

# VHF/UHF 125-525MHz RF POWER & S.W.R. METER



**USER'S MANUAL**

## Key Specifications:

Test suitable antenna for walkie-talkie use  
Measurement Radio RF Power output  
Easy to test power and S.W.R.

## Specifications:

Max Power:	0.1-100W
V.S.W.R:	1.00-19.9
Frequency Range:	125MHz-525MHz
Power in:	5V (micro usb)
Li-ion Battery :	3.7V 500mah
In /Out Impedance :	50 Ω
Size without Socket :	25 x25 x 60 mm
(in and out ) Interface:	SMA Female
Net Weight :	160g

**Package include**  
 1x RF POWER & SWR METER  
 1x English Instructions  
 1x USB Charger Cable  
 1x100~220V USB Power Supply

### 125-525 Mhz Mini VHF/UHF POWER & S.W.R. Meter

#### Features:

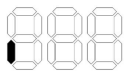
- 1 V.S.W.R. Forward / reflected RF power direct digital readout, without any calibration.
2. Maximum measurable power range up to 100W.
3. Fast check of antenna SWR and Radio RF power watt in 3 seconds only
4. Easy to install handheld Radio

#### Specifications:

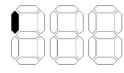
Measurable power range: 0.1-100Watt  
 Maximum power: 100W Accuracy: mean + / - 5%  
 SWR measurable minimum input: 3 Watt  
 \* Not for the DMR digital radio.

#### 1.Features function

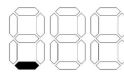
Power On / SWR Mode : Press red button and hold 3 sec. ( first status is "SWR "mode,) show >



Press red button -" FWD " RF Power mode , show >



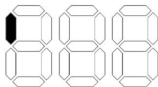
Press red button -" REV " RF Power mode , show >  
 Power Off : Push red button and HOLD



#### 2.How to Measure RF Power output from transmitter (Pic.3)

Press red button -switch on Mode SWR. And then press red button again to "FWD Power " mode. Display will show:

Connect the "TX" to Radio TX output .  
 Connect the "ANT/50 Ohm Load" to Dummy Load



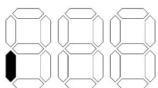
!Caution : Please use correct dummy load , High RF power output will damage the dummy load.

\* Power Watt - Testing frequency: VHF 145.000 / UHF 430.000

#### 3. How to Measure S.W.R. from Antenna (Pic.4)

Press red button " Power on " > "SWR "mode. Display will show: V

Connect the "TX" to Radio output.  
 Connect the "ANT/50 Ohm Load" to ANTENNA



Test Results show 1.00 to 1.50 ,

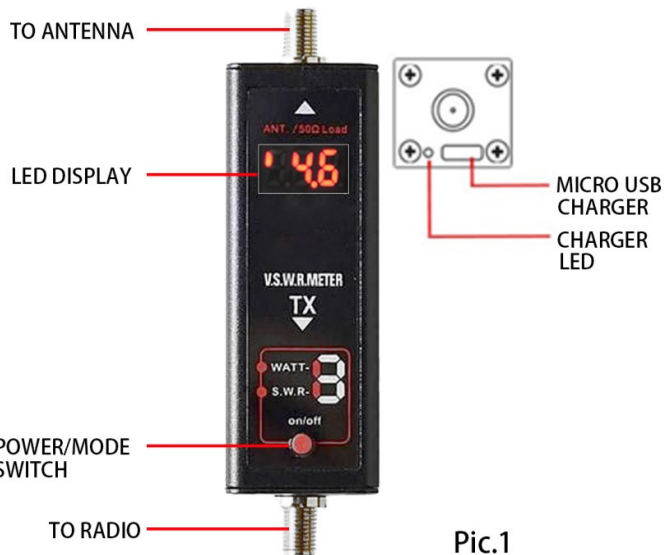
-Mean the antenna is very good for this frequency.

Test Results show 1.50 to 9.00 ,

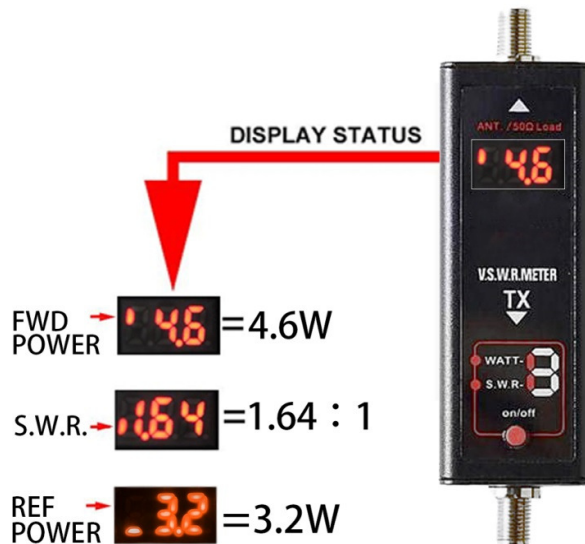
-Mean the antenna is not good for this frequency.

Test Results show 10.0 to 19.99 ,

--Mean the antenna is very bad for this frequency.



Pic.1



Pic.2

## Measure RF TX Power



Pic.3

## Measure Antenna S.W.R.



Pic.4

FWD POWER → = 4.6W

- 1) Select Power mode
- 2) Please make sure the dummy Load is correct on meter
- 3) Press PTT button on the walkie-talkie

S.W.R. → = 1.64 : 1

- 1) Select S.W.R. mode
- 2) Place the antenna vertically, make sure there is no obstacle nearby.
- 3) Please touch the metal box of the S.W.R. meter with your hands
- 4) Press PTT button on the walkie-talkie

POWER DISPLAY  
 = 12.6W

SWR DISPLAY  
 = 19.9:1

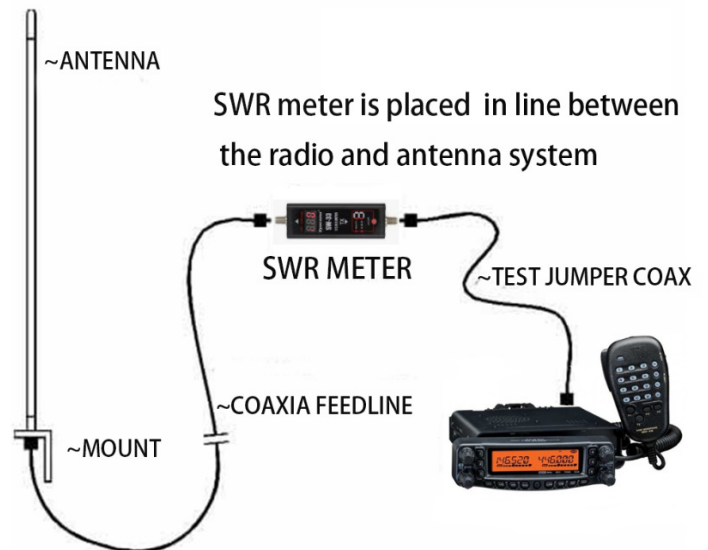
### SWR Formulas and Calculations

VSWR can be calculated from various parameters. By definition, VSWR is given as ratio of maximum voltage on the line to the minimum voltage.

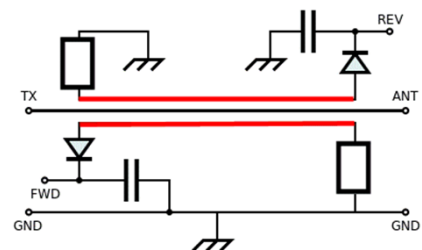
$$VSWR = \frac{V_{fwd} + V_{ref}}{V_{fwd} - V_{ref}}$$

The same can be expressed in terms of forward and reflected wave voltages.

$$VSWR = \frac{V_{fwd} + V_{ref}}{V_{fwd} - V_{ref}}$$



SWR meter is placed in line between the radio and antenna system



### !Caution :

- \*Power Watt - Testing frequency: VHF145.000MHz / UHF430.000MHz
- \*Connect antenna to test RF power is Inaccurate .
- \*Be careful not to connect dummy load for a long time as damage can result to the dummy load
- \*Be careful not to connect inappropriate antenna for a long time as damage can result to the walkie talkie
- \*Shut down when not in use to avoid battery damage.
- \*Please use correct dummy load , High power output will damage the dummy load.
- \*Not for the DMR digital radio.