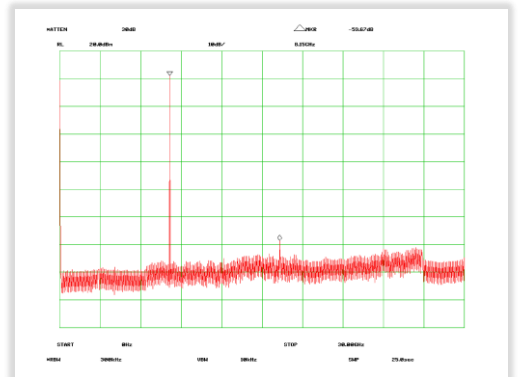


# X-Band High-Speed Downlink Transmitter for Cubesats and Microsatellites

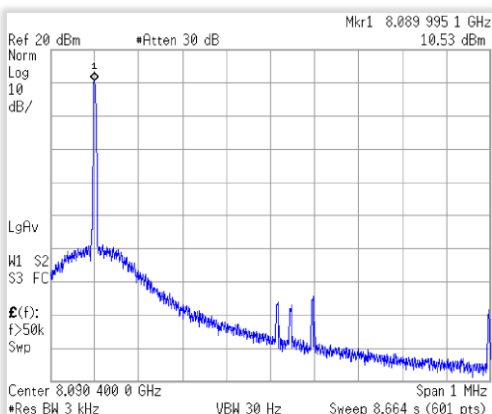
SPACE-SI has developed a very efficient and capable data downlink solution for cubesat and microsatellite platforms:

- High-speed data downlink capability
- Low electrical power requirement
- High PA power-added efficiency (PAE)
- GaN technology
- LVDS data input
- Galvanical isolation to the VBUS (microsatellite only)
- Broad input voltage range from the BUS
- Telemetry data (thermal, current and RF power)
- Low RF carrier phase noise
- Low harmonic and spurious spectral content
- No external RF filtering required
- Lightweight and compact size



Power efficiency  
 Flight heritage  
 100 Mbit/s  
 Easy integration  
 Low spurious  
 Compact size  
 Low phase noise

Engineering model  
 Microsatellite  
 High performance  
 X-band  
 Flight model  
 No filtering  
 GaN technology  
 CubeSat



**Power consumption:** 10 W @Cubesat  
 < 20 W @Microsat

**Frequency:** 8.0 – 8.4 GHz (X-band)

**Output power:** 1-2 W @Cubesat  
 2-3 W @Microsat

**Data rate:** up to 100 Mbit/s

**Modulation type:** O-QPSK

**Phase noise:** -90 dBc/Hz

**Harmonic rejection:** > 60 dBc

**Frequency stability:** < 3 ppm

**Mass:** 500 g @Cubesat  
 630 g @Microsat