

## テラヘルツ用パワーメーター「Uri」

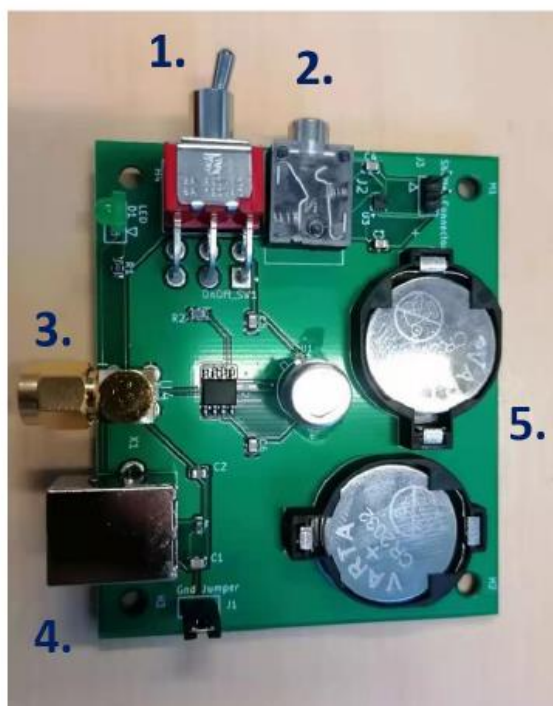


- ・ nW~ $\mu$ Wレベル計測に
- ・ 0.1~35THz対応
- ・ バッテリー内蔵でノイズ軽減
- ・ A/D (オプション) 出力可能

- 対応領域 : 0.1-35THz
- 有効受光範囲 :  $\square$ 2mm、 $\square$ 5mm (選択可能)
- パワー感度 : 85kV/W以上
- バッテリー内蔵式 (ACケーブル不要)
- NEP(3.8THz,10Hz) :  $<0.55\text{nW}/\sqrt{\text{THz}}$
- ダメージスレッショールド :  $50\text{MW}/\text{cm}^2$
- 約20nW~100 $\mu$ Wまでリニアに応答
- サイズ : 75×65×27mm
- 安価

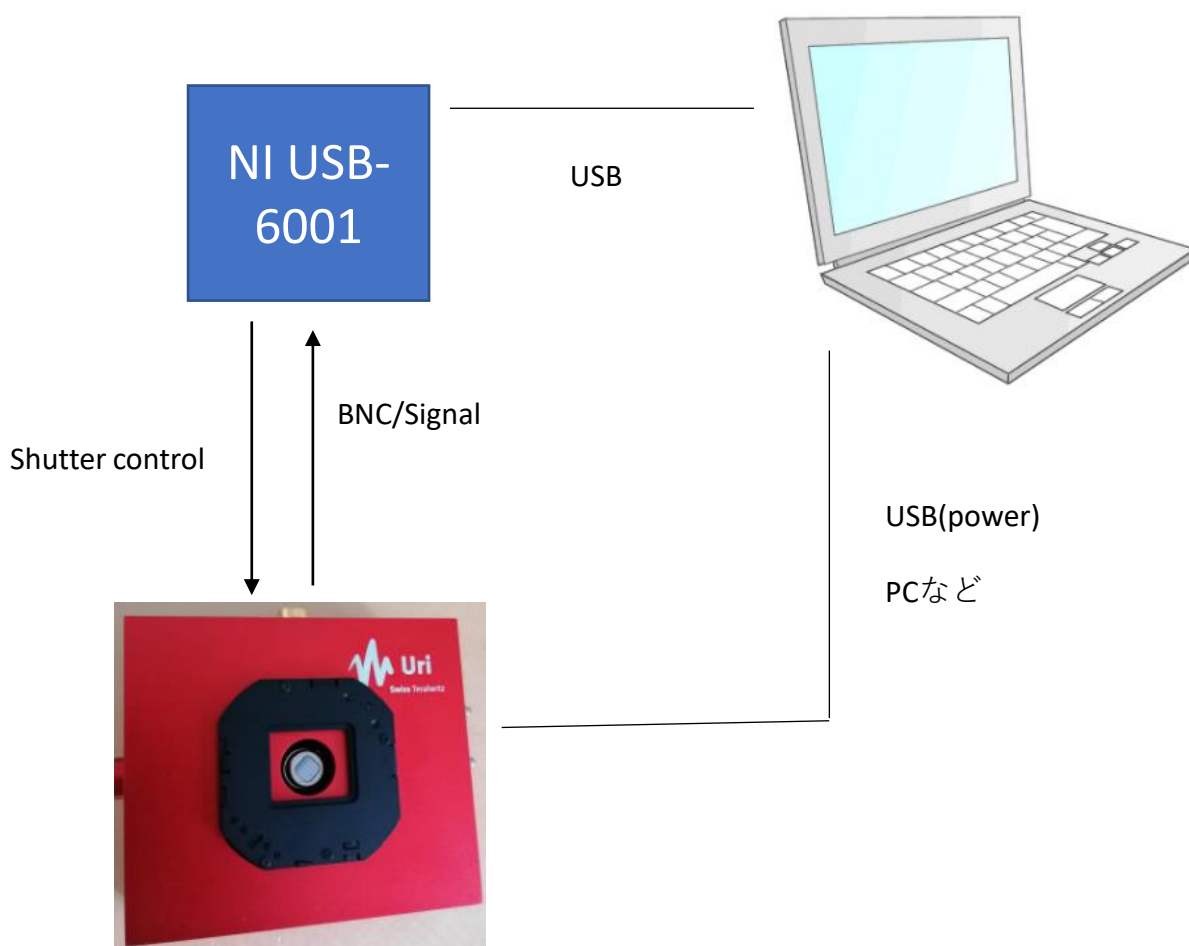
## Layout

1. Switch: To increase the life time of the battery, you need to turn off the switch when the device is not in use.
2. Shutter control: This needs to be connected only when the computer board is used. No need to use it if you connect the device to an oscilloscope.
3. SMA output: This is the output. Can be connected to the scope or the computer board.
4. USB power: This is just a power supply for the shutter. Can be connected to any USB port. If you don't use the computer board, this is not needed.
5. Batteries: These are standard batteries. If the device is kept off when not in use, the batteries can last more than a year. These batteries are not expensive. When replacing them, we suggest buying batteries from a good source.



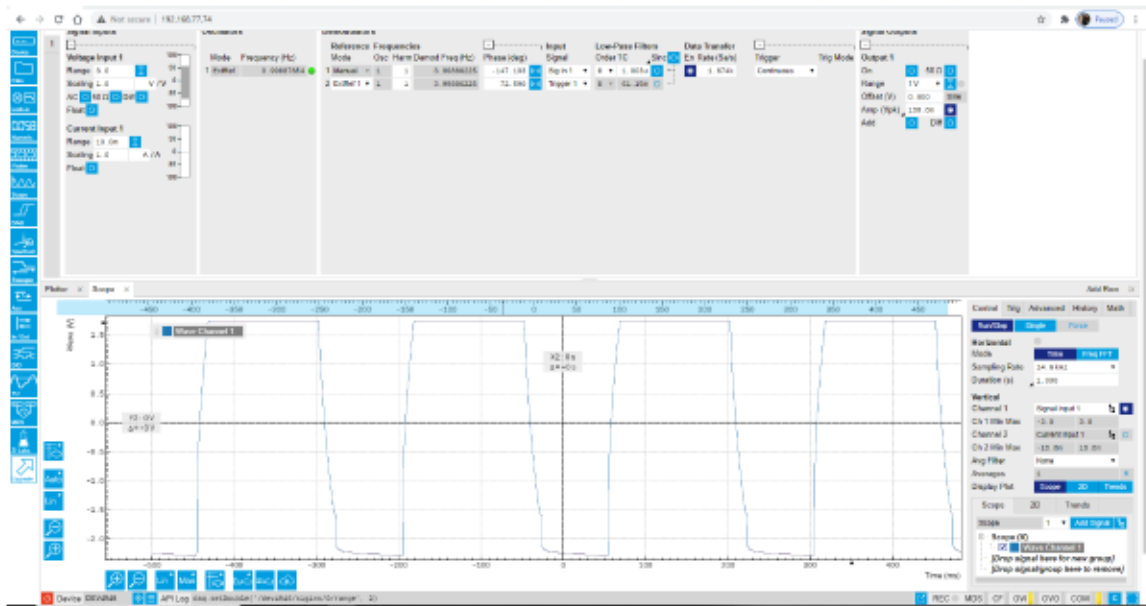
## Uri(power meter) PCから制御の場合

NI-USB6001+ソフトウェア+ケーブル類 : ¥88,000(税抜き)

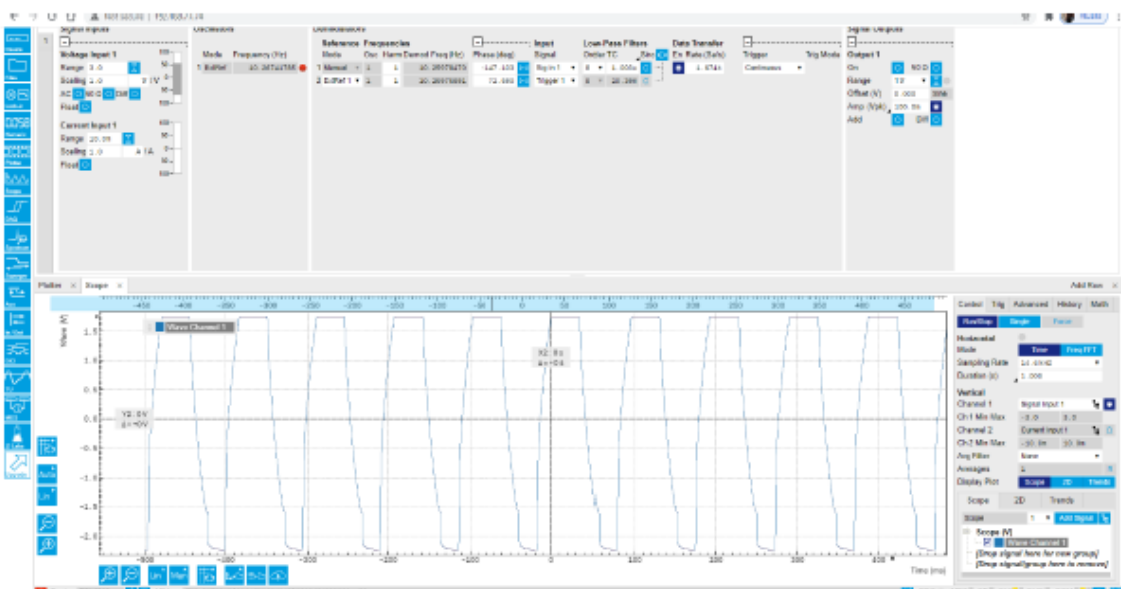


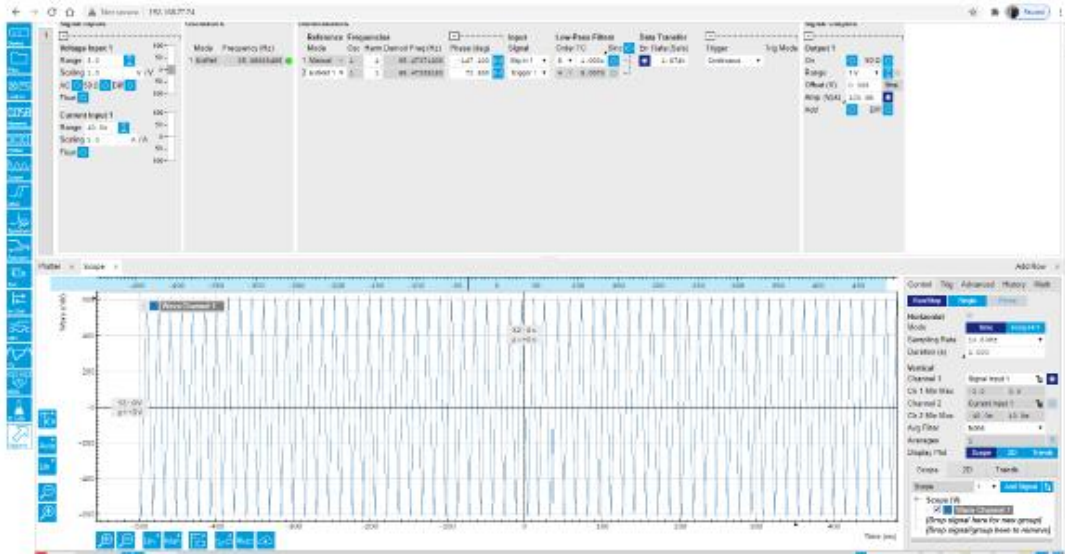
## Operation (Analog)- Chopper

1. Just connect the SMA output to an oscilloscope (1 M ohm coupling).
2. Example of the output signal for chopper frequency of 4 Hz. Note that the detector is saturated in the example below showing the maximum output voltage. In operation, you should avoid saturating the output.

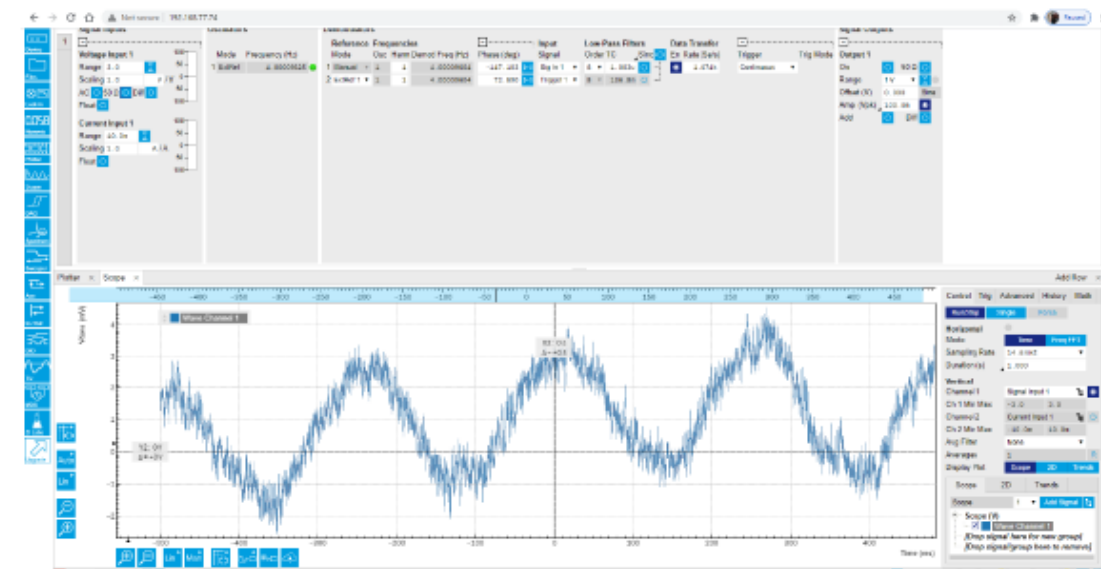


3. When you increase the chopping frequency, the voltage output drops as shown in a few examples below.





4. Low power. Below is an example of the signal with lower power.



## Operation (Analog)- Pulsed system

1. In case of a pulsed THz source, the chopper is not needed if the repetition rate is not high. To improve the sensitivity when working with high repetition rate, the chopper maybe used as an option.

## Operation (Digital)- CW and Pulsed systems

1. The optional computer interface can be used to modulate the signal if needed when the chopper is not available in the case of CW source. The computer interface is a National Instruments DAQ board that has several inputs and outputs can be used for different applications
2. The software interface is seen below. The interface is simple. The A2 must be selected for standard configuration. Subtraction is for background subtraction. Cycle is the shutter frequency. We recommend 0.5. Duty cycle is on/off of the shutter. 50 is recommended. Gaussian Filter is for noise reduction. It is not recommended to change the settings during the acquisitions. Best to press top. Change the settings. Then, Start.

