

Spectrum Compact 10-3000 MHz v.2

JOSSAP31 datasheet

v.2.0 07.03.2023



Your RF Spectrum Analyzer of Choice For Field measurements:

Center Frequency • Interference Detection • Signal Mask
Channel Power • Adjacent Channel Power • Signal Bandwidth

www.spectrumcompact.com

Measurement Setup:

- **Frequency:** Center/Start/Stop
- **Span:** Full Span, Min Span, Selected Span
- **Resolution Bandwidth, Video Bandwidth (RBW, VBW)**
- **Attenuation**
- **Low noise amplifier (LNA) ON/OFF**
- **Units:** dBuV/m (only for marker), dBm, dBmV, dBmA, dBuW, dBuV, dBuA
- **Measurement Scale**
- **Detector:** Minimum, Average, Maximum

Functions:

- **Power in Band**
- **Path Calculator**
- **Full Screen**
- **Profiles**
- **Marker:** Peak search, set marker to center
- **Sweep:** Continuous, Manual Trigger
- **Zero-Span**
- **Trace:** Normal, Max hold, # of Averages
Cumulative, Min/Max Hold

Data logging functions:

- Proprietary format
- Saves actual measurement data
- Save single sweep
- Record multiple consecutive sweeps
- Record Time Plot

Frequency

Frequency Range	10 – 3 000 MHz
Frequency Resolution	10 kHz
Frequency Reference	
Aging	±1.0 ppm/1 year
Accuracy ($t: 25\text{ °C} \pm 2.5\text{ °C}$) + aging	±2.5 ppm
Frequency span	0.5 MHz to full range
Resolution Bandwidth (RBW)	10/30/100/300 kHz
Video Bandwidth (VBW)	1/3/10/30 kHz

Sweep time	
<i>RBW: 10 kHz; Span: 0.5 MHz</i>	<= 335 ms
<i>RBW: 300 kHz; Span: 15 MHz</i>	<= 130 ms

SSB Phase Noise $t = 20\text{ °C to }30\text{ °C}; F_c = 1\text{ GHz}$	
<i>Carrier Offset: 20 kHz</i>	-70 dBc/Hz
<i>Carrier Offset: 100 kHz</i>	-90 dBc/Hz
<i>Carrier Offset: 1 MHz</i>	-110 dBc/Hz

Level

Measurement Range	DANL to +20 dBm
Dynamic Range, REF = 0	>= 75 dB
Second Harmonics Distortion <i>ATT: 0 dB, LNA: ON, Input Level: -40 dBm</i>	< -43 dBc typ.
Third-Order Intercept (TOI) <i>ATT: 0 dB, LNA: ON</i>	-5 dBm typ.

Input related spurs	LNA ON
<i>ATT: 0 dB, LNA: ON, REF: -52 dBm; Input level: -50 dBm</i>	< -43 dBc

Amplitude Accuracy <i>ATT: 0 dB ; Detector: AVG ; Input: -50 dBm CW ; RBW, VBW: AUTO</i>	
20 °C to 30 °C (68 °F to 86 °F)	± 1 dB
-15 °C to 55 °C (5 °F to 131 °F)	± 3 dB

Maximum Safe Input <i>Level DC voltage: 0 V</i>	LNA ON	LNA OFF
<i>ATT: 0 dB</i>	+10 dBm	+20 dBm
<i>ATT: 30 dB</i>	+25 dBm	+25 dBm

Typical Actual DANL <i>ATT: 0 dB, Detector: AVG REF: -12 dB Termination 50 Ω Trace: 16AVG, 20 °C to 30 °C</i>		LNA ON	LNA OFF
<i>RBW: 10 kHz; VBW: 1 kHz</i>	10-30 MHz	< -123 dBm	< -103 dBm
	30-3000 MHz	< -125 dBm	< -105 dBm
<i>RBW: 30 kHz; VBW: 1 kHz</i>		< -123 dBm	< -107 dBm
<i>RBW: 100 kHz; VBW: 3 kHz</i>		< -119 dBm	< -102 dBm
<i>RBW: 300 kHz; VBW: 10 kHz</i>		< -114 dBm	< -98 dBm

Typical DANL Normalized to 1Hz		LNA ON	LNA OFF
<i>20 °C to 30 °C, ATT = 0 dB, Termin.: 50 Ω Detector: AVG, Trace: 16AVG</i>	10-30 MHz	< -163 dBm/Hz, typ.	< -143 dBm/Hz, typ.
	30-3000 MHz	< -165 dBm/Hz, typ.	< -145 dBm/Hz, typ.

General Data

Display <i>Resolution</i> <i>Size</i> <i>Color arrangement</i>	Touchscreen 480x272 (RGB) 4.3 inch RGB-stripe
Built-in memory	8 GB
Data and Power Interface <i>Input voltage</i>	USB Type-C 5 VDC, 3A
Battery <i>Battery life</i> <i>Battery charging time</i>	Li-ion, 2x 3500 mAh up to 4 h 2 h, typical
Operating temperature	-15 °C to 55 °C (5 °F to 131 °F)
Dimensions	135 x 83 x 34 mm 5.31 x 3.27 x 1.34 inch
Weight	0.57 kg / 20.11 oz
Ingress Protection	IP54

RF Input

Impedance	50 Ω (nom.)
Connector	SMA F
VSWR	< 1.5
Input attenuator	0, 5, 10, 15, 20, 25, 30 dB

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SAF Spectrum Compact 10-3000 MHz v.2 datasheet

Product features may vary between different models and configurations. They are subject to change without prior notice.

For more detailed information about SAF products visit www.saftehnika.com or contact your SAF representative info@saftehnika.com.
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