

## Technical Specifications

<b>ELAD FDM-S3 - TECHNICAL SPECIFICATIONS</b>		Rev. 2 - 10/2020
<b>GENERAL</b>	<b>Frequency Coverage</b>	HF + 50MHz Band + FM Band (9KHz ÷ 108MHz) using Direct Sampling Mode, Undersampling Mode and Variable Sample Rate (122.88MHz/98.304MHz) Extended frequency range with Downconverter Option or Bypass for Experimental Use
	<b>Antenna Connectors</b>	HF1: HF + 50MHz Band input, SMA connector (50Ω) HF2: HF + 50MHz Band input, SMA connector (50Ω), activatable BIAS1 for external device VHF: VHF Band input, SMA connector (50Ω), activatable BIAS2 for external device
	<b>Temperature Range</b>	-10÷40°C / 14÷104°F
	<b>PC Interface</b>	High-Speed USB 3.0
	<b>Power Supply</b>	DC 8-16V (not included)
	<b>Power Consumption</b>	TCXO version : less than 9W (12V-700mA) OCXO version : less than 15W (12V-1100mA)
	<b>External I/O Connector</b>	DB9 connector for future use (this is not a serial port)
	<b>Absolute Maximum RF Input Level</b>	+20 dBm
	<b>Dimensions (W x H x D)</b>	230 x 60 x 155 mm / 9 x 2.4 x 6.1 in
	<b>Weight</b>	2.15 kg / 4.74 lb (all versions, without internal Downconverter)
	<b>HF + 50MHz Band RECEIVER</b>	<b>Test Configuration</b>
<b>Sensitivity</b>		Typical: -122 dBm (CW, BW 500 Hz, 10 dB (S+N)/N) -110 dBm (CW, BW 500 Hz, 10 dB (S+N)/N) Attenuator 12dB On
<b>3<sup>rd</sup> Oder Intercept Point</b>		Typical: +30 dBm @ 14 MHz, Spacing 10 kHz Dithering On
<b>Blocking Gain Compression</b>		Typical: > 115 dB @ 10 MHz, Spacing 2 kHz, CW, BW 500 Hz
<b>Noise Floor (MDS)</b>		Typical: -132 dBm @ 14 MHz, CW, BW 500 Hz, NR <sup>(1)</sup> Off -138 dBm @ 14 MHz, CW, BW 500 Hz, NR <sup>(1)</sup> On -129 dBm @ 14 MHz, CW, BW 500 Hz, NR <sup>(1)</sup> Off Dithering ON -126dBm @ 14 MHz, CW, BW 500 Hz, NR <sup>(1)</sup> Off Attenuator 6dB On -120 dBm @ 14 MHz, CW, BW 500 Hz, NR <sup>(1)</sup> Off Attenuator 12dB On -114 dBm @ 14 MHz, CW, BW 500 Hz, NR <sup>(1)</sup> Off Attenuator 18dB On -130 dBm @ 50 MHz, CW, BW 500 Hz, NR <sup>(1)</sup> Off -136 dBm @ 50 MHz, CW, BW 500 Hz, NR <sup>(1)</sup> On
<b>Clipping Level</b>		-5 dBm @ 14 MHz, +1 dBm @ 14 MHz Attenuator 6 dB On +7dBm @ 14 MHz Attenuator 12 dB On +13 dBm @ 14 MHz Attenuator 18 dB On
<b>Internal Spurious Carriers</b>		Typical: < -125dBm
<b>VHF Band RECEIVER</b>		<b>Test Configuration</b>
	<b>Sensitivity (WBFM)</b>	Typical (384KHz Bandwidth): 0.98 μV S/N 30 dB @ 91.1 MHz Preamplifier On 0.87 μV S/N 26 dB @ 91.1 MHz Preamplifier On 0.70 μV S/N20 dB @ 91.1 MHz Preamplifier On 5.8 μV S/N 30 dB @ 91.1 MHz Preamplifier Off 5.3 μV S/N 26 dB @ 91.1 MHz Preamplifier Off 4.2 μV S/N 20 dB @ 91.1 MHz Preamplifier Off 11 μV S/N 30 dB @ 91.1 MHz Attenuator 6 dB On 24 μV S/N 30 dB @ 91.1 MHz Attenuator 12 dB On 50 μV S/N 30 dB @ 91.1 MHz Attenuator 18 dB On
	<b>3<sup>rd</sup> Oder Intercept Point</b>	Typical: +26dBm @ 91.1 MHz, Spacing 50 kHz Preamplifier Off
	<b>Noise Floor (MDS)</b>	Typical: -138 dBm @ 91.1 MHz, CW, BW 500 Hz, NR <sup>(1)</sup> Off Preamplifier On -129 dBm @ 91.1 MHz, CW, BW 500 Hz, NR <sup>(1)</sup> Off Preamplifier Off -123 dBm @ 91.1 MHz, CW, BW 500 Hz, NR <sup>(1)</sup> Off Preamplifier Attenuator 6dB On -117 dBm @ 91.1 MHz, CW, BW 500 Hz, NR <sup>(1)</sup> Off Preamplifier Attenuator 12dB On -111 dBm @ 91.1 MHz, CW, BW 500 Hz, NR <sup>(1)</sup> Off Preamplifier Attenuator 18dB On
	<b>Clipping Level</b>	Typical: -23 dBm @ 91.1 MHz Preamplifier On -4 dBm @ 91.1 MHz Preamplifier Off +2 dBm @ 91.1 MHz Attenuator 6 dB On +8 dBm @ 91.1 MHz Attenuator 12 dB On +14 dBm @ 91.1 MHz Attenuator 18 dB On
	<b>Internal Spurious Carriers</b>	Typical: < -130 dBm

<sup>(1)</sup> Noise Reduction  
<sup>(2)</sup> Mega Sample Per Second

All stated specifications and other product information provided in this document are subject to change without notice or obligation.