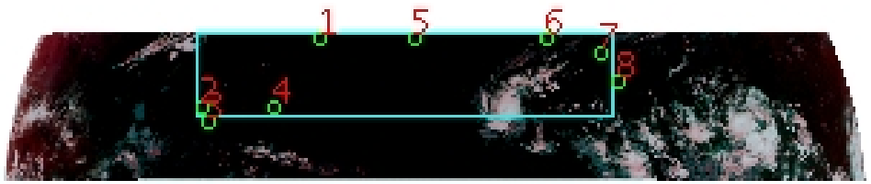
DQE Report: Location Accuracy of INSAT-3DR-IMG RAPID_SCAN Product 3RIMG_15NOV2018_0615

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

(81.042N,-7.157W) (81.042N,155.157E)



(-81.042S,-7.157W) (-81.042S,155.157E)

GCP Distribution overview for 3RIMG15NOV20180615L1BSTD

Image Width: 2805 **Image Height:** 2816 **No Of GCPs:** 8

GCP Coverage(%) 9.45 **(N-S)** 46.56 **(E-W)**

Location Error(E)

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

Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	1.767	N	0.994	2.027
Across	-2.914	W	1.363	3.217

Radial Error (in IR Pixels)

Mean	3.675
Min	2.508
Max	5.489
CE90	4.561

Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.217	0.130	5.418
Along	4.106	0.257	2.660
Across	4.211	0.058	5.278

Internal Distortion (in IR Pixels)

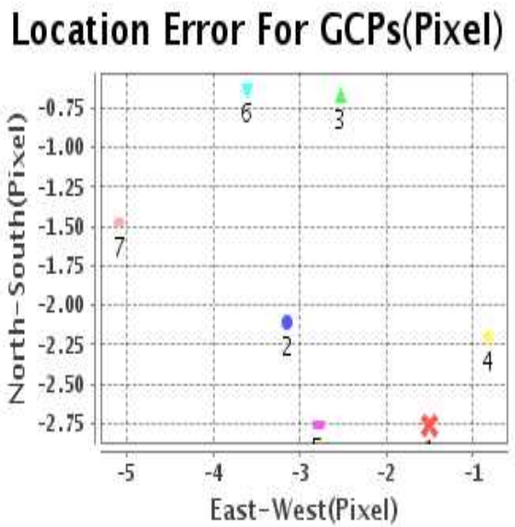
	PeakToPeak	Mean	Stddev	RMS
Along	2.127	-0.473	0.88	0.999
Across	4.257	-0.420	1.38	1.445

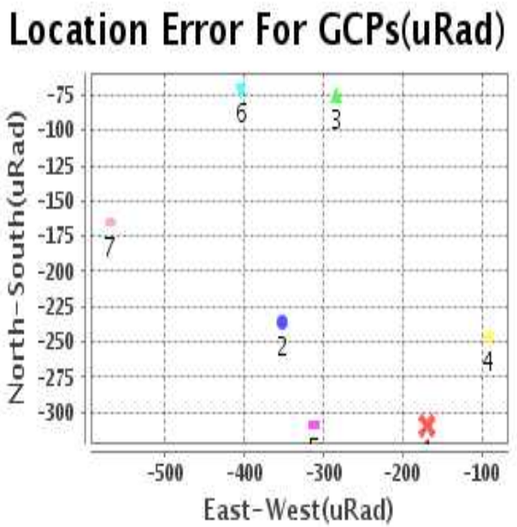
Attitude Residuals (Deg)

Pitch	Roll	Yaw
-0.01890	-0.01115	-0.00974

Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP





Detailed Product Information

Ancillary Info

Satellite	INSAT-3DR	Generation Date	15-11-18
Sensor	IMG	DQE Date	16-11-2018
PassType	NONE	Aquisition Date	15-11-18
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_15NOV2	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)	0.0
Center Lon(deg)	74.0
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)	81.042
NW_Lon(deg)	-7.157
SW_Lat(deg)	-81.042
SW_Lon(deg)	-7.157
NE_Lat(deg)	81.042
NE_Lon(deg)	155.157
SE_Lat(deg)	-81.042
SE_Lon(deg)	155.157

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 : **3RIMG15NOV20180615L1BSTD**

(-999.99 - Not Available/Not Computed)

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

Location Accuracy

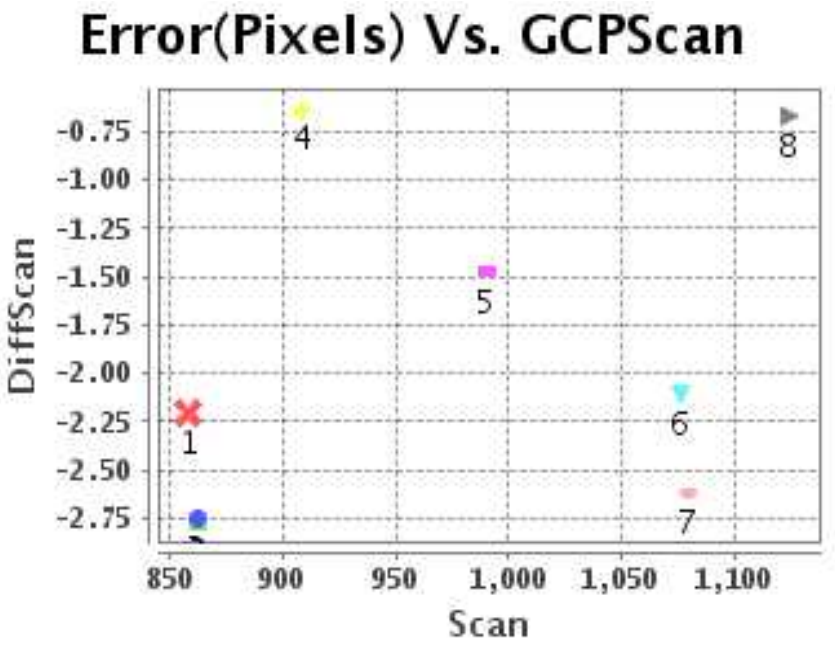
GCP Distribution Statistics

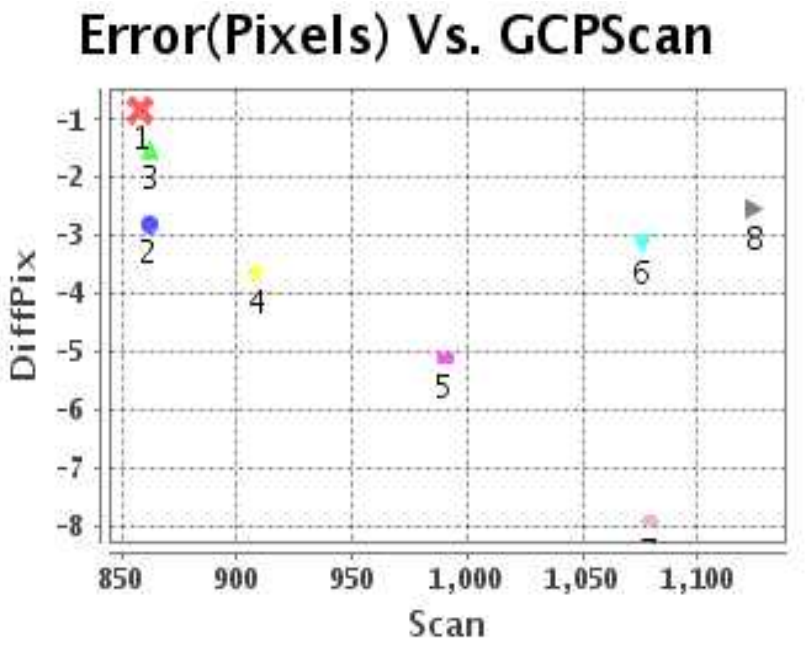
Image Width (pixels) : 2805 **Image Height (pixels) :** 2816 **No of GCPs :** 8

	Mean	StdDev	Min	Max	Coverage(in %)
GCP Scan	970.1	104.2	858.2	1124.25	9.45 (N-S)
GCP Pix	1266.9	505.4	648.2	1954.25	46.56 (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	862.5	1021.0	-2.8	-1.51	10.243	N	7.099	W	Accepted
2	1076.0	648.2	-2.1	-3.14	9.141	N	15.788	W	Accepted
3	1124.2	672.2	-0.7	-2.53	1.802	N	11.167	W	Accepted
4	1079.2	881.8	-2.6	-7.90	10.257	N	32.253	W	Rejected
5	858.2	1321.0	-2.2	-0.83	9.395	N	3.519	W	Accepted
6	862.0	1734.5	-2.8	-2.78	12.456	N	9.327	W	Accepted
7	908.2	1902.5	-0.6	-3.61	1.729	N	13.235	W	Accepted
8	990.2	1954.2	-1.5	-5.08	4.706	N	21.444	W	Accepted



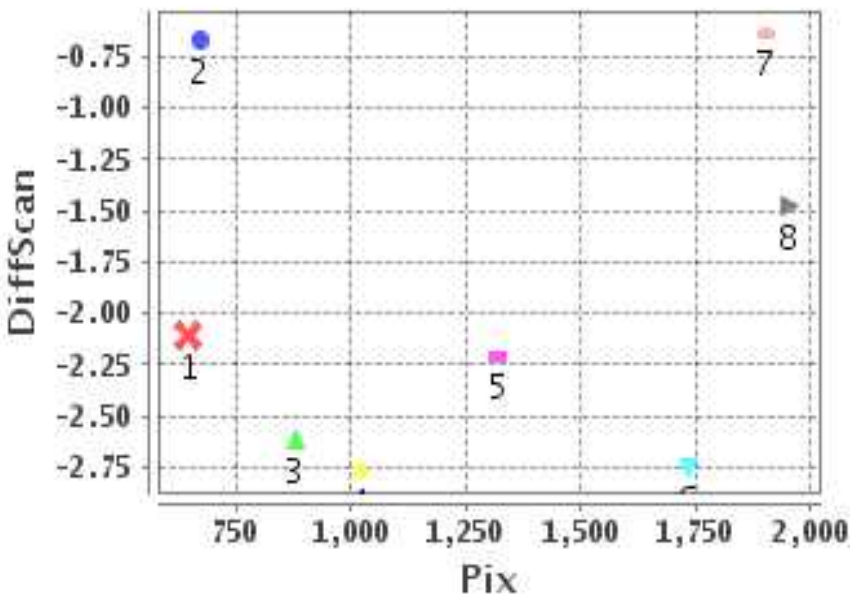


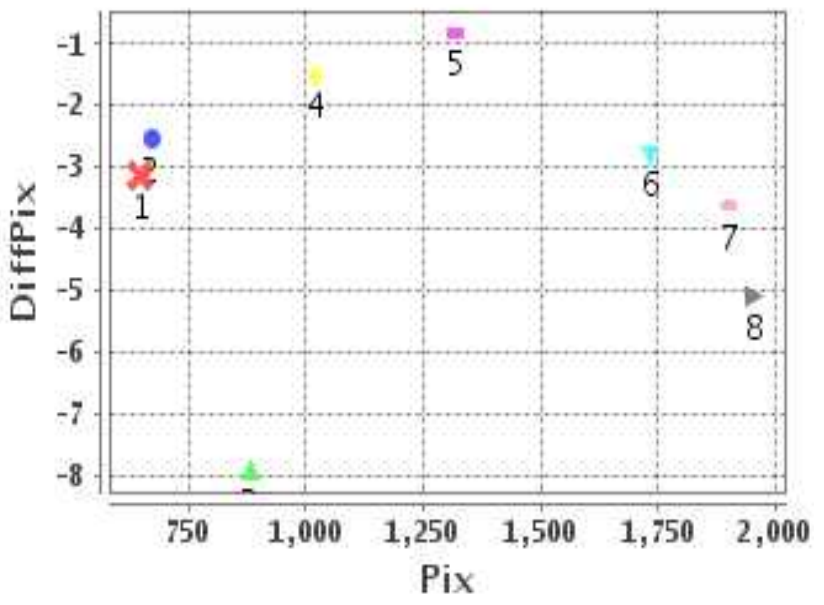
Number Of Points

North	7
South	0
East	0
West	7

Radial Error (Km

Mean	3.675
Min	2.508
Max	5.489
CE90	4.561





Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along(Km)	1.767	0.994	2.027	N	1.783	2.183
Across (Km)	-2.914	1.363	3.217	W	2.698	3.456

Block-Wise Geo location Error Statistics

Location Accuracy,Scale,ID

Scan Range-0-937; 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-0-937; Pix Range-934-1869

Number of GCPs	3		
Location Error(Km)			
Along(Mean,Dir)	10.6967	N	
Across(Mean,Dir)	-6.65	W	
Scale(Km)			
Average Scale (Mean,%Variation)	4.21	5.13	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	0.55	0.01	
Across(Mean,Stddev)	0.30	0.98	

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

Number of GCPs	1		
Location Error(Km)			
Along(Mean,Dir)	1.73	N	
Across(Mean,Dir)	-13.23	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-0-934

Number of GCPs	2		
Location Error(Km)			
Along(Mean,Dir)	5.47	N	
Across(Mean,Dir)	-13.48	W	
Scale(Km)			
Average Scale (Mean,%Variation)	4.76	19.02	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-1.44	0.00	
Across(Mean,Stddev)	-0.61	0.00	

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

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-937-1876; Pix Range-1869-2805

Number of GCPs	1		
Location Error(Km)			
Along(Mean,Dir)	4.71	N	
Across(Mean,Dir)	-21.44	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-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