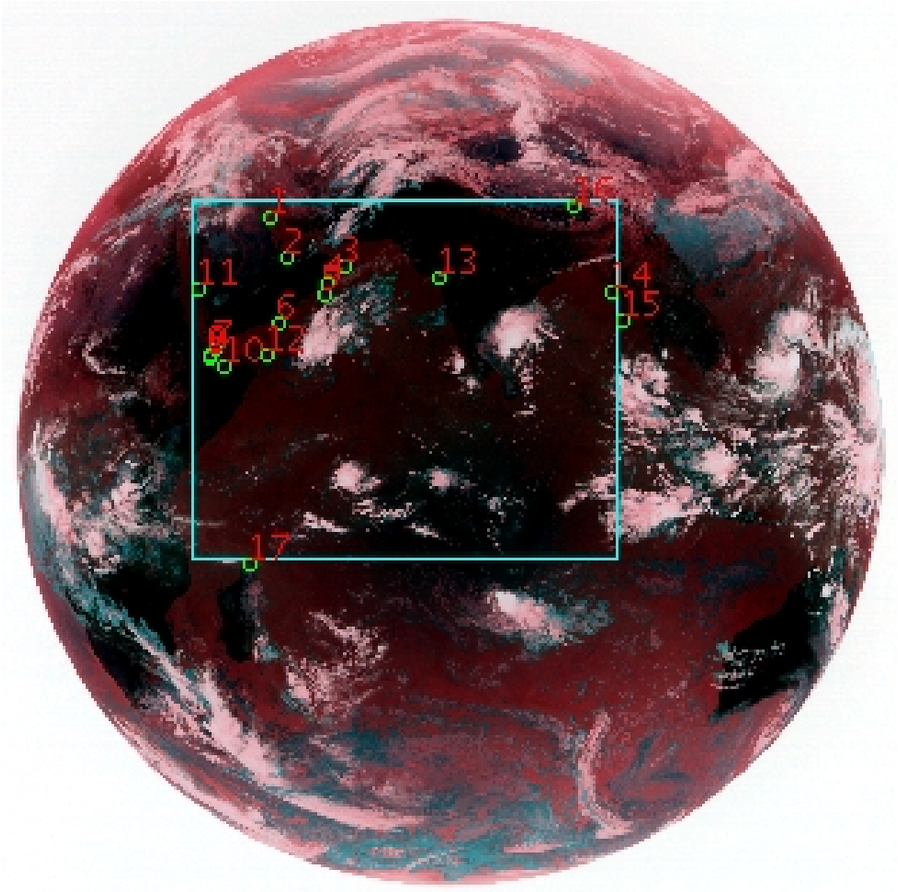
DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG_21NOV2018_0615

Satellite	INSAT-3DR	**No Of Bands**	6	**Product Type**	STANDARD
Sensor	IMG	**LvlOfProcess**	L1B	**Selected Band**	2-TIR1
DOP/Time	21-11-18/06:15	**Station ID**	BES	**Field View(deg)**	18.006
Res(Y,X) [Km]	(4.0,4.0)	**Res(Y,X) [uRad]**	(112.0,112.0)		

(81.311N,-7.259W) (81.311N,155.038E)



(-81.087S,-7.259W) (-81.087S,155.038E)

GCP Distribution overview for 3RIMG21NOV20180615L1BDQE

Image Width: 2805 **Image Height:** 2816 **No Of GCPs:** 17

GCP Coverage(%) 39.92 **(N-S)** 47.25 **(E-W)**

Location Error(E)

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

Location Error (In IR Pixels)

	Mean	Direction	Stddev	RMS
Along	-3.677	S	0.647	3.734
Across	10.848	E	1.778	10.993

Radial Error (in IR Pixels)

Mean	11.477
Min	9.504
Max	16.130
CE90	12.705

Scale (Km)

	Pixel Size	Stddev	%variation
Average	4.417	0.356	10.425
Along	4.524	1.002	13.088
Across	4.791	1.668	19.764

Internal Distortion (in IR Pixels)

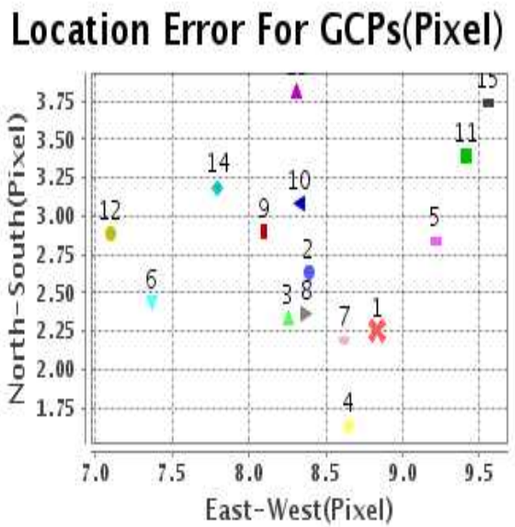
	PeakToPeak	Mean	Stddev	RMS
Along	2.186	0.435	0.59	0.736
Across	2.458	1.065	0.63	1.236

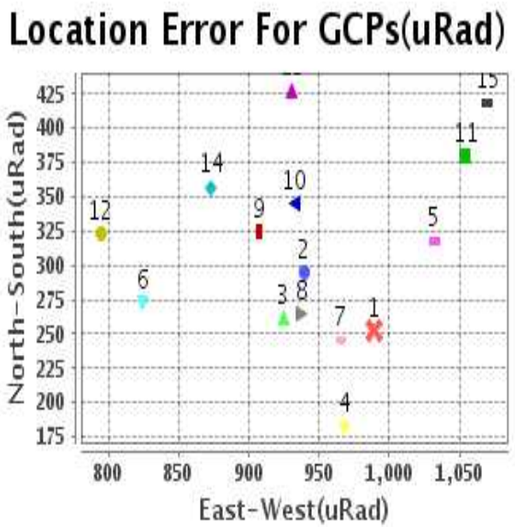
Attitude Residuals (Deg)

Pitch	Roll	Yaw
0.06014	0.02510	-0.03020

Reference Used

Sensor	Resolution	Projection
ETM	500.00	GGP





Detailed Product Information

Ancillary Info

Satellite	INSAT-3DR	Generation Date	21-11-18
Sensor	IMG	DQE Date	22-11-2018
PassType	NONE	Aquisition Date	21-11-18
Imaging Mode	FULL_FRAME	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	STANDARD	Predicted Center Lat(deg)	-999.99
DP JobId	3RIMG_21NOV2	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)	0.112
Center Lon(deg)	73.89
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)	81.311
NW_Lon(deg)	-7.259
SW_Lat(deg)	-81.087
SW_Lon(deg)	-7.259
NE_Lat(deg)	81.311
NE_Lon(deg)	155.038
SE_Lat(deg)	-81.087
SE_Lon(deg)	155.038

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 : **3RIMG21NOV20180615L1BDQE**

(-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 :** 17

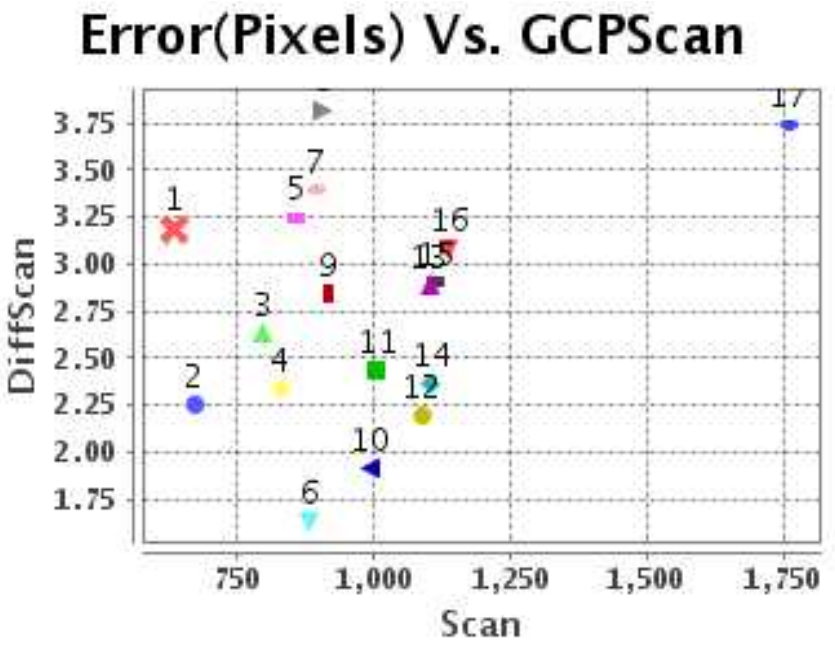
	Mean	StdDev	Min	Max	Coverage(in %)
GCP Scan	981.7	243.1	634.0	1758.25	39.92 (N-S)
GCP Pix	1019.2	434.6	602.5	1927.75	47.25 (E-W)

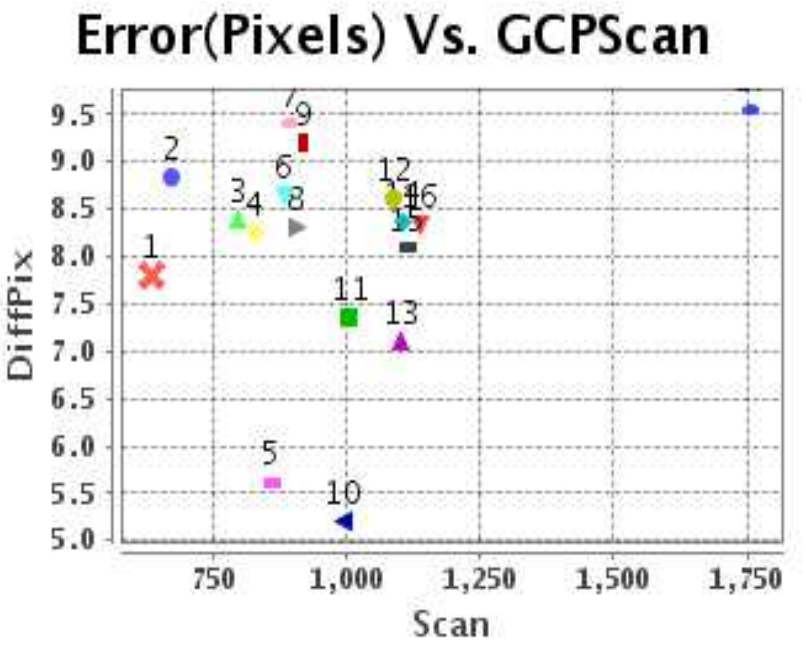
Identified Control Point details : (Differences are Reference - Product)

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
1	671.2	822.2	2.3	8.83	16.846	S	52.919	E	Accepted
2	796.5	873.8	2.6	8.39	16.879	S	47.933	E	Accepted
3	827.5	1053.0	2.3	8.25	14.168	S	37.734	E	Accepted
4	881.8	1007.5	1.6	8.64	11.427	S	40.750	E	Accepted
5	916.0	994.2	2.8	9.21	13.852	S	42.890	E	Accepted
6	1004.5	850.2	2.4	7.36	12.928	S	36.120	E	Accepted
7	1088.2	650.8	2.2	8.62	10.600	S	48.325	E	Accepted
8	1104.5	637.2	2.4	8.37	12.381	S	44.968	E	Accepted
9	1114.2	631.5	2.9	8.10	13.625	S	44.663	E	Accepted
10	1137.5	675.5	3.1	8.33	14.977	S	44.205	E	Accepted
11	894.5	602.5	3.4	9.41	19.844	S	61.391	E	Accepted
12	1102.0	810.5	2.9	7.10	12.153	S	36.021	E	Accepted
13	858.5	1357.5	3.2	5.61	17.017	S	26.045	E	Rejected

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

No	Scan	Pix	DiffScan (line)	DiffPix (pixel)	DifLat (Km)	Dir	DifLon (Km)	Dir	Status
14	905.5	1897.0	3.8	8.31	18.286	S	34.691	E	Accepted
15	994.2	1927.8	1.9	5.21	8.453	S	25.813	E	Rejected
16	634.0	1777.0	3.2	7.79	17.224	S	34.911	E	Accepted
17	1758.2	757.2	3.7	9.55	15.450	S	43.358	E	Accepted



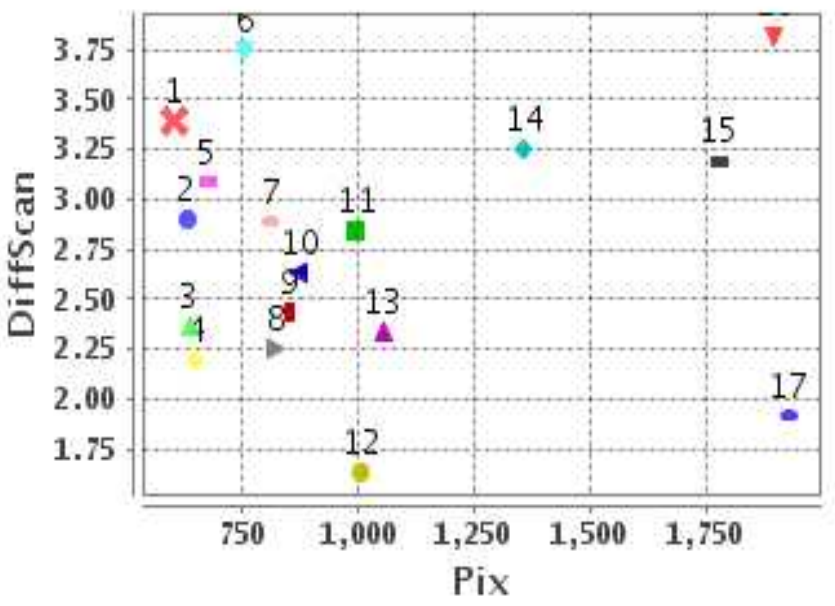


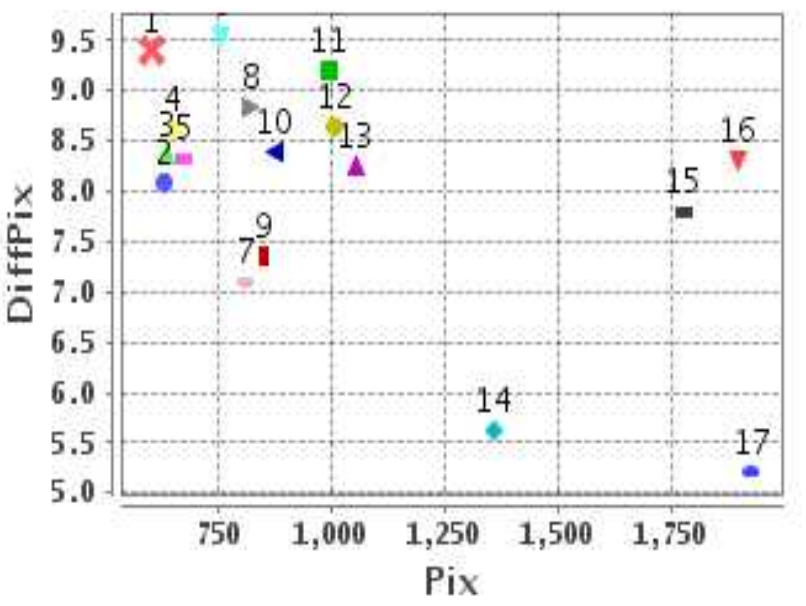
Number Of Points

North	0
South	15
East	15
West	0

Radial Error (Km

Mean	11.477
Min	9.504
Max	16.130
CE90	12.705





Location Accuracy

	Mean	StdDev	RMS	Dir	* MinRMS	* MaxRMS
Along(Km)	-3.677	0.647	3.734	S	3.630	3.799
Across (Km)	10.848	1.778	10.993	E	10.613	11.140

Block-Wise Geo location Error Statistics

Location Accuracy,Scale,ID

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

Number of GCPs	3		
Location Error(Km)			
Along(Mean,Dir)	-17.86	S	
Across(Mean,Dir)	54.08	E	
Scale(Km)			
Average Scale (Mean,%Variation)	4.95	23.69	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-0.76	0.38	
Across(Mean,Stddev)	0.80	0.22	

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

Number of GCPs	4		
Location Error(Km)			
Along(Mean,Dir)	-14.1675	S	
Across(Mean,Dir)	39.07	E	
Scale(Km)			
Average Scale (Mean,%Variation)	4.40	9.97	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	0.92	0.50	
Across(Mean,Stddev)	0.98	0.35	

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

Number of GCPs	1		
Location Error(Km)			
Along(Mean,Dir)	-18.29	S	
Across(Mean,Dir)	34.69	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-937-1876; Pix Range-0-934

Number of GCPs	7		
Location Error(Km)			
Along(Mean,Dir)	-13.1571	S	
Across(Mean,Dir)	42.52	E	
Scale(Km)			
Average Scale (Mean,%Variation)	4.33	8.17	
Internal Distortion(Pixel)			
Along(Mean,Stddev)	-0.42	0.50	
Across(Mean,Stddev)	-0.13	0.81	

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	-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