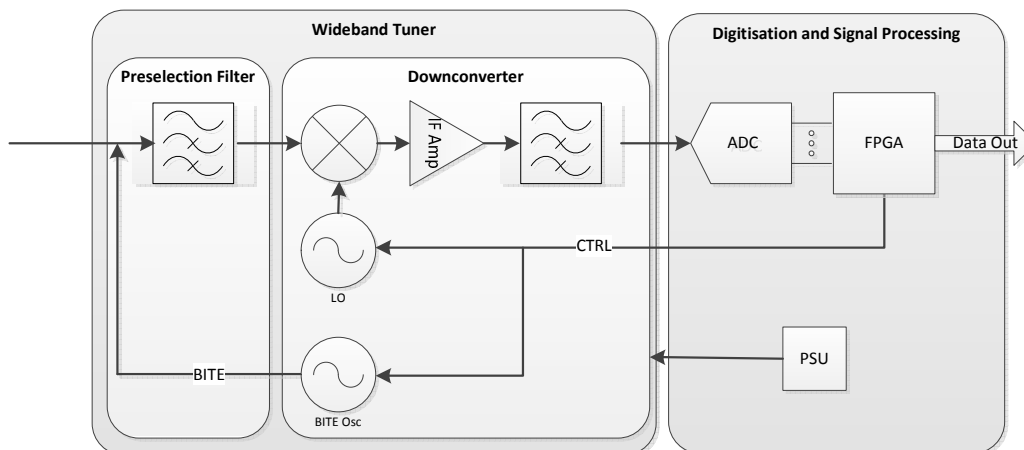


ELECTRICAL SPECIFICATION

Parameter	Specification
RF Input Frequency Range:	2.0-6.0GHz
Max RF Input (Full Scale ADC)	+0dBm
Max RF Input (No Damage)	+25dBm
Sensitivity (375MHz BW)	-58dBm Note: System sensitivity is dependent on post digitisation signal processing detection bandwidth.
Gain Variation (375MHz IF BW) signal in the IF bandwidth	+/-2.5dB max
Group Delay Variation (375MHz IF BW)	3ns over the central 67% BW; 6ns over the full BW
Single Tone SFDR	60dB
Internally Generated Spurious	-60dBc max equiv. Input power
Digitisation Rate	1Gsps
Digitisation Resolution	12-bits
FPGA Resources	Xilinx XC7K160T
Tune Accuracy	+/-10ppm
Tune Resolution	1kHz
Phase Noise	100kHz: -80dBc/Hz 1MHz: -130dBc/Hz 10MHz: -150dBc/Hz
VSWR (RF In)	2.5:1
Interface: RF Input	SMP
Interface : Digital I/O	80-way SEARAY Connector
Power Supply	+12V @ 1A , +24V @ 25mA
Total Power Consumption:	15W
Size	120 x 70 x 20 mm
Weight:	< 280g
Operating Temperature Range	-10°C to +60°C
Note: These specifications are valid when the receiver is configured with fixed preselection filter	

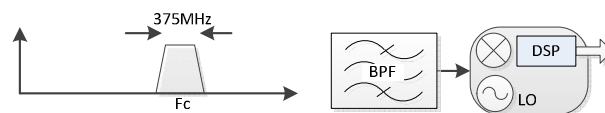
SYSTEM ARCHITECTURE



TYPICAL APPLICATION CONFIGURATIONS

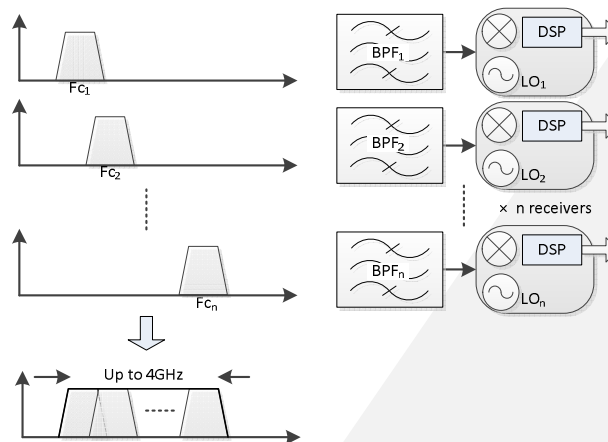
Single Fixed Band Digital Receiver

A single QR037 is configured with a specific fixed preselection filter and a fixed LO to enable digitisation and analysis of an application specific 375MHz band of interest. The pre-selection filter can be lab or field replaceable such that the band of interest can be modified to suit requirements. This configuration allows integration with an existing wideband microwave tuner/converter with an IF centred anywhere between 2.0 and 6.0GHz.



Multiple Fixed Band Digital Receivers

A multitude of QR037 receivers are configured with fixed preselection filters and -fixed LOs. Preselection filters and LO frequencies are chosen such that a contiguous band is covered. In this use-case, a wideband digital receiver is realised, with high receiver linearity being preserved with the use of a channelized architecture.



Single Tuneable Digital Receiver

A single QR037 is configured without a preselection filter to allow coverage across the full 2.0 to 6.0GHz RF band. LO tuning is provided by a serial control interface. External RF preselection must be included to provide rejection of image and mixer products.



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