Satellite operator manual


(/File:Important.png)Portions or all of Satellite Mission Guide (/Satellite_Mission_Guide) should be split from it and merged into this page.

Contents

Introduction

Below is information for organizations that are launching satellites.

Process

Early stage of the project

It's strongly advised to get in touch with the AMSAT of you country at the beginning of your project. It enables that the radio amateur requirements are taken in account at the early stage on your project. It avoids false expectations.

Frequency

First you need to determine whether you'll require an amateur frequency, a non-amateur frequency, or both.

Historically non-telco but non-amateur satellite operators (e.g. university research projects) were often improperly permitted to use amateur spectrum on a not-quite-commercial basis. As this practice has led to serious congestion of the Amateur Space Service, the IARU will no longer coordinate amateur frequency allocation for this purpose. Therefore:

- If your satellite will be purely for amateur use (i.e. all of its major functions will be available for use by all licensed amateurs), then you're usually able to request Amateur Space Service frequency coordination from IARU. You remain free to perform limited control functions on amateur spectrum. If there is an AMSAT organisation in your country, start there. If not, approach your national amateur radio body. They will usually help you to get a radio amateur frequency coordination from IARU your allocation. It will take time: usually between six months and a year. If you don't ask for an IARU coordination, the launcher of your satellite will not allow you to launch the satellite. In the past this was sometimes allowed, but it's no longer possible.

- If your satellite will have substantial non-amateur use (sensor data, imagery, space-qualification of components, ...) then you will usually require a (non-amateur) Space Service license and frequency allocation. Approach your local radio communication regulator directly to start this process.
- If your satellite will do both, then you'll require licenses and frequency allocation/coordination for both services. A recent example is FalconSAT-3 (https://www.amsat.org/falconsat-3/).

Open your transmissions

To comply with regulations, you will need to make publicly available all the TM packet format, we advise you to use a Kaitai Struct for it. You also need to give any gnuradio flow chart that are useful to receive your data, and any picture decoder software if available. The preferred programming language for them is python. It's also a good practice to give raw recording of transmission to be able to test all the software chain.

Integration in the SatNOGS network

You need to create a post on the community forum with all this details : - satellite name - frequencies - modulations - link to TM format - link to picture decoder

You are welcome to discuss with us on IRC (#satnogs on freenode)

See Also

- SatNOGS DB (/DB)
- SatNOGS Network (/Network)
- Community Forum (/Forum)
- Get In Touch (/Get_In_Touch)