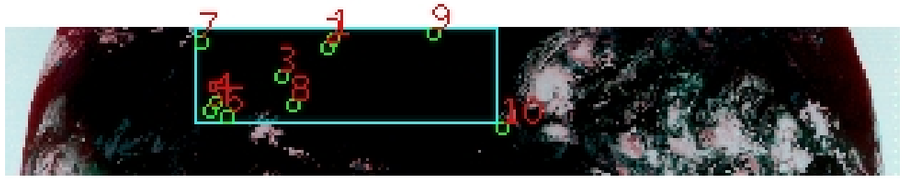
DQE Report: Location Accuracy of INSAT-3DR-IMG RAPID_SCAN Product 3RIMG_14NOV2018_0615

Satellite	INSAT-3DR	**No Of Bands**	6	**Product Type**	RAPID_SCAN
Sensor	IMG	**LvlOfProcess**	L1B	**Selected Band**	2-TIR1
DOP/Time	14-11-18/06:15	**Station ID**	BES	**Field View(deg)**	18.006
Res(Y,X) [Km]	(4.0,4.0)	**Res(Y,X) [uRad]**	(112.0,112.0)		

(81.202N,-7.273W) (81.202N,155.035E)



(-80.883S,-7.273W) (-80.883S,155.035E)

GCP Distribution overview for 3RIMG14NOV20180615L1BDQE

Image Width: 2805 **Image Height:** 2816 **No Of GCPs:** 10

GCP Coverage(%) 10.44 **(N-S)** 33.53 **(E-W)**

Location Error(E)

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

Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-5.651	S	0.784	5.705
Across	2.376	E	1.866	3.021

Radial Error (in IR Pixels)

Mean	6.326
Min	4.738
Max	9.500
CE90	7.267

Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.354	0.307	8.841
Along	4.601	1.977	15.037
Across	4.503	0.374	12.586

Internal Distortion (in IR Pixels)

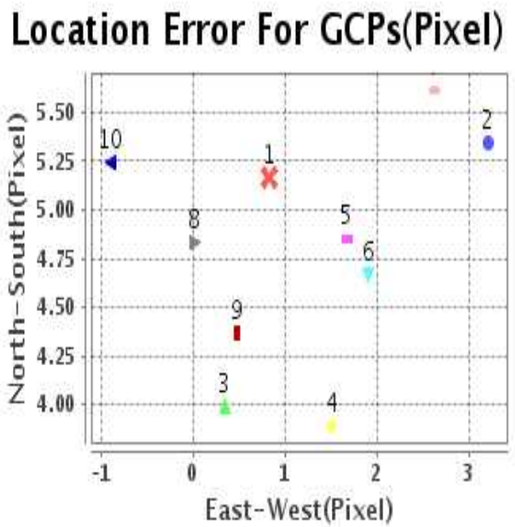
	PeakToPeak	Mean	Stddev	RMS
Along	1.724	-0.472	0.55	0.728
Across	4.102	1.624	1.14	1.984

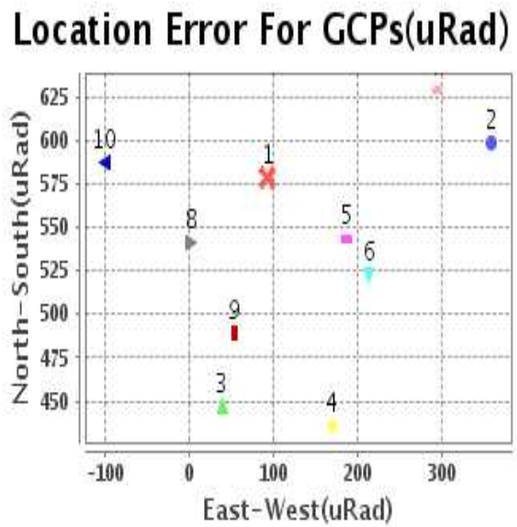
Attitude Residuals (Deg)

Pitch	Roll	Yaw
0.00022	0.03527	0.01225

Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP





Detailed Product Information

Ancillary Info

Satellite	INSAT-3DR	Generation Date	14-11-18
Sensor	IMG	DQE Date	15-11-2018
PassType	NONE	Aquisition Date	14-11-18
Imaging Mode	NORMAL_FRAM	Aquisition Time(GMT)	06:15
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	RAPID_SCAN	Predicted Center Lat(deg)	-999.99
DP JobId	3RIMG_14NOV2	Predicted Center Lon(deg)	-999.99
ProductCode	NONE		
Field View(deg)	18.006		

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)	0.16
Center Lon(deg)	73.881
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)	81.202
NW_Lon(deg)	-7.273
SW_Lat(deg)	-80.883
SW_Lon(deg)	-7.273
NE_Lat(deg)	81.202
NE_Lon(deg)	155.035
SE_Lat(deg)	-80.883
SE_Lon(deg)	155.035

Band Wise Details

	Res_AL(Km)	Res_AX(Km)	Image Height	Image Width
MIR	4.0	4.0	2816	2805
SWIR	1.0	1.0	11264	11220
TIR1	4.0	4.0	2816	2805
TIR2	4.0	4.0	2816	2805
VIS	1.0	1.0	11264	11220
WV	8.0	8.0	1408	1402

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	pixels	Standardparallel1(deg)	17.0		
Zone	Not Applicable			Standardparallel2(deg)	17.0		

* -999.99 : Not Applicable/Not Available

References

JobId : **3RIMG14NOV20180615L1BDQE**

(-999.99 - Not Available/Not Computed)

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

Location Accuracy

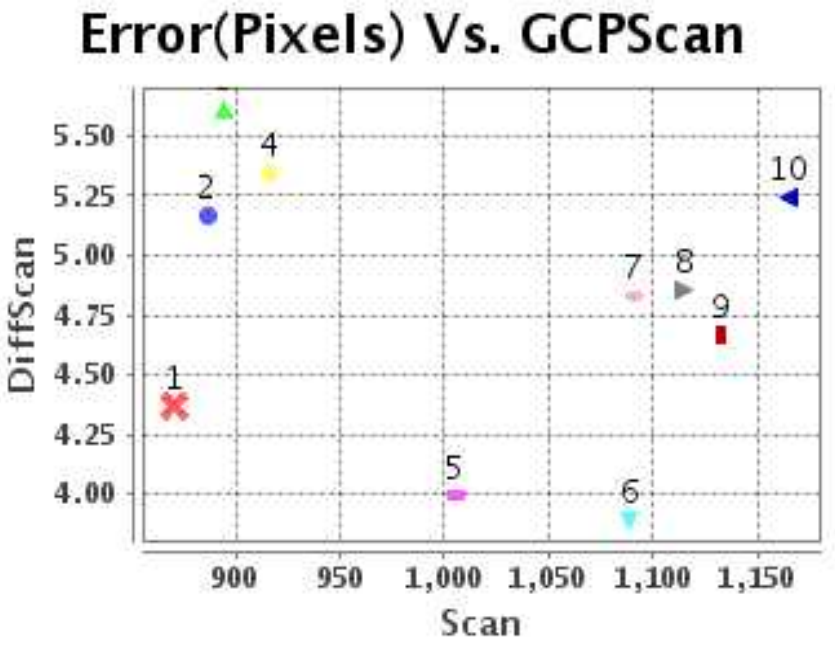
GCP Distribution Statistics

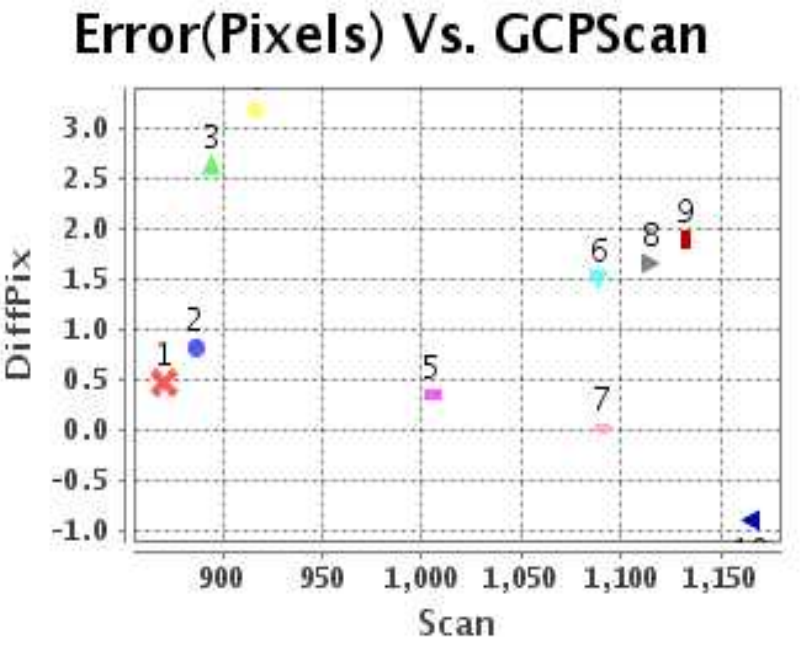
Image Width (pixels) : 2805 **Image Height (pixels) :** 2816 **No of GCPs :** 10

	Mean	StdDev	Min	Max	Coverage(in %)
GCP Scan	1016.4	109.1	870.5	1164.50	10.44 (N-S)
GCP Pix	915.8	297.7	599.0	1539.50	33.53 (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	886.5	1015.0	5.2	0.82	26.273	S	7.062	E	Accepted
2	916.0	990.0	5.3	3.20	23.937	S	16.490	E	Accepted
3	1005.5	847.0	4.0	0.35	18.656	S	3.332	E	Accepted
4	1088.8	647.5	3.9	1.51	19.052	S	13.185	E	Accepted
5	1114.5	627.5	4.9	1.67	22.046	S	14.403	E	Accepted
6	1132.5	683.0	4.7	1.91	21.634	S	12.424	E	Accepted
7	894.5	599.0	5.6	2.63	29.545	S	23.899	E	Accepted
8	1090.2	885.2	4.8	0.02	20.344	S	3.279	E	Accepted
9	870.5	1324.0	4.4	0.47	22.069	S	2.648	E	Accepted
10	1164.5	1539.5	5.2	-0.90	22.482	S	1.696	W	Accepted



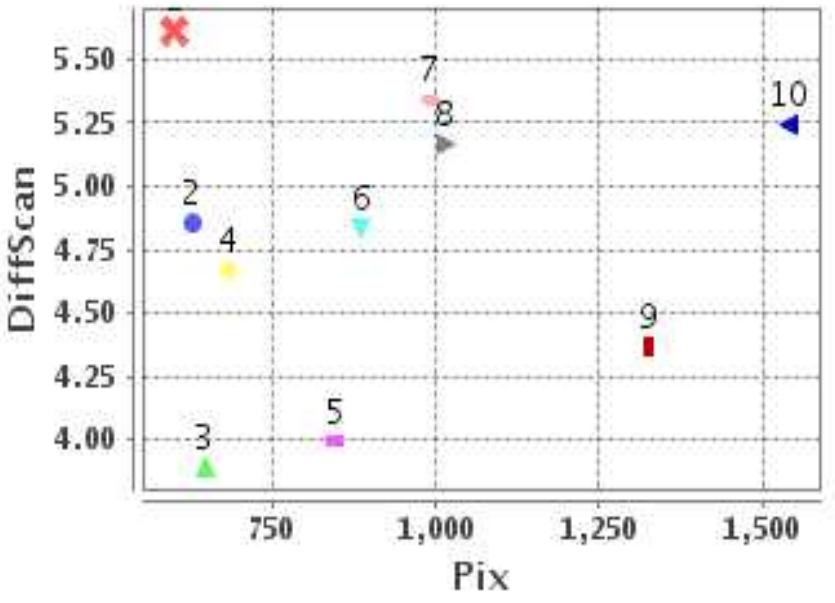


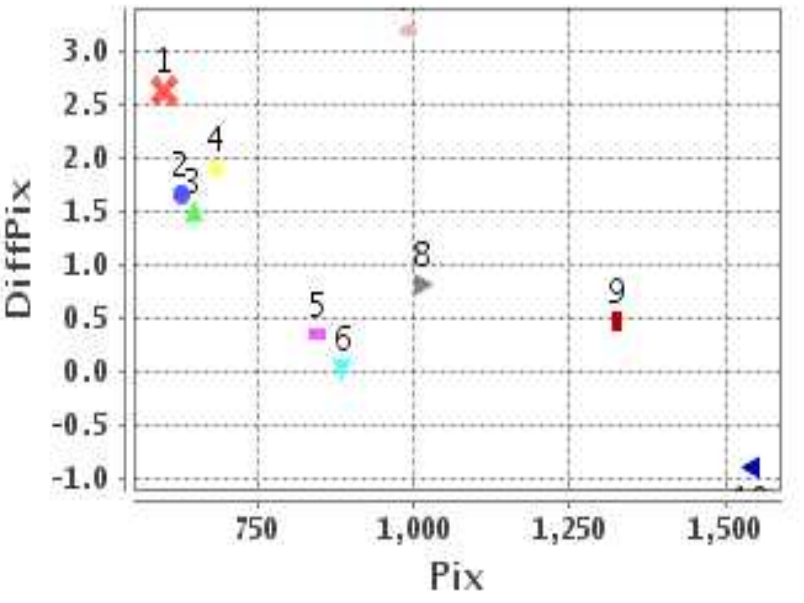
Number Of Points

North	0
South	10
East	9
West	1

Radial Error (Km

Mean	6.326
Min	4.738
Max	9.500
CE90	7.267





Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along(Km)	-5.651	0.784	5.705	S	5.486	5.809
Across (Km)	2.376	1.866	3.021	E	2.485	3.181

Block-Wise Geo location Error Statistics

Location Accuracy,Scale,ID

Scan Range-0-937; Pix Range-0-934

Number of GCPs	1		
Location Error(Km)			
Along(Mean,Dir)	-29.55	S	
Across(Mean,Dir)	23.90	E	
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-0-937; Pix Range-934-1869

Number of GCPs	3		
Location Error(Km)			
Along(Mean,Dir)	-24.0933	S	
Across(Mean,Dir)	8.73	E	
Scale(Km)			
Average Scale (Mean,%Variation)	4.14	3.44	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-0.88	0.09	
Across(Mean,Stddev)	2.56	0.18	

Scan Range-0-937; Pix Range-1869-2805

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-937-1876; Pix Range-0-934

Number of GCPs	5		
Location Error(Km)			
Along(Mean,Dir)	-20.348	S	
Across(Mean,Dir)	9.32	E	
Scale(Km)			
Average Scale (Mean,%Variation)	4.48	12.11	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-0.57	0.39	
Across(Mean,Stddev)	0.72	0.78	

Scan Range-937-1876; Pix Range-934-1869

Number of GCPs	1		
Location Error(Km)			
Along(Mean,Dir)	-22.48	S	
Across(Mean,Dir)	-1.70	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-937-1876; Pix Range-1869-2805

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-1876-2816; Pix Range-0-934

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-1876-2816; Pix Range-937-1869

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-1876-2816; Pix Range-1869-2805

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