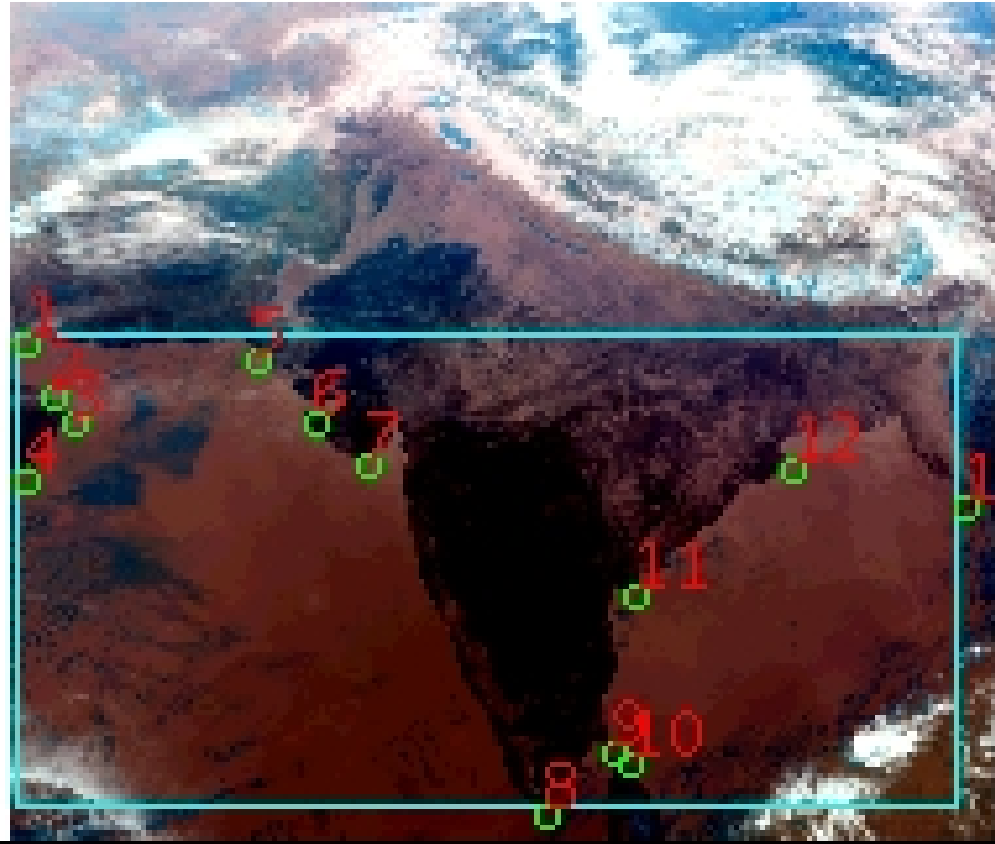


DQE Report: Location Accuracy of INSAT-3DR-SND STANDARD Product 3RSND_09JAN2019_0500

Satellite	INSAT-3DR	No Of Bands	19	Product Type	STANDARD
Sensor	SND	LvlOfProcess	L1B	Selected Band	2-LWIR3
DOP/Time	09-01-19/05:00	Station ID	BES	Field View(deg)	6.136
Res(Y,X) [Km]	(10.0,10.0)	Res(Y,X) [uRad]	(280.0,280.0)		

(41.213N,52.193W)

(41.213N,102.168E)



(6.826S,52.193W)

(6.826S,102.168E)

GCP Distribution overview for 3RSND09JAN20190500L1BSA1

Image Width: 384 **Image Height:** 320 **No Of GCPs:** 13

GCP Coverage(%) 56.41 **(N-S)** 93.03 **(E-W)**

Location Error(E)

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

Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	0.551	N	0.602	0.816
Across	-1.529	W	0.810	1.730

Scale (Km)

	Pixel Size	Stddev	%variation
Average	10.644	0.572	6.441
Along	10.771	1.146	7.714
Across	10.706	0.687	7.063

Internal Distortion (in IR Pixels)

	PeakToPeak	Mean	Stddev	RMS
Along	1.564	0.605	0.49	0.778
Across	2.382	-0.838	0.78	1.143

Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.02180	-0.01095	0.19264

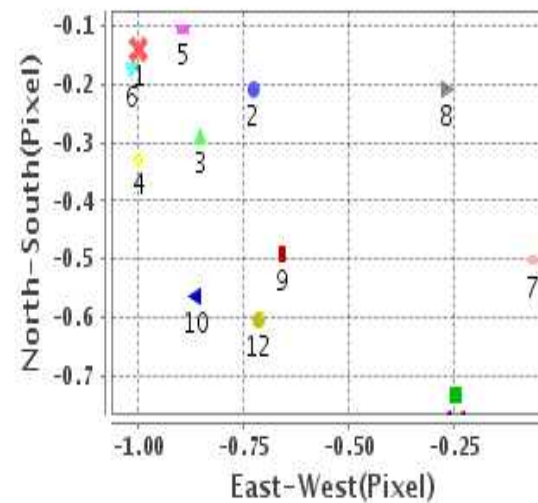
Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP

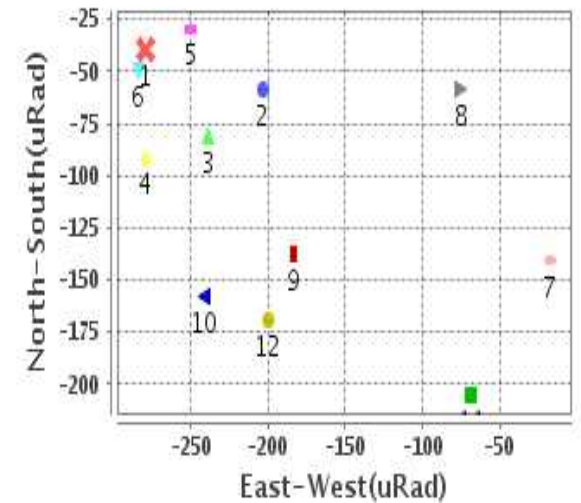
Radial Error (in IR Pixels)

Mean	1.808
Min	.693
Max	2.707
CE90	2.461

Location Error For GCPs(Pixel)



Location Error For GCPs(uRad)



Detailed Product Information

Ancillary Info

Satellite	INSAT-3DR	Generation Date	09-01-19
Sensor	SND	DQE Date	10-01-2019
PassType	NONE	Aquisition Date	09-01-19
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_09JAN20	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)	24.02
Center Lon(deg)	77.181
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)	41.213
NW_Lon(deg)	52.193
SW_Lat(deg)	6.826
SW_Lon(deg)	52.193
NE_Lat(deg)	41.213
NE_Lon(deg)	102.168
SE_Lat(deg)	6.826
SE_Lon(deg)	102.168

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	SemiMajorAxis(m)	6378137.00	Mode Of Computation	grid
Ellipsoid	WGS_84		-sigma	SemiMinorAxis(m)	6356752.31	Used Reference Type	REFINSREF
Datum	WGS_84	Unit	pixels	Standardparallel1(deg)	17.0		
Zone	Not Applicable			Standardparallel2(deg)	17.0		

* -999.99 : Not Applicable/Not Available

References

JobId : 3RSND09JAN20190500L1BSA1

(-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

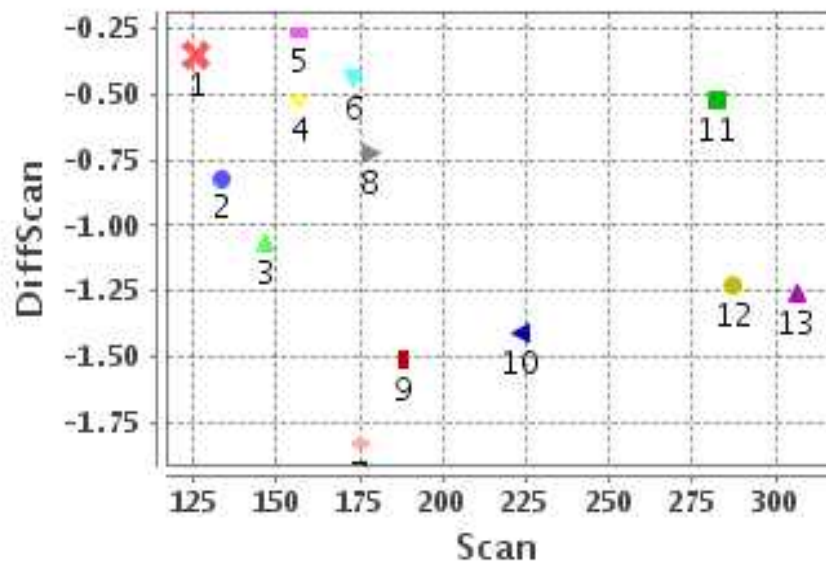
Image Width (pixels) : 384 Image Height (pixels) : 320 No of GCPs : 13

	Mean	StdDev	Min	Max	Coverage(in %)
GCP Scan	195.0	58.4	126.0	306.50	56.41 (N-S)
GCP Pix	156.4	114.8	11.2	368.50	93.03 (E-W)

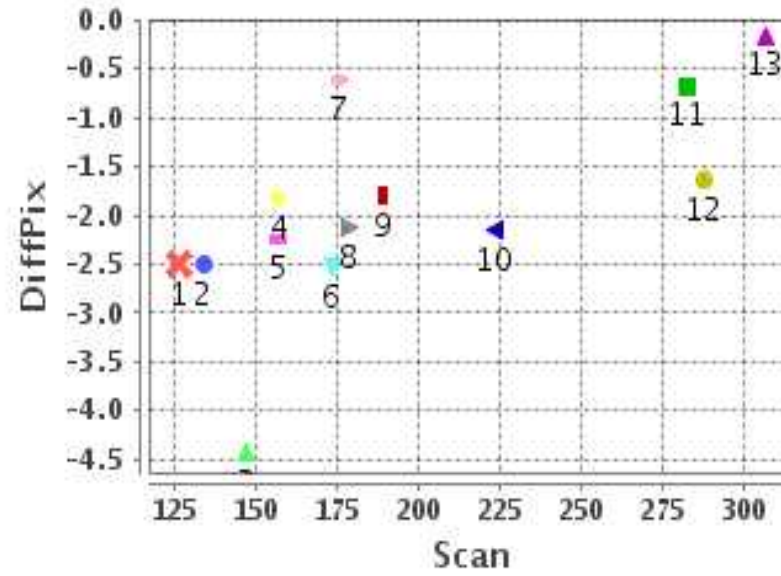
Identified Control Point details : (Differences are Reference - Product)

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	126.0	11.2	-0.4	-2.50	4.501	N	26.490	W	Accepted
2	147.0	21.8	-1.1	-4.42	13.362	N	43.340	W	Rejected
3	156.8	29.5	-0.5	-1.82	2.269	S	12.626	W	Accepted
4	178.2	11.5	-0.7	-2.13	5.753	N	18.438	W	Accepted
5	133.8	99.2	-0.8	-2.50	1.447	N	24.569	W	Accepted
6	156.8	120.5	-0.3	-2.23	4.605	S	17.886	W	Accepted
7	173.2	140.0	-0.4	-2.54	2.607	N	26.946	W	Accepted
8	306.5	209.0	-1.3	-0.16	7.652	N	1.747	W	Accepted
9	282.2	235.0	-0.5	-0.67	2.604	N	6.426	W	Accepted
10	287.5	240.0	-1.2	-1.64	7.027	N	16.818	W	Accepted
11	223.2	243.5	-1.4	-2.16	12.135	N	16.254	W	Accepted
12	175.2	303.2	-1.8	-0.61	17.873	N	3.559	W	Accepted
13	188.5	368.5	-1.5	-1.79	11.367	N	11.720	W	Accepted

Error(Pixels) Vs. GCPScan



Error(Pixels) Vs. GCPScan



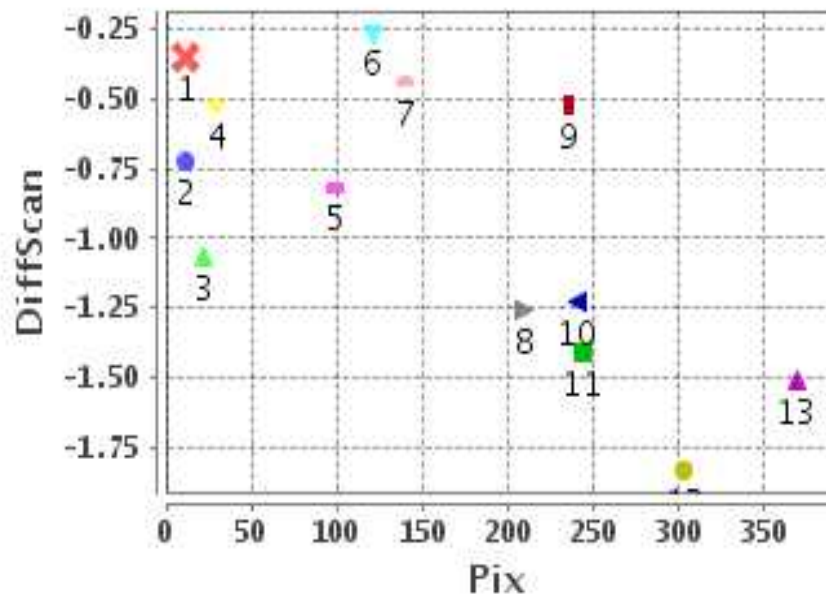
Number Of Points

North	10
South	2
East	0
West	12

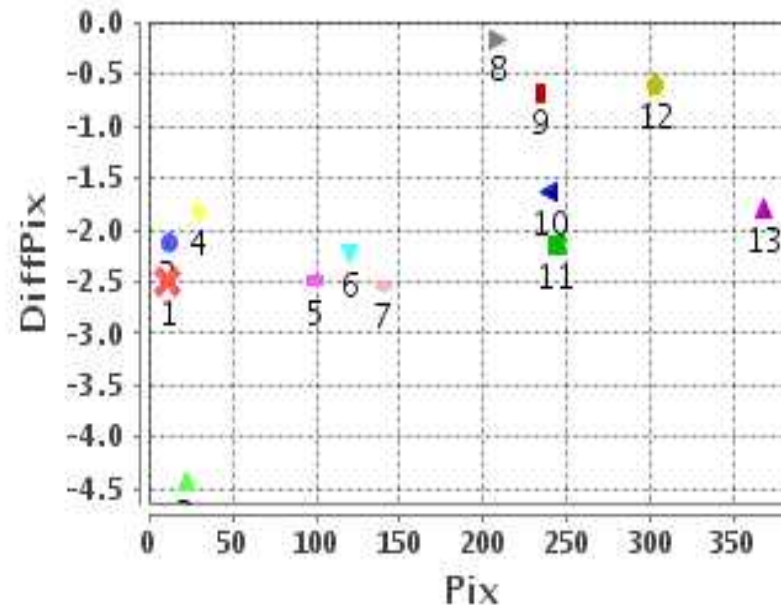
Radial Error (Km)

Mean	1.808
Min	.693
Max	2.707
CE90	2.461

Error(Pixels) Vs. GCPPix



Error(Pixels) Vs. GCPPix



Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along(Km)	0.551	0.602	0.816	N	0.660	0.851
Across (Km)	-1.529	0.810	1.730	W	1.614	1.806

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	5	
Location Error(Km)		
Along(Mean,Dir)	0.966	N
Across(Mean,Dir)	-20.00	W
Scale(Km)		
Average Scale (Mean,%Variation)	11.24	12.35
Internal Distortion(Pixel)		
Along(Mean,Stddev)	0.23	0.21
Across(Mean,Stddev)	-0.33	0.24

Scan Range-105-212; Pix Range-127-255		
Number of GCPs	1	
Location Error(Km)		
Along(Mean,Dir)	2.61	N
Across(Mean,Dir)	-26.95	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	2	
Location Error(Km)		
Along(Mean,Dir)	14.62	N
Across(Mean,Dir)	-7.64	W
Scale(Km)		
Average Scale (Mean,%Variation)	10.49	4.94
Internal Distortion(Pixel)		
Along(Mean,Stddev)	-0.32	0.00
Across(Mean,Stddev)	1.18	0.00

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	4	
Location Error(Km)		
Along(Mean,Dir)	7.3555	N
Across(Mean,Dir)	-10.31	W
Scale(Km)		
Average Scale (Mean,%Variation)	9.68	3.18
Internal Distortion(Pixel)		
Along(Mean,Stddev)	-0.41	0.34
Across(Mean,Stddev)	1.33	0.62

Scan Range-212-320; 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

*-999 : no gcp available

* -999.99 : values are not computed