

## Key Features

The key features of the GGPS\_M54A front end receiver module are:

- Carrier frequency of 1575.42 Giga Hertz
- Supports 3.3V digital GPS single ended data
- Supports two modes of operation: power-down and power-up
- Selectable single ended or differential ended GPS data
- Supply voltage range of 2V to 6V
- Operating temperature range of -40 to 85 degrees
- Provides temperature sensor output
- Antenna matching input of 50 ohms SMA connector
- Low power consumption
- Provides GPS data via a 6 pin header with 100 mil spacing between pins and power and ground on separate 6 pin header with same spacing
- Module dimensions are 1.47 inches wide by 1.2 inch height
- Uses the MAX2745 GPS Chip

## Targeted Applications

Some of the targeted applications of the GGPS\_M54A receiver are:

- In Vehicle Navigation systems
- Telematics
- Location based services
- Recreational Hand held Walkie Talkies
- Emergency Roadside Assistance
- Consumer electronics
- Robotics

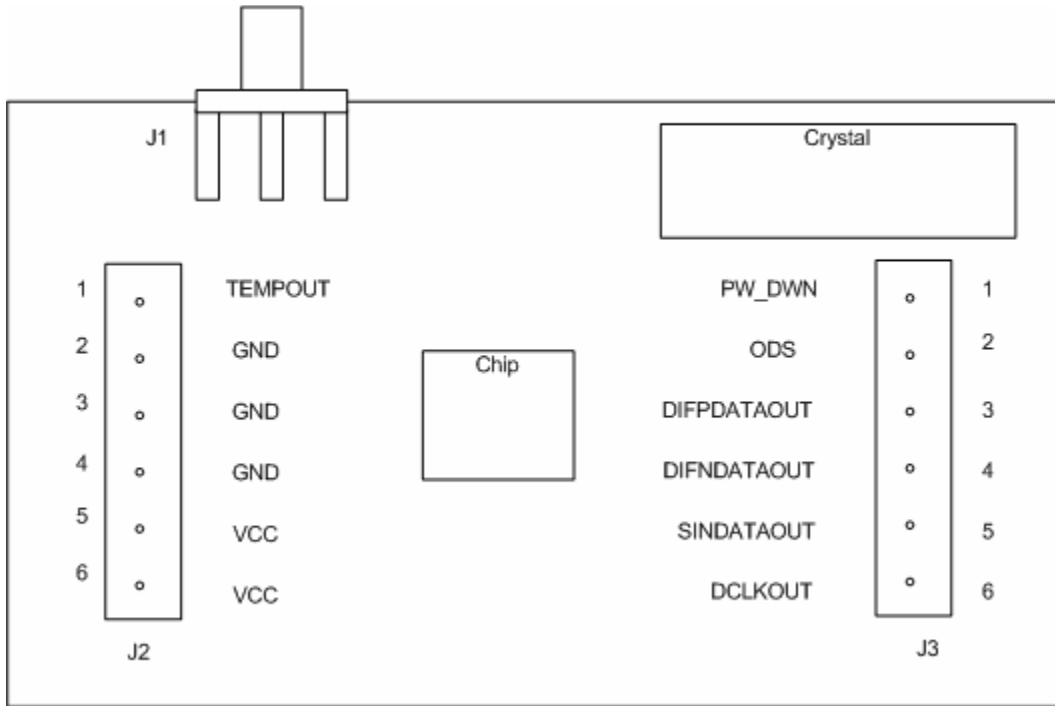
## Ordering Info

Manufacturer/Distributor	Part Number	Online Store	Sales
WyJen Technologies Incorporated	GGPS-M54A	www.wyjen.com	1-800- 490-4165

## Description

A top view of the GGPS-M54A receiver module is shown in Figure 1. The GGPS-M54A GPS receiver module detects and receives the L1 signal at 1575.42 GHz and outputs a 4.092MHz signal. The output is a selectable single ended or differential ended signal. The module operates at an input voltage range between 2 to 6 volts. In particular this module easily targets battery wireless applications. The interface to the module is two 6 pin, 0.1 inch headers, which allows the module to easily mount on a breadboard for easy testing and GPS system development.





**Figure 1.** Illustration of GGPS-M54A GPS receiver module showing pins. Note: Top view is from component side.



## Input/Output Pin Description

The function of each pin for the GGPS\_M54A receiver module is described in Table 1.

Name	J1 Pin Number	Input/Output	Description
SMA Connector	NA	Input	50 ohm GPS antenna input

Name	J2 Pin Number	Input/Output	Description
TEMPOUT	1	Output	When TX/RXen is HIGH this pin acts as a 315MHz RF output and when TX/RXen is LOW this pin acts as an input to an incoming 315MHz RF signal.
GND	2	Input	GROUND.
GND	3	Input	GROUND.
GND	4	Input	GROUND.
VCC	5	Input	2 to 6 volt power supply
VCC	6	Input	2 to 6 volt power supply

Name	J3 Pin Number	Input/Output	Description
PW_DWN	1	Input	Shutdown input. When HIGH the module is in normal operation, when LOW the module is in shutdown mode.
ODS	2	Input	Output data select. Set LOW to select differential GPS outputs (DIFPDATAOUT and DIFNDATAOUT) and set HIGH to select single ended GPS output (SINDATAOUT).
DIFPDATAOUT	3	output	Differential positive swing output
DIFNDATAOUT	4	output	Differential negative swing output.
SINDATAOUT	5	output	Single ended output
DCLKOUT	6	output	Full swing output clock

**Table 1.** Pin description table for the GGPS-M54A GPS receiver module.



### Application Circuit

An application circuit using the GGPS\_M54A GPS module is given below.

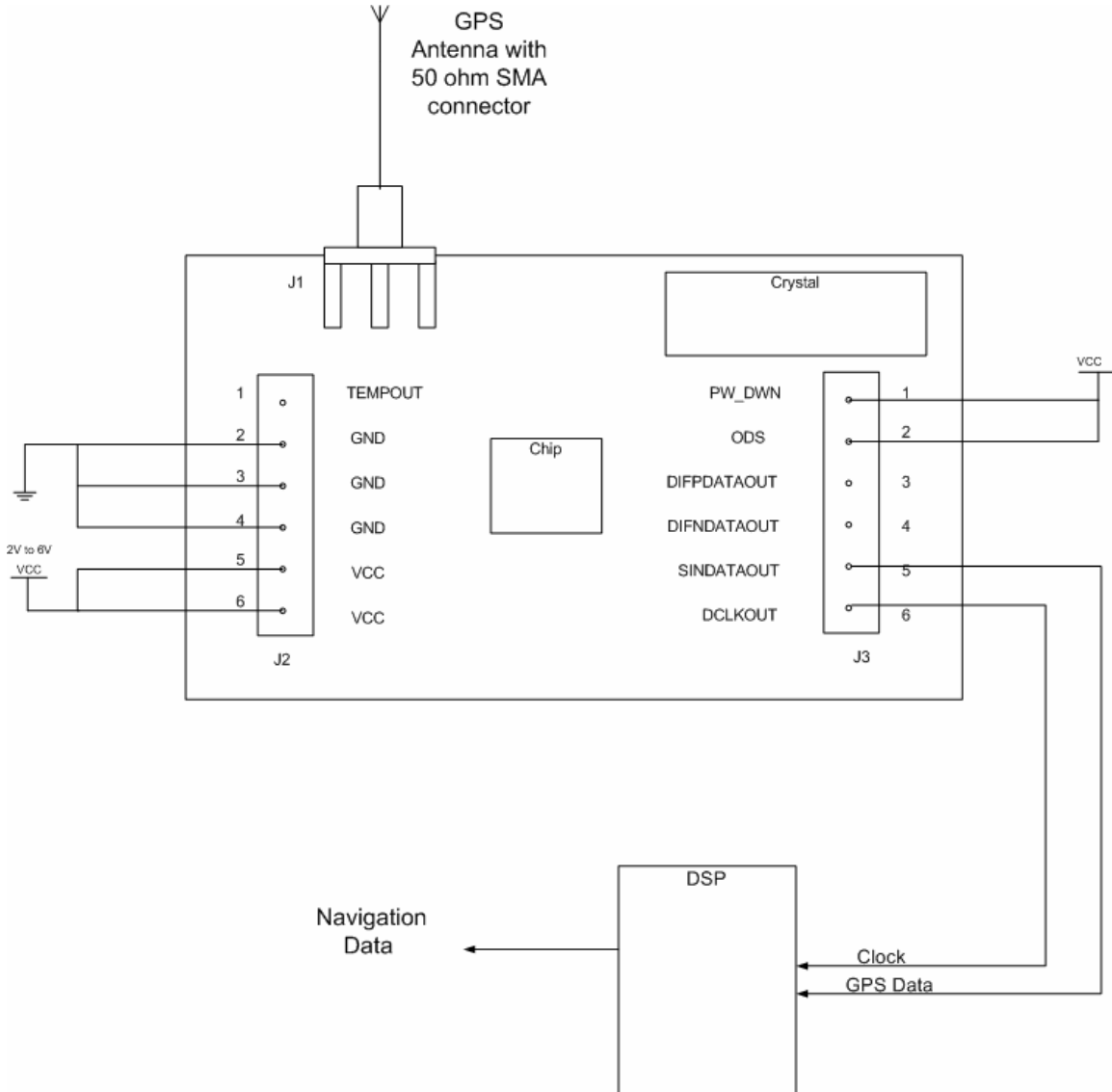
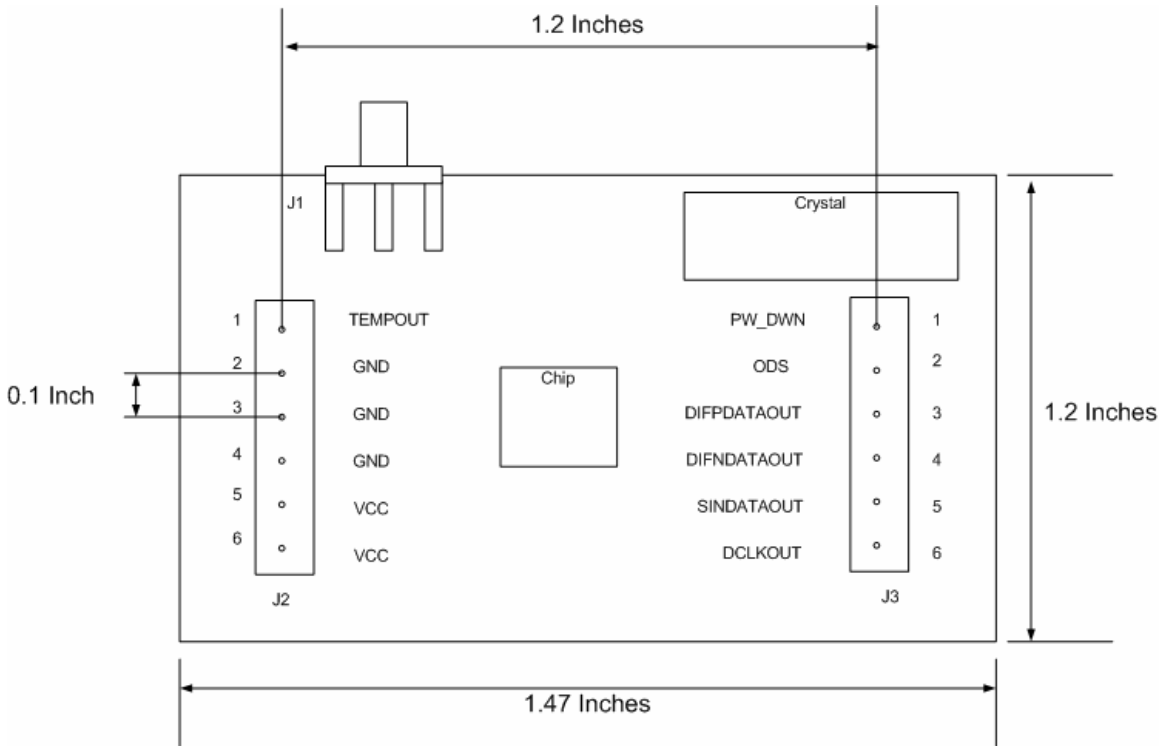


Figure 2. Application circuit for GGPS\_M54A GPS module using a DSP.



### GGPS\_M54A Receiver Module Dimensions

The actual dimensions of the GGPS\_M54A receiver module are given Figure 3.



**Figure 3.** Illustration of GGPS\_M54A GPS receiver module showing dimensions. Note: Top view as shown is from component side of transceiver.



## Part Numbering

### *Short Name*

### **GAABBBC-VVV-U**

G	WyJen Technologies Specifier
AA	TX stands for Transmitter RX stands for Receiver TR stands for Transmitter and Receiver
BBB	3 digit number representing carrier frequency 2 digit number representing carrier frequency with decimal point represented by D
C	M stands for mega Hertz G stands for Giga Hertz
VVV	3 character series code
U	1 character feature code

#### Notes:

BBB and C Fields are used together: Some example values are

315M  
433M  
868M  
915M  
2D5G  
5D8G



**Long Name**

The part numbering scheme for the WyJen Technologies wireless modules are explained below.

**GAABBBC-XX-YYYZWWT-VVV-U**

G	WyJen Technologies Specifier
AA	TX stands for Transmitter RX stands for Receiver TR stands for Transmitter and Receiver
BBB	3 digit number representing carrier frequency 2 digit number representing carrier frequency with decimal point represented by D
C	M stands for mega Hertz G stands for Giga Hertz
XX	5V stands for 5 volt technology 3V stands for 3.3V technology 35 stands for 3.3 or 5V technology
YYY	A00 stands for ASK modulation F00 stands for FSK modulation P00 stands for PSK modulation Q00 stands for QAM modulation AF0 stands for ASK and FSK modulation AFP stands for ASK, FSK, and PSK modulation AM0 stands for amplitude modulation AFM stands for ASK and FM modulation FFM stands for FSK and FM modulation
Z	S stands for SIP package D stands for DIP package M stands for surface mount package
T	A stands for 1.125 inches width by 0.75 inches height B stands for 2 inches width by 0.75 inches height C stands for 1.6 inches by 1 inch height
WW	2 digit number representing number of input and output pins in the package
VVV	3 character series code
U	1 character feature code

## Notes:

1. T Field: For SIP package width is side with connector
2. BBB and C Fields are used together: Some example values are
  - 315M
  - 433M
  - 868M
  - 915M
  - 2D5G
  - 5D8G



## Examples

The part number GTX315M-5V-A00S12B-M27B corresponds to a WyJen Technologies transmitter, 315 mega hertz operating frequency, that requires a 3.3 volt power supply, uses amplitude shift keying modulation with a 6 pin SIP package, series M27 transmitter, with version A features. The dimensions of the package are 1.125 width x 0.75 by height.

The part number GTX2D5G-3V-F00S12B-M07A corresponds to a WyJen Technologies transmitter, 2.5 Giga hertz operating frequency, that requires a 3.3 volt power supply, uses frequency shift keying modulation with a 12 pin SIP package, series M07 receiver, with version A features. The dimensions of the package are 2 width x 0.75 by height.

