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SIR 5110

Monitoring receiver

MF

HF

0.5 MHz – 30 MHz

The SIR 5110 is a digital wideband monitoring receiver covering 0.5 to 30 MHz using direct sampling. The receiver provides a coherent digital bandwidth of 12.288 MHz which can be used in one block or in freely distributed subchannels over the entire frequency range. With its excellent technical specifications, the SIR 5110 allows simultaneously interception of multiple bands at the same time - thereby replacing multiple normal receivers. The SIR 5110 competes effectively with dedicated narrowband receivers and has some of the best technical features of any digital wideband receiver.

TECHNICAL HIGHLIGHTS

- coherent bandwidth of 29.5 MHz (analogue) and 12.288 MHz (digital) using direct sampling
- exceptional SFDR ≥ 105 dB
- minimum detectable signal -139 dBm @ 125 Hz
- wideband I/Q output (16 x 768 kHz)
- up to 120 flexible narrowband DDC channels (10, 20 or 40 kHz)

CUSTOMER ADVANTAGES

- optimized and instantaneous monitoring of signals of interest by dividing the coherent bandwidth into 16 flexible digital sub-bands
- exceptional technical specifications lead to excellent wideband I/Q streaming data
- one 19" / 1RU device can replace up to 120 narrowband receivers, thereby saving space, energy and costs

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SIR 5110	
Frequency range	0.5 MHz – 30 MHz
Coherent analogue bandwidth	29.5 kHz
Coherent digital bandwidth	12.288 MHz
Number of subbands	16
Preselection	7 LP / 7 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	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	4 narrowband (optional 20 or 120) 16 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	100 V – 264 V AC 50 / 60 Hz, 150 VA
Network interface	2x LAN 1000 Base-T (TCP / IP)
Weight	7 kg
Size (width/height/depth)	19" / 1 RU / 490 mm