

# MODEL MP6220

## Overview

ADIVIC MP6220 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, 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

- Doppler control 30 KHz to -30 KHz in 1 Hz step
- 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



### MP6220 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
Doppler Shift	±30 KHz (1 CH option)

#### 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

Profile & Power Level Edit

Simulated GPS Time

View Icon

Program

Real Time Sync

SKY

Position

SV Data

Profile

Almanac / Ephemeris Simulating Readiness

System Connection Status

Location / Time status

Profile Edit

Ch	SVID	EI	Az	Ionospheric	Pseudorange	PR rate
0	5	10.36	224.22	11.78	24790977.43	350.28
1	6	16.97	131.42	11.49	23875635.65	334.27
2	7	61.06	186.77	5.56	20722027.33	-13.80
3	8	42.52	238.78	6.93	21583823.45	-251.23
4	10	35.30	276.98	8.00	22263762.57	139.93
5	13	65.54	57.48	5.54	20686012.13	225.41
6	19	33.72	90.01	8.57	22622104.70	-153.31
7	28	25.96	315.10	9.95	23014241.72	-661.95

No.	Location (Lon, Lat, ...)	Date / Time	Description
0	E 121d43m56.76s...	2013/01/07 00:...	Taipei 101 Tower
1	E 2d17m36.69s, N...	2013/01/07 00:...	Paris Eiffel Tower
2	E 116d29m29.13s...	2013/01/07 00:...	Beijin Forbidden City
3	W 73d55m40.23s...	2013/01/07 00:...	NYC Yankee Stadium
4	E 139d44m45.06s...	2013/01/07 00:...	Tokyo Tokyo Tower
5	E 151d12m55.09s...	2013/01/07 00:...	Sydney Opera House
6	E 127d29m22.01s...	2013/01/07 00:...	I-Cheon in Korea
7	E 37d37m13.33s...	2013/01/07 00:...	Red Square in Moscow, Russia

Date: 2013-3-7

Time: 00:00:00

Longitude: 121d 33m 56.76s

Latitude: 25d 2m 0.27s

Altitude: 10

Description: Taipei 101 Tower

Power Levels: -120, -145

Power path: High power, Low power

Main Gain: -120 to -145

Channel Attenuation Adjust:

Channel	0	1	2	3
Value	0.0	0.0	0.0	0.0
Power	-31.5	-31.5	-31.5	-31.5