

MODEL MP6220P

Overview

ADIVIC MP6220P GPS simulator is a cutting-edge design for the purpose of various GPS receiver testing. In multi-channels mode, users are able to scrutinize position fix sensitivity, signal tracking sensitivity, TTFF (time to first fix), position deviation, and position accuracy of GPS receiver. Single channel mode enables users to test sensitivity, S/N ratio(C/N0 value), and ATE test in laboratory and production line. Capitalizing on flexible usage, availability of switching between the single-channel and multi-channel modes provides users quick and effective testing to generate the best profit.

Features

- Almanac data upgradeable
- Built-in ultra high precise OCXO
- RF input range from -55 dBm to -160 dBm
- Control by RS232 interface
- Sensitivity testing

ADIVIC
— RF TEST & MEASUREMENT —

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Single & Multi-Channel GPS Simulator



MP6220P Specifications

Frequency Characteristics

Frequency Range	1575.42 MHz
Warm-up time (typical)	30 minutes
Frequency Accuracy	±100 ppb maximum
Temperature stability	±100 ppb maximum
Aging (Per year)	±100ppb maximum
(Per day)	±1 ppb maximum

Channels

Number	1 CH~ 8 CH
Navigation data	GPS C/A @ 1.023 MHz with 50 bps
Modulation	BPSK

Spectral purity

Phase Noise @ 1 KHz offset	< -80 dBc/Hz
Harmonic	< -70 dBc

RF Output Characteristics

High power normal output level	-55 dBm to -90 dBm
Low power normal output level	-90 dBm to -160 dBm
Channel Attenuation range (refer normal output level	-31.5 dB to 0 dB)
Power level ranged from	-55 dBm to -145 dBm in 1 dB step, -145 dBm to -160 dBm in 0.5 dB step.
Amplitude Resolution	1 dB step
Amplitude Accuracy	< ±1 dB
Output Impedance	50 Ω

Voltage Standing Wave Ratio

1575.42 MHz	< 1.2
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Overload protection on RF output

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

Calibration

Calibration	1 year
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Environmental

Operating temperature	0 to 50 °C
Relative Humidity	10% to 90%
Storage temperature	-20 to 70 °C
Relative Humidity	5% to 95%

Single & Multi-Channel GPS Simulator GUI

The screenshot shows the main interface of the GPS Simulator. Labels point to the following features:

- Profile & Power Level Edit**: Points to the top toolbar.
- Play Icon**: Points to the play button in the toolbar.
- Simulated GPS Time**: Points to the 'GPS Time 0:00:00' display.
- View Icon**: Points to the view button in the toolbar.
- Program**: Points to the 'Program' button in the toolbar.
- Real Time Sync**: Points to the 'Real Time Sync' button in the toolbar.
- SKY**: Points to the 'SkyView' window showing a constellation diagram.
- Position**: Points to the 'World Position' window showing a map and coordinates.
- SV Data**: Points to the 'Satellite Data' window showing a table of satellite parameters.
- Profile**: Points to the 'User profile' window showing a list of locations.
- Almanac / Ephemeris Simulating Readiness**: Points to the 'Preparing...00:05:00[0.36%]' status bar.
- System Connection Status**: Points to the 'Connect' button.
- Location / Time status**: Points to the status bar showing coordinates and time.
- Profile Edit**: Points to the 'Apply', 'Add', 'Delete', 'Edit', and 'Close' buttons.

The 'Set location' dialog box is shown, allowing users to configure location and power settings. It includes fields for Date, Time, Longitude, Latitude, and Altitude. A 'Description' field is also present. The 'Power Levels' section includes a 'Main Gain' slider and a 'Channel Attenuation Adjust' table.

Channel	0	1	2	3
Gain	0.0	0.0	0.0	0.0
Attenuation	-31.5	-31.5	-31.5	-31.5
Enable	☒	☒	☒	☒