



Wuhan City, China | July 26, 2017 | GF-3

GF-3 SATELLITES

Three Satellites, 1 m Resolution, 12 modes, Full Polarization, SAR, C-band

GF-3 (short for Gaofen-3) is composed of three satellites. The satellite is equipped a multi-polarized C-band Synthetic Aperture (SAR) at meter-level resolution. Its Imaging modes include spot mode, strip-map mode, and scan mode. GF-3 was launched on August 10, 2016, it is the first Chinese high-resolution SAR satellite to acquire multi-polarized SAR image with resolution of 1-500 meters, and the imaging swath is 10-650 kilometers depending on the varied imaging modes. GF-3 02 and 03 were successively launched on November 23, 2021, and April 7, 2022, they are GF-3's follow-on satellites and provided with the identical parameters. The three satellites work as a constellation, doubling the collection and enhancing the revisit capacity.

Technical Specifications

Number of satellites	3 identical satellites: GF-3 and GF-3 02									
Mission life	8 years									
Weight	2800 kg									
Launch time	GF-3: August 10, 2016; GF-3 02: November 23, 2021; GF-3 03: April 7, 2022									
Orbit	631 km altitude, Sun-synchronous repeat orbit, equatorial passing time 6:00 am (descending pass), 6:00 pm (ascending pass)									
Centre frequency	5.4GHz (C-band)									
Polarization	Single, dual and full									
Revisit capacity	Single look: ≤5 days; double look, 10 m resolution and 100 km swath: 1.5 days (single satellite)									
Observing range	South latitude 5°~North latitude 53°, East longitude 70°~West longitude 150°									

Imaging modes	Spotlight (SL)	Ultra fine strip(UFS)	Fine strip 1 (FS 1)	Fine strip 2 (FS 2)	Standard strip(SS)	Full polarized strip 1	Full polarized strip 2	Narrow scan(NSC)	Wide scan (WSC)	Global observation scan
Resolution (at nadir)	1 m	3 m	5 m	10 m	25 m	8 m	25 m	50 m	100 m	500 m
Swath width (at nadir)	10*10 km ²	30 km	50 km	100 km	130 km	30 km	40 km	300 km	500 km	650 km
Incidence angle	20°-50°	20°-50°	19°-50°	19°-50°	17°-50°	20°-41°	20°-38°	17°-50°	17°-50°	17°-53°