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SIR 5115

Monitoring receiver

MF

HF

0.5 MHz – 30 MHz

The SIR 5115 is a digital wideband monitoring receiver covering 0.5 to 30 MHz using direct sampling. The receiver provides a coherent bandwidth of 29.5 MHz. With exceptional technical specifications, the SIR 5115 allows simultaneously interception of entire bands at the same time - thereby replacing multiple normal receivers. The SIR 5115 is the answer to the ever-growing need for fully automated HF COMINT systems.

TECHNICAL HIGHLIGHTS

- coherent bandwidth of 29.5 MHz (analogue and digital) using direct sampling
- 5 receivers combined in one device
- exceptional SFDR ≥ 125 dB
- full dynamic range 169 dB
- minimum detectable signal -139 dBm @ 125 Hz
- wideband I/Q output (40 x 768 kHz)
- 120 flexible narrowband DDC channels (10, 20 or 40 kHz)

CUSTOMER ADVANTAGES

- optimized and instantaneous monitoring of all signal of interest by dividing the coherent bandwidth into 40 flexible digital sub-bands
- perfect adaption to different frequency conditions with 5 independent receiver channels
- exceptional technical specifications lead to excellent wideband I/Q streaming data
- one 19" / 3RU device covers all your monitoring needs for an automated COMINT system

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DIRECTION-FINDING
RECEIVER

MONITORING
RECEIVER

DIRECTION-FINDING
ANTENNA

RADIO MONITORING
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SIGNAL
DISTRIBUTION

CONTROL &
ANALYSIS SOFTWARE

SIR 5115	
Frequency range	0.5 MHz – 30 MHz
Coherent analogue bandwidth	29.5 kHz
Coherent digital bandwidth	29.5 MHz
Number of subbands	40
Preselection	5x7 LP / 5x7 HP
Tuning resolution	< 1 Hz
Gain control	AGC, MGC, AGC+M
Scanning speed	not necessary
Maximum input level	+30 dBm
Noise figure	≤ 12 dB (without preselection)
Full dynamic range	169 dB
VSWR	< 2 : 1
SFDR2 (in-band)/IMFDR	125 dB (individually monitoring channel 105 dB)
MDS (minimum detectable signal)	-139 dBm (@125 Hz frequency resolution)
Image frequency rejection	n/a (direct sampling)
Intermediate frequency rejection	not measurable
Internal spurious	none
IP2	≥ 80 dBm
IP3	≥ 43 dBm
Monitoring options	available
Number of channels	120 narrowband (optional 600) 40 wideband IQ
Bandwidth of channels	narrowband: 10 / 20 / 40 kHz wideband: 768 kHz ± 20 kHz overlap
Audio demodulation	CW, AM, FM, USB, LSB, ISB (provided by WIN DF)
Audio bandwidth	-
Frequency stability internal reference	±10 ⁻⁷
Frequency drift	< ±5 x 10 ⁻⁷
Nominal impedance	50 Ω
BITE	@ module level
Standards	EN61010-1:2002 / EN61000-6-2:2002 / EN61000-6-3:2002
Operating temperature	0° C to +50° C
Storage temperature	-40° C to +70° C
Humidity	≤ 85% (non-condensing)
Protection class	IP 20
Power consumption	90 V – 264 V AC 50 / 60 Hz, 450 VA
Network interface	7x LAN 1000 Base-T (TCP / IP)
Weight	25 kg
Size (width/height/depth)	19" / 1 RU / 605 mm