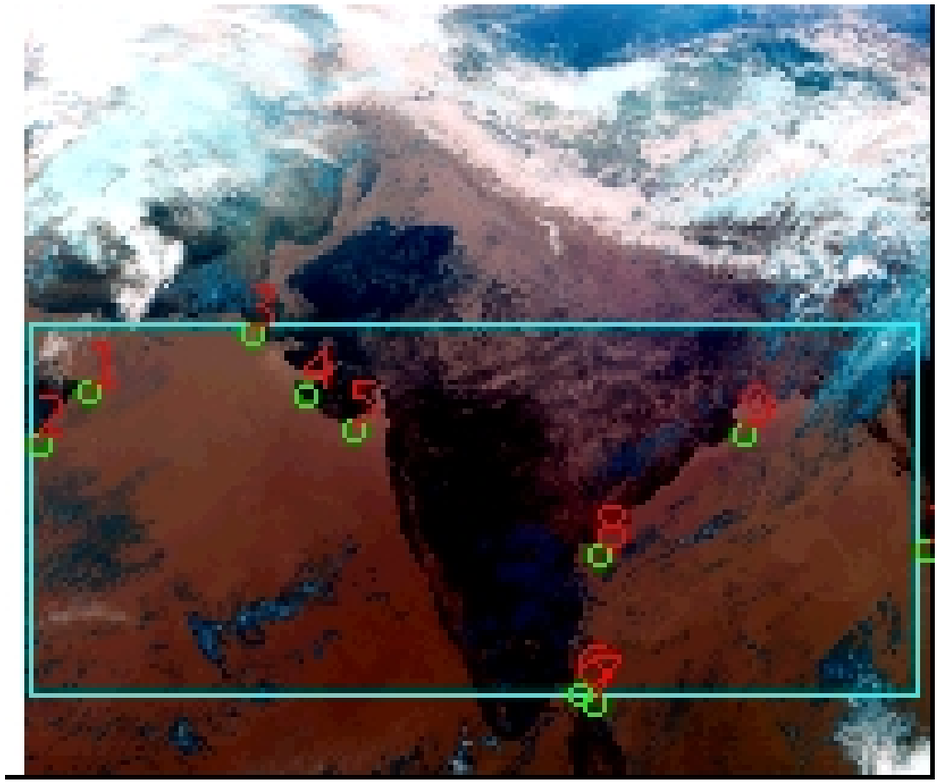
DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND_29JAN2019_0500

Satellite	INSAT-3DR	**No Of Bands**	19	**Product Type**	STANDARD
Sensor	SND	**LvlOfProcess**	L1B	**Selected Band**	2-LWIR3
DOP/Time	29-01-19/05:00	**Station ID**	BES	**Field View(deg)**	6.136
Res(Y,X) [Km]	(10.0,10.0)	**Res(Y,X) [uRad]**	(280.0,280.0)		

(41.205N,52.187W) (41.205N,102.137E)



(6.814S,52.187W) (6.814S,102.137E)

GCP Distribution overview for 3RSND29JAN20190500L1BSA1

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

GCP Coverage(%) 48.05 **(N-S)** 95.77 **(E-W)**

Location Error(E)

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

Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.906	N	0.566	1.069
Across	-1.663	W	0.766	1.831

Radial Error (in IR Pixels)

Mean	2.024
Min	.884
Max	2.756
CE90	2.698

Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.529	0.487	5.289
Along	10.787	0.815	7.871
Across	10.508	0.415	5.082

Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	2.054	0.172	0.56	0.586
Across	2.167	-0.451	0.78	0.900

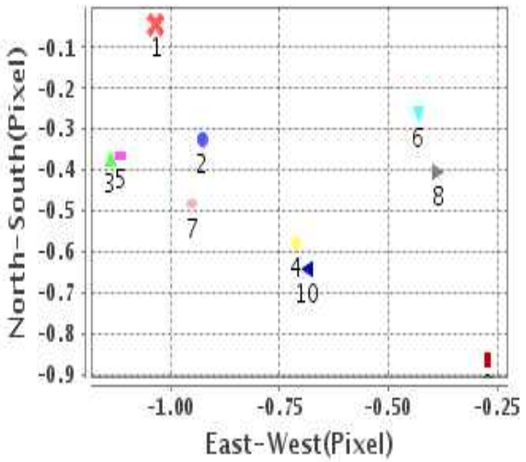
Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02457	-0.01535	0.12284

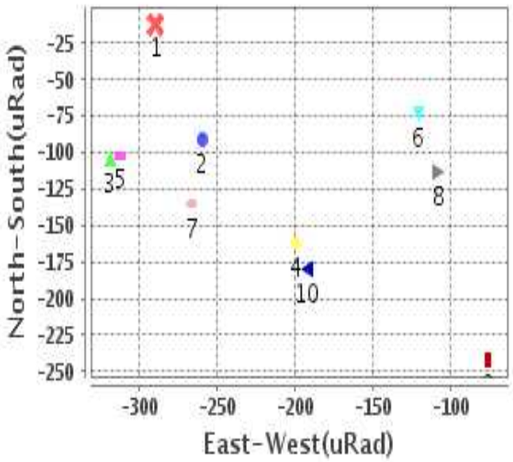
Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

Location Error For GCPs(Pixel)



Location Error For GCPs(uRad)



Detailed Product Information

Ancillary Info

Satellite	INSAT-3DR	Generation Date	29-01-19
Sensor	SND	DQE Date	30-01-2019
PassType	NONE	Aquisition Date	29-01-19
Imaging Mode	FULL_FRAME	Aquisition Time(GMT)	05:00
Sat Altitude(m)	3.6E7	Nominal Altitude(Km)	3.6E7
Station	BES	Predicted Altitude(Km)	-999.99
Sat Location(deg)	-999.99 E	Nominal Center Lat(deg)	0.0
Format	hdf5-1.8.8	Nominal Center Lon(deg)	74.0
LvlOfProcessing	STANDARD	Predicted Center Lat(deg)	-999.99
DP JobId	3RSND_29JAN20	Predicted Center Lon(deg)	-999.99
ProductCode	NONE		
Field View(deg)	6.136		

Projection Parameters

Projection	None
Ellipsoid	WGS_84
Datum	WGS_84
Zone	NotAvail
Semi_Major_Axis(Km)	6378.14
Semi_Minor_Axis(Km)	6356.75
Standard_Parallel1(deg)	-999.99
Standard_Parallel2(deg)	-999.99
Projection_Origin_Lon(deg)	-999.99
Projection_Origin_Lat(deg)	-999.99
Projection_False_Easting(Km)	-999.99
Projection_False_Northing(Km)	-999.99

Scene Center Desc

Centre Lat(deg)	24.009
Center Lon(deg)	77.162
Centre Roll(deg)	-999.0
Centre Pitch(deg)	-999.0
Center Yaw(deg)	-999.0
SunElevation(deg)	-999.99
SunAzimuth(deg)	-999.99
SatElevation(deg)	-999.99
SatAzimuth(deg)	-999.99

Scene Corner Desc

NW_Lat(deg)	41.205
NW_Lon(deg)	52.187
SW_Lat(deg)	6.814
SW_Lon(deg)	52.187
NE_Lat(deg)	41.205
NE_Lon(deg)	102.137
SE_Lat(deg)	6.814
SE_Lon(deg)	102.137

Band Wise Details

	Res_AL(Km)	Res_AX(Km)	Image Height	Image Width
LWIR1	10.0	10.0	320	384
LWIR2	10.0	10.0	320	384
LWIR3	10.0	10.0	320	384
LWIR4	10.0	10.0	320	384
LWIR5	10.0	10.0	320	384
LWIR6	10.0	10.0	320	384

GDQE Computation Base

Projection	MER	Wildpoint Rejection Threshold	2.60 -sigma	SemiMajorAxis(m)	6378137.00	Mode Of Computation	grid
Ellipsoid	WGS_84			SemiMinorAxis(m)	6356752.31	Used Reference Type	REFINSREF
Datum	WGS_84	Unit	meters	Standardparallel1(deg)	17.0		
Zone	Not Applicable			Standardparallel2(deg)	17.0		

* -999.99 : Not Applicable/Not Available

References

JobId : **3RSND29JAN20190500L1BSA1**

(-999.99 - Not Available/Not Computed)

Ref.No	Source	File Name	Resolution (m)	Projection
1	ETM	world_Band1.img	500.0	GGP

Location Accuracy

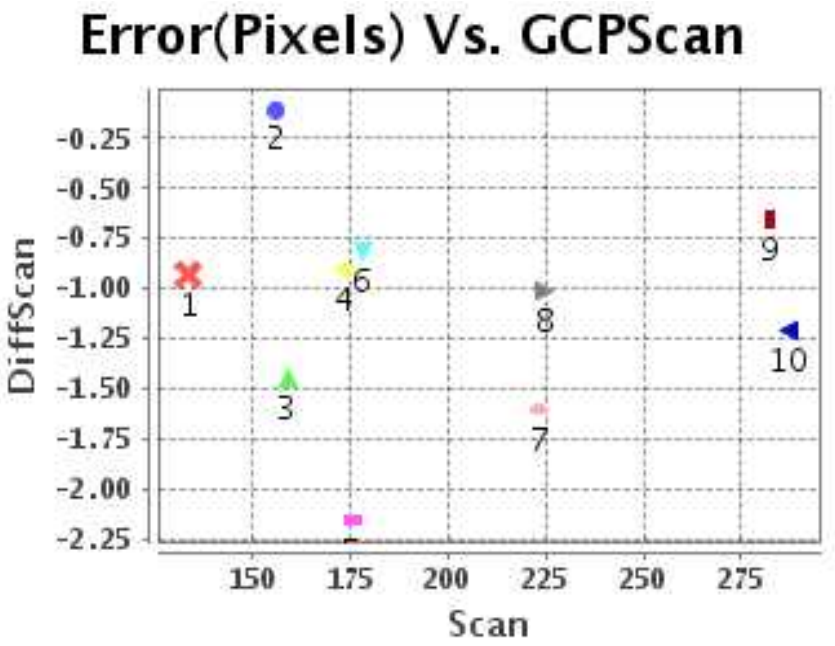
GCP Distribution Statistics

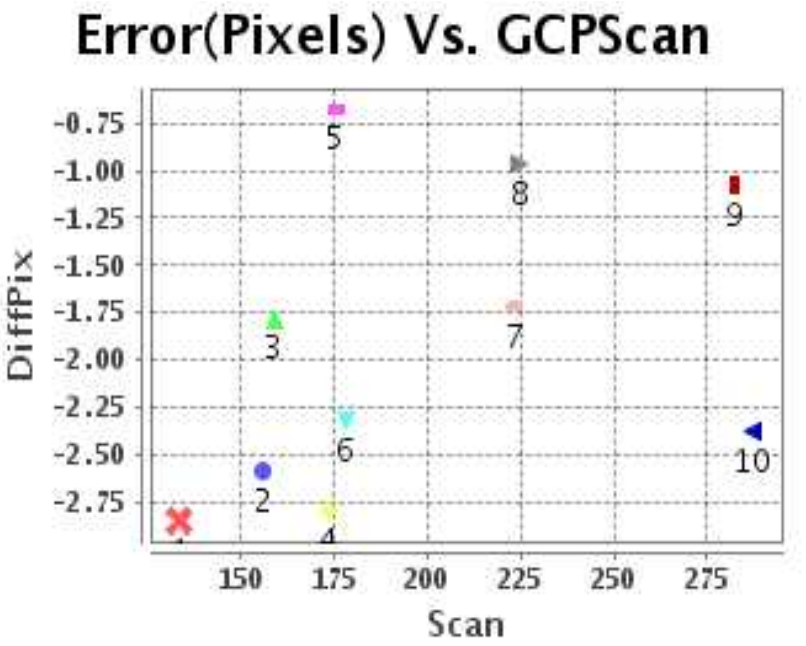
Image Width (pixels) : 384 **Image Height (pixels) :** 320 **No of GCPs :** 10

	Mean	StdDev	Min	Max	Coverage(in %)
GCP Scan	199.3	50.3	133.5	287.25	48.05 (N-S)
GCP Pix	180.4	113.1	11.8	379.50	95.77 (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	156.0	30.2	-0.1	-2.59	1.839	N	24.782	W	Accepted
2	178.0	11.8	-0.8	-2.32	9.140	N	18.438	W	Accepted
3	133.5	99.8	-0.9	-2.85	5.433	N	23.060	W	Accepted
4	159.0	120.0	-1.4	-1.78	17.646	N	20.416	W	Accepted
5	173.5	140.2	-0.9	-2.79	4.635	N	27.168	W	Accepted
6	282.2	235.2	-0.7	-1.08	3.903	N	7.934	W	Accepted
7	287.2	240.2	-1.2	-2.38	9.219	N	20.367	W	Accepted
8	224.5	243.2	-1.0	-0.97	5.622	N	6.983	W	Accepted
9	175.5	303.2	-2.2	-0.68	18.768	N	4.224	W	Accepted
10	223.2	379.5	-1.6	-1.72	14.435	N	12.892	W	Accepted



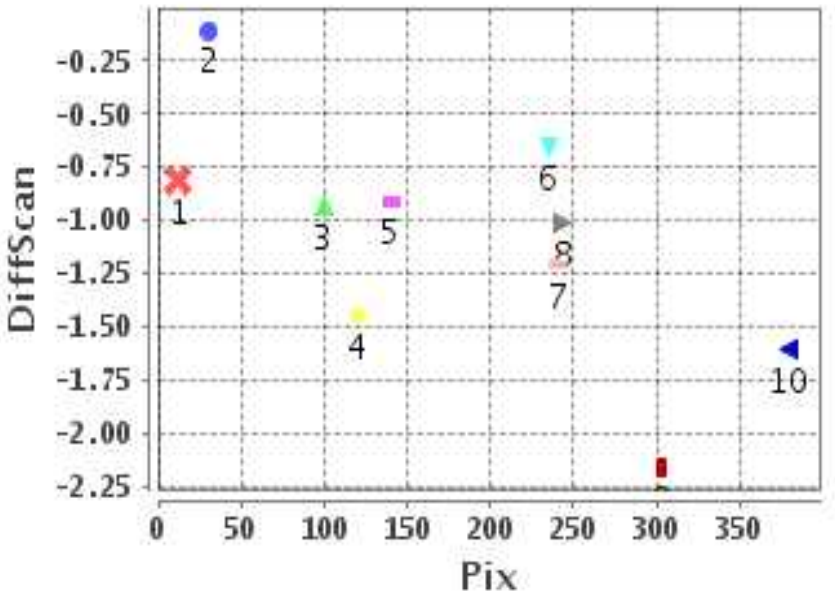


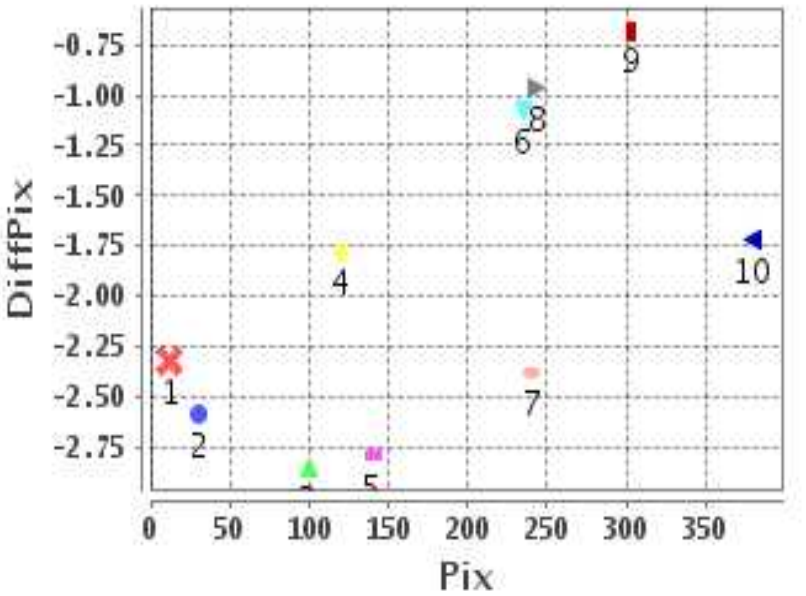
Number Of Points

North	10
South	0
East	0
West	10

Radial Error (Km

Mean	2.024
Min	.884
Max	2.756
CE90	2.698





Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along(Km)	0.906	0.566	1.069	N	0.937	1.125
Across (Km)	-1.663	0.766	1.831	W	1.704	1.925

Block-Wise Geo location Error Statistics

Location Accuracy,Scale,ID

Scan Range-0-105; Pix Range-0-127

Number of GCPs	-999		
Location Error(Km)			
Along(Mean,Dir)	-999.99	NotAvail	
Across(Mean,Dir)	-999.99	NotAvail	
Scale(Km)			
Average Scale (Mean,%Variation)	-999.99	-999.9	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-999.99	-999.99	
Across(Mean,Stddev)	-999.99	-999.99	

Scan Range-0-105; Pix Range-127-255

Number of GCPs	-999		
Location Error(Km)			
Along(Mean,Dir)	-999.99	NotAvail	
Across(Mean,Dir)	-999.99	NotAvail	
Scale(Km)			
Average Scale (Mean,%Variation)	-999.99	-999.9	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-999.99	-999.99	
Across(Mean,Stddev)	-999.99	-999.99	

Scan Range-0-105; Pix Range-255-384

Number of GCPs	-999		
Location Error(Km)			
Along(Mean,Dir)	-999.99	NotAvail	
Across(Mean,Dir)	-999.99	NotAvail	
Scale(Km)			
Average Scale (Mean,%Variation)	-999.99	-999.9	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-999.99	-999.99	
Across(Mean,Stddev)	-999.99	-999.99	

Scan Range-105-212; Pix Range-0-127

Number of GCPs	4		
Location Error(Km)			
Along(Mean,Dir)	8.515	N	
Across(Mean,Dir)	-21.67	W	
Scale(Km)			
Average Scale (Mean,%Variation)	10.79	7.93	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-0.14	0.55	
Across(Mean,Stddev)	0.08	0.45	

Scan Range-105-212; Pix Range-127-255

Number of GCPs	1		
Location Error(Km)			
Along(Mean,Dir)	4.63	N	
Across(Mean,Dir)	-27.17	W	
Scale(Km)			
Average Scale (Mean,%Variation)	-999.99	-999.9	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-999.99	-999.99	
Across(Mean,Stddev)	-999.99	-999.99	

Scan Range-105-212; Pix Range-255-384

Number of GCPs	1		
Location Error(Km)			
Along(Mean,Dir)	18.76	N	
Across(Mean,Dir)	-4.22	W	
Scale(Km)			
Average Scale (Mean,%Variation)	-999.99	-999.9	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-999.99	-999.99	
Across(Mean,Stddev)	-999.99	-999.99	

Scan Range-212-320; Pix Range-0-127

Number of GCPs	-999		
Location Error(Km)			
Along(Mean,Dir)	-999.99	NotAvail	
Across(Mean,Dir)	-999.99	NotAvail	
Scale(Km)			
Average Scale (Mean,%Variation)	-999.99	-999.9	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-999.99	-999.99	
Across(Mean,Stddev)	-999.99	-999.99	

Scan Range-212-320; Pix Range-105-255

Number of GCPs	3		
Location Error(Km)			
Along(Mean,Dir)	6.24667	N	
Across(Mean,Dir)	-11.76	W	
Scale(Km)			
Average Scale (Mean,%Variation)	9.51	4.91	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-0.08	0.28	
Across(Mean,Stddev)	0.59	0.70	

Scan Range-212-320; Pix Range-255-384

Number of GCPs	1		
Location Error(Km)			
Along(Mean,Dir)	14.44	N	
Across(Mean,Dir)	-12.90	W	
Scale(Km)			
Average Scale (Mean,%Variation)	-999.99	-999.9	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-999.99	-999.99	
Across(Mean,Stddev)	-999.99	-999.99	

*-999 : no gcp available

* -999.99 : values are not computed