TEKTRONIX

2710

The Tektronix 2710 is an economy portable RF spectrum analyzer covering the 10 kHz to 1.8 GHz frequency range. Designed for general-purpose electronic testing and RF signal analysis, it features a switchable internal preamplifier, a 9-inch digital storage CRT, and a highly portable design.

SPECIFICATIONS

General

Interfaces	None standard; Optional GPIB (Option 03) or RS-232-C (Option 08)
Display	9-inch monochrome raster-scan CRT with digital storage
Setup Memory	10 save/recall registers for front-panel configurations
Warm-up Time	15 minutes

Physical

Power Supply	90 to 250 VAC, 48 to 440 Hz, 105 W maximum
Operating Temperature	0 °C to +50 °C °C
Dimensions (W×H×D)	361 mm × 137 mm × 485 mm mm
Weight	9.5 kg kg

Frequency and Amplitude Performance

Frequency Range	10 kHz to 1.8 GHz
Center Frequency Resolution	1 kHz (standard)
Reference Aging Rate	±5 ppm/year
Reference Temperature Stability	±5 ppm over operating temperature range
Frequency Span Range	10 kHz/div to 180 MHz/div, plus Zero Span
Frequency Span Accuracy	±5%
Displayed Average Noise Level (DANL)	-129 dBm (with preamplifier on, 3 kHz RBW, 10 Hz VBW)
DANL (Preamplifier Off)	-117 dBm (at 3 kHz RBW)
Amplitude Measurement Range	-129 dBm to +20 dBm
Display Dynamic Range	80 dB
Display Scale Factors	10 dB/div, 5 dB/div, 1 dB/div, Linear
RF Attenuator Range	0 to 50 dB
RF Attenuator Step Size	10 dB
Reference Level Range	-70 dBm to +20 dBm (preamp off), -102 dBm to -12 dBm (preamp on)
Second Harmonic Distortion	≤-70 dBc (with -30 dBm input, preamp off)
Third-Order Intermodulation Distortion (TOI)	≤-70 dBc (with two -30 dBm inputs, preamp off)

Bandwidth and Sweep Characteristics

Resolution Bandwidth (RBW) Range	3 kHz to 5 MHz (3 kHz, 30 kHz, 300 kHz, 5 MHz)
RBW Shape Factor (60 dB/3 dB)	≤15:1
Video Bandwidth (VBW) Range	10 Hz to 300 kHz
Sweep Trigger Sources	Free Run, Internal (Video), Line, External

Measurement Capabilities and Signal Processing

Marker Capabilities	Single, Delta, Peak Find, Next Peak, Marker to Center

Inputs, Outputs and Interfaces

RF Input Connector	Type N female
RF Input Impedance	50 ohms
RF Input VSWR	≤1.5:1 (with ≥10 dB RF attenuation)
Maximum Safe RF Input Level	+20 dBm continuous (0 dB RF attenuation), +30 dBm continuous (with ≥10 dB RF attenuation)
Maximum DC Input Voltage	100 V
External Trigger Input	BNC female

Power and Electrical Specifications

Power Consumption (Typical)	90 W

Physical and Environmental Specifications

Storage Temperature Range	-55 °C to +75 °C
Operating Altitude Limit	4,570 m (15,000 ft)
Storage Altitude Limit	15,240 m (50,000 ft)

Standards, Compliance and Calibration

Recommended Calibration Cycle	1 year

Sweep

Sweep Time Range	10 µs to 20 s (1 µs/div to 2 s/div in 1-2-5 sequence)
Sweep Modes	Auto, Normal, and Single Sweep

Performance

Phase Noise	-75 dBc/Hz at 30 kHz offset
Residual Responses	≤ -90 dBm (with 0 dB RF attenuation)
Trace Memory	3 traces (A, B, and C)

Inputs & Outputs

LO Emission at RF Input	≤ -70 dBm (with 0 dB RF attenuation)
Headphone Output	3.5 mm jack, front panel

Option 04 Tracking Generator

Tracking Generator Frequency Range	100 kHz to 1.8 GHz (Option 04)
Tracking Generator Output Level Range	0 dBm to -48 dBm (Option 04)

Option 12 Quasi-Peak & Audio

Quasi-Peak Detector Bandwidths	200 Hz, 9 kHz, and 120 kHz (Option 12)
Audio Demodulation	AM and FM (standard)

Calibration

Calibrator Output Frequency	100 MHz
Calibrator Output Level	-20 dBm
Calibrator Level Accuracy	±0.3 dB @ 100 MHz

Amplitude Accuracy

Frequency Flatness	±1.5 dB (10 kHz to 1.8 GHz, 50 Ω, relative to 100 MHz)
Log Scale Fidelity	±2.0 dB max over 80 dB range (10 dB/div)
Linear Scale Fidelity	±5% of full scale

Frequency Counter (Option 01)

Frequency Counter Resolution	1 Hz / 10 Hz (Option 01 dependent)

Option Dependent

Option 07 Input Impedance	75 Ω (BNC connector replacing standard 50 Ω N-type)

Compliance

Safety Standards Compliance	UL1244, CSA C22.2 No. 231
EMI Compliance	FCC Part 15 Class B, VDE 0871 Class B

TECHNOLOGY

Superheterodyne Spectrum Analyzer

APPLICATIONS

RF signal analysis, general-purpose electronic test and measurement

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