iQnav

BROCHURE

LitePoint IQnav™ GPS Test Solution

The GPS Test Solution for Advanced Multi-function Wireless Device Makers

Ideally Suited For

- Advanced cellular handset manufacturers
- Module manufacturers
- Personal Navigation Device (PND) manufacturers

Key Features

- Wide GPS power range: -145 to -60dBm through a single connector supports conducted and radiated test needs
- CW signal mode allows fixture loss characterization and validation with a power meter
- One- and six-channel models with +/- 10kHz Doppler shift capability allow both C/N and location fix testing
- Synthetic Power Sweep allows up to six power levels to be verified in one sensitivity measurement
- A-GPS testing through triggered in and out connections allows handset tester synchronization

The LitePoint IQnav is a premier test solution for GPS device manufacturing. It provides GPS signal generation capability for L1 (1575.42MHz) frequencies over a wide power range supporting both conducted and radiated test methods.

Full GPS Manufacturing Test Capability

For GPS testing, all key parameters for GPS signal creation are user-definable, including navigation data, space vehicle number, and Doppler shift (+/- 10kHz). Additionally, the IQnav supports accurate CW signal output levels up to -60dBm through a single test port connector. This allows a simple power meter to be used to verify fixture losses and overall system accuracy.

Test Flexibility

The IQnav is available in one- and six-channel models to support various GPS test needs. The six-channel model allows for Carrier to Noise (C/N) and location "fix" testing to be performed in the same connection, resulting in reduced test times and higher test quality than using "over the air" GPS signals to verify location fix capabilities.

For CDMA-equipped handset models, the IQnav has dedicated input and output triggers for synchronization with handset testers. This allows for seamless testing of assisted GPS (A-GPS) handsets.

IQnav tests a growing number of multi-function wireless devices with GPS.

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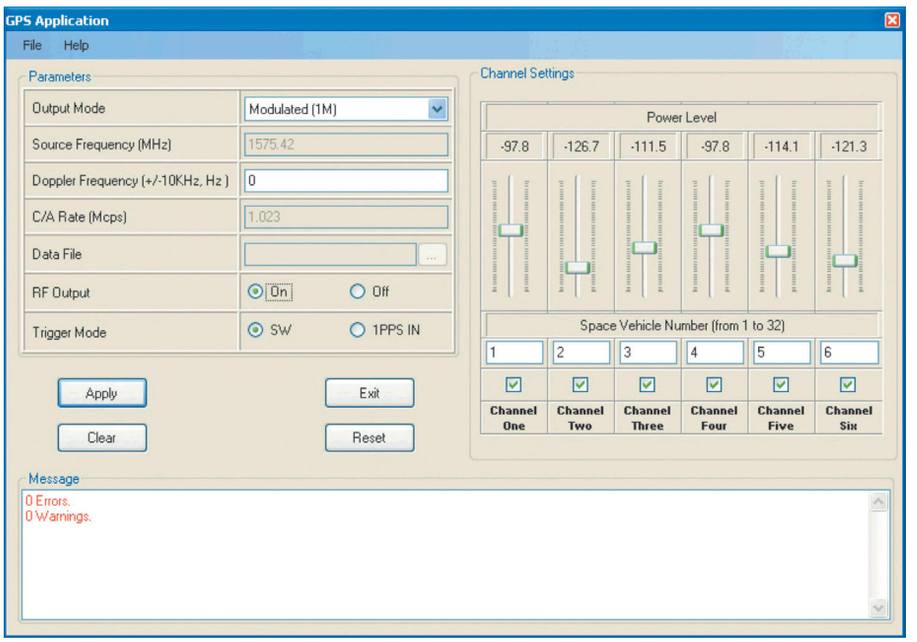
GPS Specifications

Parameters	Value
Frequency	L1 – 1575.42 MHz
Modulation	BPSK
Number of Channels	1 or 6
SVN Code	1 to 32 selectable; independent per channel
Output Power Level	-60 to -145 dBm
Power Resolution	0.1dBm
Power Accuracy (1)	-60 to -100 dBm ±0.5 dB RSS -100 to -145 dBm ±1 dB RSS
Frequency Accuracy (2)	±0.002 ppm / day (±2 x10-9)
Navigation Data	GPS C/A @1.023 MHz with 50 bps; independent per channel
Carrier Doppler	Frequency offset +/-10.0 kHz with 1 Hz resolution
Channel Power Level Range	± 15 dB (from nominal output level)
Transmitted Signal Quality	Harmonic: < -40 dBc Non-Harmonic: < -40 dBc (+/- 10 MHz)
Carrier Phase Noise	1deg RMS (1 kHz to 1 MHz SSB)

Note: 1) 20°C to 30°C with CW tone, 2) After 30 minute warm up



Intuitive IQnav GUI

Interfaces

Front Panel	RF port (type-N) Status indicator
Rear Panel	USB port 10MHz reference in (BNC-f) AC in 1PPS trigger in (BNC-f) 1PPS trigger out (BNC-f)

Order Code

0100-0NAV-000	IQnav One-Channel GPS Manufacturing Test System
0100-0NAV-001	IQnav Six-Channel GPS Manufacturing Test System

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