



PRODUCT BROCHURE

ADIVIC
— RF TEST & MEASUREMENT —

MP7300 Features

1. Adjustable bandwidth from 1 MHz to 45 MHz
2. Frequency coverage from 300 KHz to 3.0 GHz
3. Active and passive RF input port
4. 250 MS/s sampling rate in recording and playback path respectively
5. 16-bit resolution for Rx and 14-bit for Tx
6. 2 channels with 22.5 MHz recording and playback
7. Diversity receiver and generator
8. In support of GPS NMEA data logging recording
9. Remote control available
10. Pre-trigger recording function
11. Data formats compatible to MATLAB analyzer
12. Software utility support including I/Q data extractor and File segment



MP7300 3.0 GHz RF Signal Analyzer Specifications

Frequency

Frequency range : 300 KHz to 3.0 GHz
Continuous bandwidth : 45 MHz
Frequency resolution : 1 KHz / step minimum
Resolution bandwidth (RBW) : Fully adjustable (100 Hz to 3 MHz)
Warm-up time (typical) : 30 minutes
Temperature stability : ± 20 ppb maximum
Initial achievable accuracy : ± 50 ppb maximum

Aging

Per year : ± 100 ppb maximum
Per day : ± 1 ppb maximum
Initial achievable accuracy : ± 50 ppb maximum

Spectral purity

Phase Noise @ 1 KHz offset, 1 GHz : < -80 dBc/Hz
RF input Spurious Response : < -90 dBm

Noise Density

Passive Port (Gain : 40 dB / 100 MHz) : < -165 dBm/Hz
Active Port (Gain : 20 dB / 100 MHz) : < -145 dBm/Hz

Amplitude(Passive Port)

Input level accuracy (15 to 35 $^{\circ}$ C) : ± 1 dB
Input signal range @ CW mode : -145 dBm to -30 dBm
VSWR @ 40 dB Gain : < 2.5
Gain Range : 0 to +40 dB @ 5 dB step
Input level resolution : 0.01 dB
Maximum DC input : ± 50 VDC
Group delay variation : 30 ns Typical

Amplitude (Active Port)

Input level accuracy (15 to 35 $^{\circ}$ C) : ± 1 dB
Input signal range @ CW mode : -135 dBm to +10 dBm
VSWR @ 25 dB : < 2.5
Gain Range : -5 to +20 dB @ 5 dB step
Input level resolution : 0.01 dB
DC Voltage Output Range : 0 to +10 V @ 0.1 V / step
Group delay variation : 30 ns Typical

RF input

Passive RF input : 50 Ω , AC-coupled N female
Active RF input : 50 Ω , DC-coupled N female

IF Band

Resolution : 16-bit
Sample rate : 250 MS/s

Storage

Storage : SSD 300 GB X 4

Calibration

Calibration : 1 year

Environment

Operating temperature : 0 to +50 $^{\circ}$ C
Relative humidity : 10 to 90%
Storage temperature : -20 to 70 $^{\circ}$ C
Relative humidity : 5 to 95%
Frequency Characteristics
Frequency range : 300 KHz to 3.0 GHz
Real-time bandwidth (Digital vector modulation bandwidth) : 45 MHz maximum
Frequency resolution : 1 KHz / step minimum
Warm-up time (typical) : 30 minutes
Temperature stability : ± 20 ppb maximum
Per year : ± 100 ppb maximum
Per day : ± 1 ppb maximum
Initial achievable accuracy : ± 50 ppb maximum

Spectral purity

Phase Noise @ 1 GHz, 1KHz offset : < -80 dBc/Hz

Spurious Responses

Second harmonic : < -40 dBc

IMD3

(two -13 dBm tones, > 200 KHz apart) : -70 dBc Typical
LO leakage : < -80 dBm

RF Output Characteristics

Output power range : ≥ 25 MHz : -145 dBm to +5 dBm /
 < 25 MHz : -145 dBm to -10 dBm
Amplitude resolution : 0.1 dB / step minimum
Amplitude Accuracy : $< \pm 1$ dB -100 dBm to -10 dBm /
 $< \pm 2$ dB < -100 dBm
Output Impedance : 50 Ω

Voltage Standing Wave Ratio (VSWR)

25 MHz to 3.0 GHz : < 2.5

MP7300 3.0 GHz RF Signal Generator Specification

Overload protection on RF output

Maximum reverse RF power : 1 Watt maximum
Maximum DC input : ± 25 VDC

Noise Floor @ 1GHz

-10 dBm output power : < -120 dBm/Hz Typical
-20 dBm output power : < -130 dBm/Hz Typical
-30 dBm output power : < -140 dBm/Hz Typical
-40 dBm output power : < -150 dBm/Hz Typical
-50 dBm output power : < -160 dBm/Hz Typical

Flatness

IF Band(20 MHz) flatness : 1 dB Typical
Group delay Variation : 30 ns Typical

RF Output

RF Output : 50 Ω , AC-coupled N female

IF Band

Resolution : 14-bit
Sample rate : 250 MS/s

Calibration

Calibration : 1 year

Operating Environment

Operating temperature : 0 to +50 $^{\circ}$ C
Relative humidity : 10 to 90%
Storage temperature : -20 to 70 $^{\circ}$ C
Relative humidity : 5 to 95%

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