

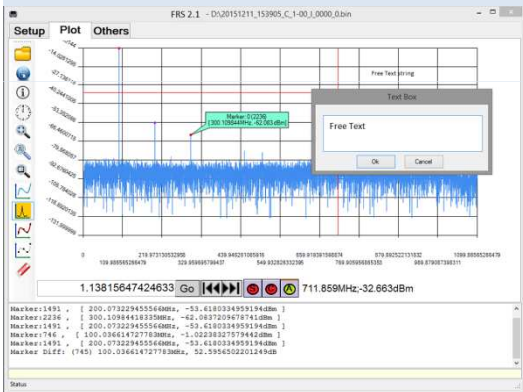
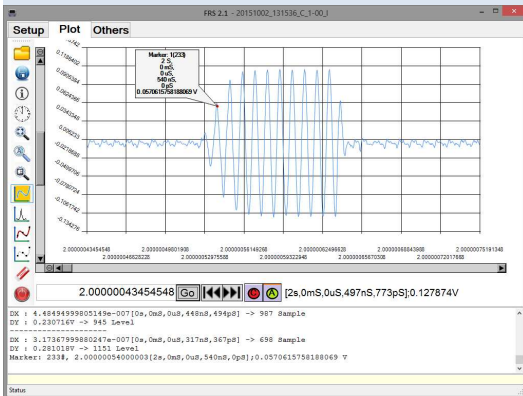
FRS-Fast Recording System

Ultra fast recording system

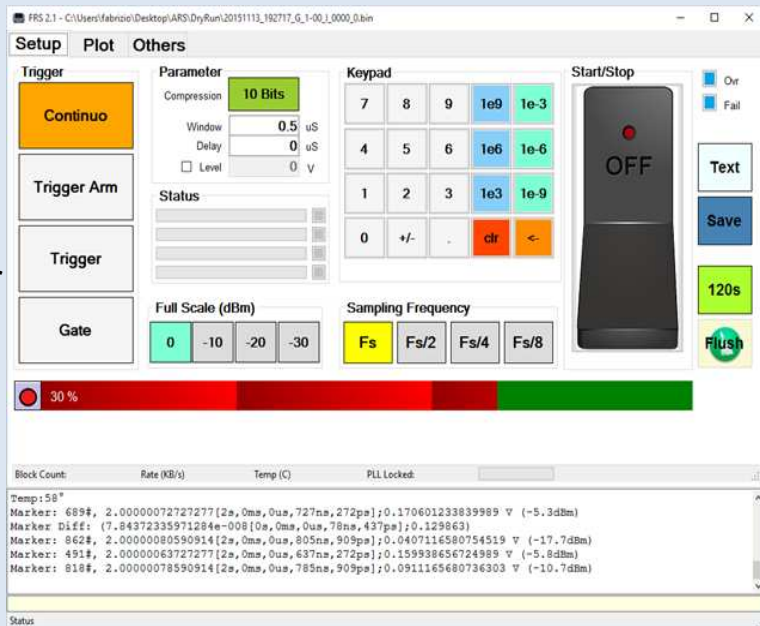
FRS is a digital recording system of a radio frequency signal in the range between 10 MHz and 1 GHz. It is capable of acquiring and recording a single analog signal for more than 30 minutes sustained at a sampling frequency up to 2.2 GHz. By including an external down-converter (optional), a huge RF band can be explored.

Applications

- Radar searching
- Repeat jammer performance assessment
- Complex communication analysis
- Fast acquisition of physical parameters
- COMINT & ELINT



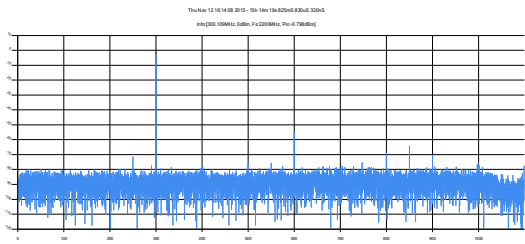
FRS Operator Panel



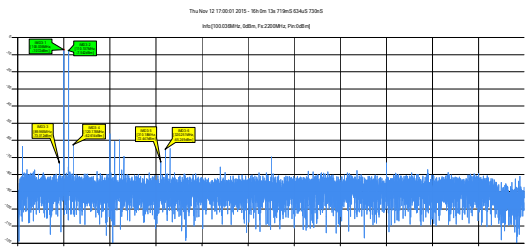


Main FRS Features

- Acquisition modes: Continuous, Trigger Armed Continuous, Triggered and Gate
- The acquisition can also be conditioned by a “Threshold level” overcome
- The user interface also allows to show the acquired signal in order to explore it or its spectral features
- It also includes a pseudo real time graphical display of the input signal (in time or in frequency)



Noise spectrum recording at 2.2 GHz



Two tones performance: Intermodulation products ($2f_1-f_2, 2f_2-f_1, 2f_1+f_2, 2f_2+f_1$) with two RF input signals where $f_2=f_1+10\text{MHz}$. The inter-modulation products are **50dB** smaller than the corresponding signal spectral components.



The user can graphically explore an acquired signal in time and in frequency. Standard graphic tools are present as Mouse oriented Zoom capability, Label, Tag and Marker functions.

| Sustained Sampling Rate | 2.2 GHz; 1.1 GHz; 550 MHz; 275 MHz; |
|---|--|
| Input Bandwidth | 1.1 GHz |
| Analog input sensitivity | 0 dBm, -10 dBm, -20 dBm, -30 dBm |
| Flatness | 0 dBm \pm 0.75 |
| Analog anti aliasing input filter | 1.1GHz > 40 dB |
| [Fs = 2.2 GHz] | 1.1÷2.2 GHz > 60 dB |
| Digital anti aliasing input filter | 1 GHz > 40 dB |
| [Fs=1.1 GHz; 550 MHz; 275 MHz] | 1.1÷2.2 GHz > 60 dB |
| Noise level @ 0 dBm input sensitivity | < - 80 dBm |
| Noise level @ -30 dBm input sensitivity | < - 110 dBm |
| SFDR | > 60 dB |
| ENOB | > 8 bit |
| IMD3 | > 50 dBm |
| IRIG/B for inter apparatus synchronization | (optional) |
| Data storage up to 16 TB for at least 60 min continuous recording | (optional) |
| NAS for external data storage | (optional) |
| Down-converter 2÷18 GHz \rightarrow 1 GHz | (optional) |

Dune declares its availability to analyze the Customer requests to design a special product according to these requirements.