

# CSIR Pro



CSIR is a real-time application for the communications signal interference removal and noise reduction, separation, monitoring and analysis and the geolocation of satellite signal emitters.

## COMMUNICATION SIGNAL INTERFERENCE REMOVAL

Communication Signal Interference Removal (CSIR™) is a real-time waveform resiliency technology that redefines the extent to which active, noise-inducing interferers and jammers can be isolated and removed from a communications signal. CSIR is designed to effectively mitigate a wide range of interferers from CW to Multiple Strong Interferers, without requiring any prior information on those interferers.

The CSIR technology can be inserted into any receive chain and mitigate unknown interference on existing waveforms without sacrificing spectral efficiency. CSIR protects any digitally RF communications channel and has been implemented across several SATCOM waveforms, HF Radio, UHF SATCOM, and GPS. CSIR can protect waveforms that have linear modulation techniques and leverages forward error correction (FEC).

## CSIR PRO

CSIR PRO is an appliance that provides single channel L-Band Protection. CSIR Pro is designed to excise interferences in real-time from a communication signal before the signal reaches the receiver. The demodulation part of the communication channel never “sees” the interference and as a result is never adversely affected. Applicable in stationary and mobile networks including maritime and airborne, users do not require any knowledge of the characteristics of the interference of the communications signal. The only required information is approximate knowledge of the user’s carrier center frequency and symbol rate. With that minimal knowledge, CSIR will precisely measure these parameters and proceeds to remove the interference in real time.

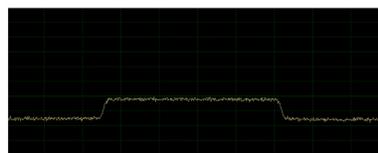
### Available Models:

**CSIR PRO L-CB: Integrator Board**  
Single Channel L-Band CSIR Integrator Board

**CSIR PRO L-RM: Rack Mount**  
Single Channel L-Band CSIR Appliance



Received signal with interference



Interference Removed



Modem

# CSIR Pro (SPECS)\*



## CSIR PRO INTEGRATOR BOARD

## CSIR PRO APPLIANCE

### SUPPORTED SIGNAL TYPES

Signal Type	Satcom/SCPC/TDMA
Targeted Modulation Formats	DVB-S2(X), DSSS, LDPC, TPC
Interference Type Removed	CW/Comb/Filtered Noise/Modulated Carriers/Sweeping/Hopping

### RF CHARACTERISTICS

Number of CSIR Channels	Single Channel (1)
Input Frequency Range	950-2400MHz
Output Frequency Range	950-2400MHz
Reference Input Type	10MHz
Reference Input Range	0 to +1-dBm
Operational Bandwidth	1kHz to 125MHz
Symbol Rates	1ksps to 126Msps
Input Signal Range	-5dBm to -130 + 10*log(SymRate)

### CONNECTIONS

Input Connector	SMA Female	
Output Connector	SMA Female	
Reference Connector	SMA Female	
Management Interface	10/100/1000 Ethernet - RJ-0.5	10/100/1000 Ethernet - RJ-45
Troubleshooting Interface	RS-232 Serial Interface - RJ-45	

### POWER

Input Rating	12-24VDC	110VAC to 240VAC, 50Hz - 60Hz
Power Consumption	26W at 12VDC Input Voltage (typical at 22C ambient temperature)	4.5A, 450W

### ENVIRONMENTAL

Storage Temperature	-40F to +185F (-400C to +85C)
Operational Temperature	-40F to +140F (-400C to +60C)
Humidity	95% non-condensing humidity

### PHYSICAL

Form Factor	Board Level	1RU
Dimensions	W 3.7in x D 6.35in x H 1.25 in (W 9.4cm x D6.35cm x H 3.18cm)	W 8.5in x D 14in x H 1.75in (W 21.59cm x D 35.56cm x H 4.45cm)
Weight	0.95lbs (0.43kg)	11.25lbs (5.10kg)

### CERTIFICATIONS/COMPLIANCE

N/A	Designed to MIL-STD 810H for vibration, shock, temperature, humidity and altitude, RoHS
-----	---

### WARRANTY

Initial Warranty	15-month standard limited warranty; Contact an authorized iDirectGov representative for full details
------------------	--

\*Preliminary specifications. Subject to Change.