

**OpenDevice(String portName)**

**Description** Open USG device and recognize USG device signal with the designated serial port

**Parameter** portName - Opened serial port name is Ex:COM1

**Return** String  
"0" device is successfully opened  
"-1" device can not be successfully opened

**Example** Connect USG device by COM1 port  
OpenDevice("COM1")

**Exception****UnauthorizedAccessException**

Access is denied to the port.

- or -

The current process, or another process on the system, already has the specified COM port open either by a SerialPort instance or in unmanaged code.

**ArgumentException**

The port name does not begin with "COM".

- or -

The file type of the port is not supported.

**IOException**

The port is in an invalid state.

- or -

An attempt to set the state of the underlying port failed. For example, the parameters passed from this SerialPort object were invalid.

**InvalidOperationException**

The specified port on the current instance of the SerialPort is already open.

-or-

The specified port is not open.

**ArgumentNullException**

str is Nothing.

**TimeoutException**

The operation did not complete before the time-out period ended.

- or -

No bytes were read.

**OpenDevice(String portName, Integer readTimeout, Integer WriteTimeout)**

**Description** Open USG device and recognize USG device signal with the designated serial port. Set read timeout and write timeout at the same time.

**Parameter** portName - Opened serial port name is Ex:COM1  
readTimeout - Set read timeout (ms)  
writeTimeout - Set write timeout (ms)

**Return** String  
"0" device is successfully opened  
"-1" device can not be successfully opened

**Example** Connect USG device by COM1 port and set read timeout as 3000 ms and write timeout as 5000 ms.  
OpenDevice("COM1", 3000, 5000)

**Exception****UnauthorizedAccessException**

Access is denied to the port.

- or -

The current process, or another process on the system, already has the specified COM port open either by a SerialPort instance or in unmanaged code.

**ArgumentException**

The port name does not begin with "COM".

- or -

The file type of the port is not supported.

**IOException**

The port is in an invalid state.

- or -

An attempt to set the state of the underlying port failed. For example, the parameters passed from this SerialPort object were invalid.

**InvalidOperationException**

The specified port on the current instance of the SerialPort is already open.

-or-

The specified port is not open.

**ArgumentNullException**

str is Nothing.

**TimeoutException**

The operation did not complete before the time-out period ended.

- or -

No bytes were read.

## CloseDevice()

**Description** Close opened USG device and serial port.

**Parameter** None

**Return** None

**Example** Connect USG device by COM1 port and open device.  
CloseDevice()

### Exception

#### IOException

The port is in an invalid state.

- or -

An attempt to set the state of the underlying port failed. For example, the parameters passed from this SerialPort object were invalid.

## Initial()

**Description** Initialize USG device, set frequency (based upon USG device model number) and input power level as 0 dbm.

USG-LF44	34.5 MHz
USG-0103	100 MHz
USG-0818	800 MHz
USG-2030	2000 MHz
USG-3044	3000 MHz

**Parameter** None

**Return** String  
"0" successful execution  
"-1" device not supporting  
"-2" write-in/read-out failure

**Example** Initialize USG device.  
Initial()

### Exception

#### InvalidOperationException

The specified port is not open.

#### ArgumentNullException

str is Nothing.

#### TimeoutException

The operation did not complete before the time-out period ended.

**SetFreq (Double freq)**

**Description** Set USG device frequency.

USG-LF44	34.5 MHz ~ 4400 MHz
USG-0103	100 MHz ~ 300 MHz
USG-0818	800 MHz ~ 1800 MHz
USG-2030	2000 MHz ~ 3000 MHz
USG-3044	3000 MHz ~ 4400MHz

**Parameter** freq - frequency (MHz)

Frequency only read to two decimal places. Third decimal place and afterwards will be neglected.

**Return** String

"0" successful execution  
"-1" device not supporting  
"-2" Device frequency is out of device support range.  
"-3" write-in/read-out failure

**Example** Set USG device frequency.

SetFreq(1500.55)

**Exception****InvalidOperationException**

The specified port is not open.

**ArgumentNullException**

str is Nothing.

**TimeoutException**

The operation did not complete before the time-out period ended.

**SetPowerLevel (Double powerLevel)**

**Description** Set USG power level.  
0 dbm ~ -30dbm

**Parameter** powerLevel - powerLevel (dbm)  
Power level will not take decimal input. Neglect all decimal places.

**Return** String  
"0" successful execution  
"-1" device not supporting  
"-2" Device frequency is out of device support range.  
"-3" write-in/read-out failure

**Example** Set USG device power level.  
SetPowerLevel(-20)

**Exception****InvalidOperationException**

The specified port is not open.

**ArgumentNullException**

str is Nothing.

**TimeoutException**

The operation did not complete before the time-out period ended.

## GetModel()

**Description** Send back USG device string to recognize USG device model number.

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**Parameter** None

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**Return** String

"GWINSTEK-LF44"	USG-LF44
"GWINSTEK-0103"	USG-0103
"GWINSTEK-0818"	USG-0818
"GWINSTEK-2030"	USG-2030
"GWINSTEK-3044"	USG-3044
""	Doesn't support this device model

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**Example** Obtain USG device model number.  
GetModel()

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### Exception

#### **InvalidOperationException**

The specified port is not open.

#### **ArgumentNullException**

str is Nothing.

#### **TimeoutException**

The operation did not complete before the time-out period ended.

- or -

No bytes were read.

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**SetHandleExceptionSelf()**

**Description** Whether to set function as exception? By default is False that is no exception.

**Parameter** Boolean  
True : For exception, programmers handle exception.  
False : For no exception, function handles exception situation.

**Return** None

**Example** Set function exception.  
SetHandleExceptionSelf(True)

**Exception** None