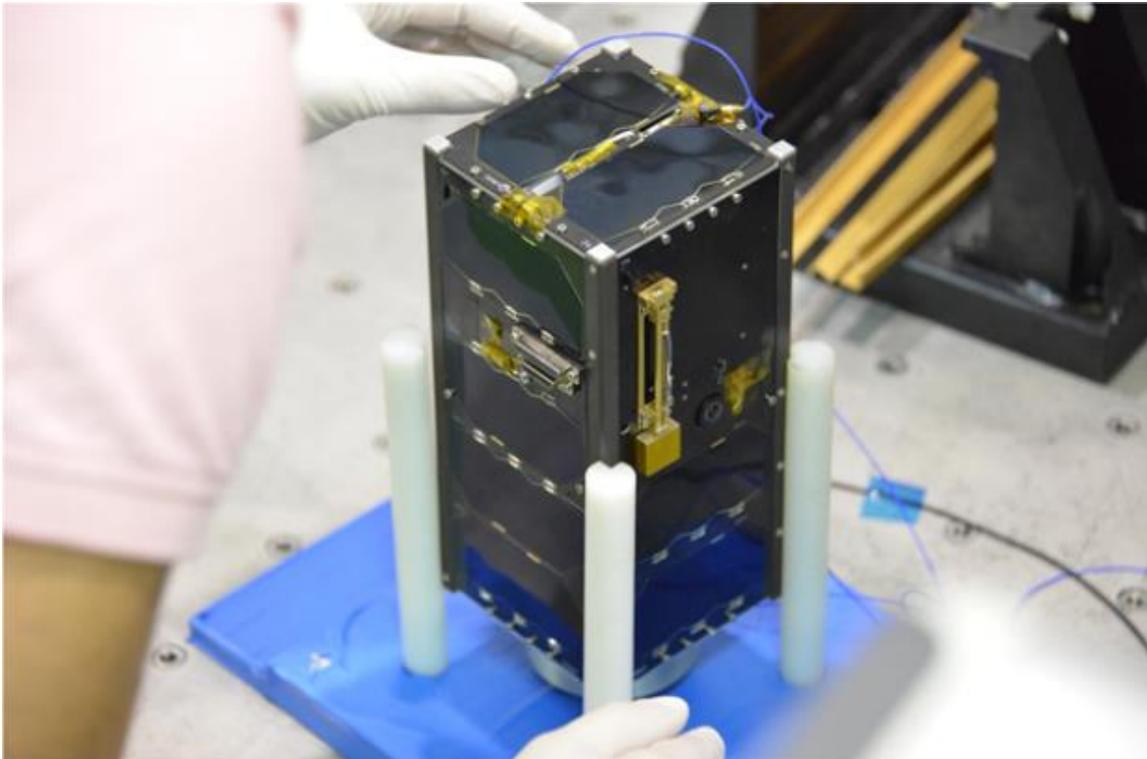




Note on QBITO sat (UPM) (19/10/2017)



QBITO satellite (UPM)

The **QBITO** satellite of spanish **Universidad Polit cnica de Madrid (UPM)** was launched in May from the International Space Station (ISS) as part of the QB50 project, led by the Von Karman Institute in Belgium, consisting of the study of the low thermosphere.

The satellite was developed for 5 years by researchers attached to the **Center of Operations and Support to Spanish Users (E-USOC)** of the European Space Agency, its dimensions being 10x10x26 cm and weighing approximately 2 kg.

Unfortunately, after repeated activation attempts since it was launched from the ISS in May, the QBITO was definitely lost in early August.



Dwingeloo radiotelescope (PI9CAM)

Some of these activation attempts were carried out jointly by **Spanish radio amateurs** linked to **AMSAT EA** coordinated with **European colleagues**, all under the direction of **Engineer Elena Vitores** of QBITO team. Important work was done by Jan **PA3FXB**, which used, together with the **PI9CAM** team, the 25 meters and 120 tons antenna of **Dwingeloo** radio telescope in the Netherlands to listen to the downlink of the QBITO in 70 cm (436 Mhz). This antenna had been previously used to 'return to life' the I-INSPIRE II and UNSW-EC0 satellites.



DK5LA EME antennas

In this case, Dr. Daniel Estévez **EA4GPZ** generated the audio of the commands that were sent to the satellite, with the collaboration of Hans **HB9CBU**, which provided some advice on how to send FSK 1K2 without distortion in the transmitter, as already done for the uplink of other satellites, being his transmitter design. In addition, Juan Antonio **EA4CYQ** was supporting the operation with its antenna, as well as Reinhard **DK5LA**, who was in charge of finally sending the recordings to the satellite using its lunar bound equipment (**EME**), more suitable in the band of 2 meters (145 Mhz) than the Dwingeloo antenna and having the previous experience in 'awakening' the ZA-Aerosat satellite, also part of QB50 project, managing to deploy its solar panels and activate the power system (EPS).